

Orthodontics for children and adolescents supplements

KCE reports 77S

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Orthodontics for children and adolescents - supplements

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Appendices to orthodontics for children and adolescents (2007-20HSR/S)

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APPENDIX TO CHAPTER 1

No appendix to chapter 1

APPENDIX TO CHAPTER 2

SOME PICO'S FOR THE CLINICAL RESEARCH PART

PICO 1.1: Can the orthodontic treatment need of my child be determined objectively?

Patient: orthodontic deviation, orthodontic malocclusion, malocclusion

Intervention: assessment of treatment need or no treatment

Comparison: low/no orthodontic treatment need versus high treatment need

Outcome: yes or no indication of orthodontic treatment, determining the degree of orthodontic treatment need

PICO 1.2: Can the complexity of the malocclusion of my child be determined?

Patient: is my malocclusion complex?

Intervention: either short orthodontic treatment with with removable or other simple appliance or long duration of treatment with anchorage problems and fixed appliances

Comparison: low versus high complexity of malocclusions

Outcome: ICON can determine the treatment need and complexity of malocclusions

PICO 1.3: Does the complexity of treatment index reveal the way an orthodontic treatment will be performed?

Patient: which type of treatment? (fixed, functional, orthopedic, removable plates, other...)

Intervention: decide on which type of treatment

Comparison: results with different types of treatment

Outcome: quality of treatment outcome

PICO 1.4 At what age should my child be treated orthodontically? Is there an ideal age for orthodontic treatment?

Patient: should my malocclusion be treated early (7-8 yrs) or late (13-15yrs)?

Intervention: orthodontic treatment now yes or no?

Comparison: early versus late orthodontic treatment

Outcome: timing of orthodontic treatment?

PICO 1.5. Can orthodontic treatment have adverse effects for the teeth?

Patient: what are the risks for my teeth due to orthodontic treatment?

Intervention: orthodontic treatment yes or no?

Comparison: root length, periodontal health, occlusion, DMF in treated vs non treated individuals

Outcome: advantages and disadvantages on the long term for dental health

PICO 1.6. Are there contraindications for the orthodontic treatment of my child? (fe medication like biphosphonates, blood clotting problems, periodontal problems, root resorption, ...)

Patient: ongoing medical treatment with different types of medications, or : contra-indications?

Intervention: either treatment now or not, or postpone

Comparison: orthodontic treatment in patients with and without combined problems

Outcome: adapt the timing of orthodontic treatment

PICO I.7. Will the orthodontic treatment result in my child be stable?

Patient: stability expectation with different types of malocclusions

Intervention: application of fixed retainer or removable retainer

Comparison: groups with different types of retainers

Outcome: in which cases to use a fixed vs a removable retainer?

PICO I.8. Is retention necessary after orthodontic treatment?

Patient: should I wear a retainer after my active orthodontic treatment or not?

Intervention: apply retention or not

Comparison: patients treated with and without any retention

Outcome: wear a retainer or not?

PICO I.9. Which retention procedure (type of retainer, duration of retention, ...) should be used after orthodontic treatment?

Patient: hesitating which type of retainer is necessary and for how long time?

Intervention: place a fixed vs removable retainer?

Comparison: fixed vs removable retainers

Outcome: evidence for one or another type of retainer

PICO I.10. Is "early" orthodontic treatment of CI II div I and CI III malocclusion preferable to "late" orthodontic treatment?

Patient: (dis)advantages of early vs late orthodontic treatment?

Intervention: early of late orthodontic treatment

Comparison: of all aspects in late vs early treatment group (final occlusion, duration of treatment, ...)

Outcome:

PICO I.11. Is speech therapy necessary for the correction of the orthodontic deviation in my child?

PICO I.12. Will the orthodontic deviation in my child be corrected spontaneously after speech therapy in my child?

PICO I.13. Can orthodontic deviations be prevented/avoided with speech therapy?

PICO I.14. Can the skeletal malocclusion of my child of 13yrs of age be corrected without maxillofacial surgery?

PICO I.15. My child lost a central incisor during a trauma: can tooth transplantation be an aid during orthodontic treatment?

PICO I.16. My child fractured a central incisor during a trauma: can this tooth still be moved orthodontically?

PICO I.17. There is a tooth that remains impacted in my child (11 yrs of age): will it erupt spontaneously?

PICO I.18. My child has an open bite: should this be treated orthodontically?

PICO I.19. My child is 9yrs and shows a lateral cross bite and a forced bite: should this be treated? When and how?

PICO I.20. My child has a deep frontal overbite: should this be treated? When and how?

PICO I.21: Could I have prevented the malocclusion of my child?

PICO I.22: Will correction of my malocclusion contribute to the Quality of Life of my child?

PICO I.23. What will happen if my child is not treated orthodontically?

Patient: with orthodontic deviation is referred by dentist for orthodontic diagnosis and treatment, but patient and mother are hesitating

Intervention: either treatment or not

Comparison: treated groups vs non treated groups

Outcome: advantages of orthodontic treatment for the dentition on the long term

PICO I.24. Should wisdom teeth be removed by the end of orthodontic treatment?

Patient: hesitates whether his wisdom teeth should be removed after orthodontic treatment

Intervention: either removal of 4 wisdom teeth or not

Comparison: treated groups with vs without extraction of wisdom teeth

Outcome: (dis)advantages for the results of the orthodontic treatment long term

Search Strategy

LITERATURE SEARCHES

Search strategy OVID MEDLINE (R)

Search 1 Orthodontics and Needs assessment (02/02/2007)

Database: Ovid MEDLINE(R) <1950 to September Week 3 2007>

Search strategy	Results
1 orthodontic\$.mp. or exp Orthodontics, Corrective/ or exp Orthodontics, Preventive/ or exp Orthodontics/ or exp Orthodontics, Interceptive/ (36432)	113
2 Needs assessment\$.mp. or exp Needs Assessment/ (15222)	
3 1 and 2 (115)	
4 exp Needs Assessment/ or needs assessments\$.mp. (13964)	
5 1 and 2 and 4 (113)	
6 from 5 keep 1-113 (113)	
7 from 6 keep 1-113 (113)	

Search 2 Orthodontics and Health Services Needs and Demands (02/02/2007)

Database: Ovid MEDLINE(R) <1950 to September Week 3 2007>

Search strategy	Results
1 orthodontic\$.mp. or exp Orthodontics, Corrective/ or exp Orthodontics, Preventive/ or exp Orthodontics/ or exp Orthodontics, Interceptive/ (36313)	105
2 Needs assessment\$.mp. or exp Needs Assessment/ (15123)	
3 1 and 2 (114)	
4 exp Needs Assessment/ or needs assessments\$.mp. (13868)	
5 1 and 2 and 4 (112)	
6 from 5 keep 1-112 (112)	
7 exp "Health Services Needs and Demand"/ (30456)	
8 (Health Services Needs and Demand).mp. [mp=title, original title, abstract, name of substance word, subject heading word] (27132)	
9 (Health Services Needs and Demand\$).mp. [mp=title, original title, abstract, name of substance word, subject heading word] (27133)	
10 (Health Services Need\$ and Demand\$).mp. [mp=title, original title, abstract, name of substance word, subject heading word] (27137)	

- 11 (Health Service\$ Need\$ and Demand\$).mp. [mp=title, original title, abstract, name of substance word, subject heading word] (27140)
- 12 7 or 8 or 9 or 10 or 11 (30464)
- 13 1 and 12 (354)
- 14 exp Epidemiologic Studies/ (992532)
- 15 epidemiologic\$ stud\$.mp. (41258)
- 16 randomized controlled trial\$.mp. or exp Randomized Controlled Trials/ (294484)
- 17 randomised controlled trial\$.mp. (8284)
- 18 controlled clinical trial\$.mp. or exp "Controlled Clinical Trial [Publication Type]"/ (88800)
- 19 review.mp. or exp "Review [Publication Type]"/ (1532417)
- 20 review\$.mp. (1675876)
- 21 systematic review.mp. or exp Meta-Analysis/ (17560)
- 22 systematic review\$.mp. (12079)
- 23 guideline\$.mp. or exp "Guideline [Publication Type]"/ (143526)
- 24 meta analysis.mp. or exp Meta-Analysis/ (27399)
- 25 systematic review.mp. (10164)
- 26 14 or 15 or 16 or 17 or 18 or 19 or 20 or 21 or 22 or 23 or 24 or 25 (2899991)
- 27 13 and 26 (105)
- 28 from 27 keep 1-105 (105)

Search 3 Orthodontics and Health services accessibility (02102007)

Database: Ovid MEDLINE(R) <1950 to September Week 3 2007>

Search strategy

- 1 orthodontic\$.mp. or exp Orthodontics, Corrective/ or exp Orthodontics, Preventive/ or exp Orthodontics/ or exp Orthodontics, Interceptive/ (36313)
- 30 Health services accessibility.mp. or exp Health Services Accessibility/ (55341)
- 31 health service\$ accessibility.mp. (28961)
- 32 30 or 31 (55344)
- 33 1 and 32 (101)
- 34 from 33 keep 1-101 (101)

Results

101

Search 4 Orthodontics an treatment need (02102007)

Database: Ovid MEDLINE(R) <1950 to September Week 3 2007>

Search strategy

- 1 orthodontic\$.mp. or exp Orthodontics, Corrective/ or exp Orthodontics, Preventive/ or exp Orthodontics/ or exp Orthodontics, Interceptive/ (36313)
- 14 exp Epidemiologic Studies/ (992532)
- 15 epidemiologic\$ stud\$.mp. (41258)
- 16 randomized controlled trial\$.mp. or exp Randomized Controlled Trials/ (294484)
- 17 randomised controlled trial\$.mp. (8284)
- 18 controlled clinical trial\$.mp. or exp "Controlled Clinical Trial [Publication Type]"/ (88800)
- 19 review.mp. or exp "Review [Publication Type]"/ (1532417)
- 20 review\$.mp. (1675876)
- 21 systematic review.mp. or exp Meta-Analysis/ (17560)
- 22 systematic review\$.mp. (12079)
- 23 guideline\$.mp. or exp "Guideline [Publication Type]"/ (143526)
- 24 meta analysis.mp. or exp Meta-Analysis/ (27399)
- 25 systematic review.mp. (10164)
- 26 14 or 15 or 16 or 17 or 18 or 19 or 20 or 21 or 22 or 23 or 24 or 25 (2899991)
- 35 Treatment need\$.mp. (2519)
- 36 Treatment need.mp. (834)
- 37 Treatment\$ need\$.mp. (2678)
- 38 Treatment needs.mp. (1590)
- 39 35 or 36 or 37 or 38 (2678)
- 40 1 and 39 (323)
- 41 26 and 40 (136)
- 42 from 41 keep 1-136 (136)

Results

136

Search 5 Orthodontics and treatment outcome (02102007)

Database: Ovid MEDLINE(R) <1950 to September Week 3 2007>

Search strategy	Results
56 orthodontic\$.mp. or exp Orthodontics, Corrective/ or exp Orthodontics, Preventive/ or exp Orthodontics/ or exp Orthodontics, Interceptive/ (36432)	629
69 exp Epidemiologic Studies/ (999821)	
70 epidemiologic\$ stud\$.mp. (41456)	
71 randomized controlled trial\$.mp. or exp Randomized Controlled Trials/ (296234)	
72 randomised controlled trial\$.mp. (8348)	
73 controlled clinical trial\$.mp. or exp "Controlled Clinical Trial [Publication Type]"/ (89196)	
74 review.mp. or exp "Review [Publication Type]"/ (1539912)	
75 review\$.mp. (1684291)	
76 systematic review.mp. or exp Meta-Analysis/ (17754)	
77 systematic review\$.mp. (12268)	
78 guideline\$.mp. or exp "Guideline [Publication Type]"/ (144480)	
79 meta analysis.mp. or exp Meta-Analysis/ (27616)	
80 systematic review.mp. (10333)	
81 69 or 70 or 71 or 72 or 73 or 74 or 75 or 76 or 77 or 78 or 79 or 80 (2916487) 98	
treatment outcome.mp. or exp Treatment Outcome/ (326507)	
99 treatment\$ outcome\$.mp. (315082)	
100 98 or 99 (328480)	
101 56 and 100 (1614)	
102 limit 101 to yr="1987 - 2007" (1613)	
103 81 and 102 (947)	
104 exp Adolescent/ or exp Infant/ or exp Child/ or age 0-18 Years.mp. or exp Child, Preschool/ or exp Infant, Newborn/ (2212363)	
105 103 and 104 (629)	

Search 6a Orthodontics and Treatment outcome and limited on systematic review or meta-analysis (27102007)

Database: Ovid MEDLINE(R) <1950 to September Week 3 2007>

Search strategy	Results
1 orthodontic\$.mp. or exp Orthodontics, Corrective/ or exp Orthodontics, Preventive/ or exp Orthodontics/ or exp Orthodontics, Interceptive/ (36483)	14
14 exp Epidemiologic Studies/ (1002905)	
15 epidemiologic\$ stud\$.mp. (41558)	
16 randomized controlled trial\$.mp. or exp Randomized Controlled Trials/ (297168)	
17 randomised controlled trial\$.mp. (8490)	
18 controlled clinical trial\$.mp. or exp "Controlled Clinical Trial [Publication Type]"/ (89331)	
19 review.mp. or exp "Review [Publication Type]"/ (1544286)	
20 review\$.mp. (1689002)	
21 systematic review.mp. or exp Meta-Analysis/ (17868)	
22 systematic review\$.mp. (12384)	
23 guideline\$.mp. or exp "Guideline [Publication Type]"/ (145100)	
24 meta analysis.mp. or exp Meta-Analysis/ (27860)	
25 systematic review.mp. (10425)	
43 treatment outcome.mp. or exp Treatment Outcome/ (328154)	
44 treatment\$ outcome\$.mp. (316676)	
45 43 or 44 (330140)	
66 21 or 22 or 24 or 25 (36192)	
67 1 and 45 and 66 (14)	

Search 6b Orthodontics and treatment outcome or outcome assessment and limited on systematic reviews or meta-analysis or reviews (02/1/2007)

Database: Ovid MEDLINE(R) <1950 to October Week 4 2007>

Search strategy	Results
1 orthodontic\$.mp. or exp Orthodontics, Corrective/ or exp Orthodontics, Preventive/ or exp Orthodontics/ or exp Orthodontics, Interceptive/ (36540)	131
2 exp Epidemiologic Studies/ (1004447)	
3 epidemiologic\$ stud\$.mp. (41615)	
4 randomized controlled trial\$.mp. or exp Randomized Controlled Trials/ (297570)	
5 randomised controlled trial\$.mp. (8502)	
6 controlled clinical trial\$.mp. or exp "Controlled Clinical Trial [Publication Type]"/ (89405)	
7 review.mp. or exp "Review [Publication Type]"/ (1546282)	
8 review\$.mp. (1691163)	
9 systematic review.mp. or exp Meta-Analysis/ (17928)	
10 systematic review\$.mp. (12448)	
11 guideline\$.mp. or exp "Guideline [Publication Type]"/ (145436)	
12 meta analysis.mp. or exp Meta-Analysis/ (27935)	
13 systematic review.mp. (10479)	
14 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 (2928683)	
15 treatment outcome.mp. or exp Treatment Outcome/ (328901)	
16 treatment\$ outcome\$.mp. (317412)	
17 exp Adolescent/ or exp Infant/ or exp Child/ or age 0-18 Years.mp. or exp Child, Preschool/ or exp Infant, Newborn/ (2217575)	
18 exp "Outcome and Process Assessment (Health Care)"/ or exp "Outcome Assessment (Health Care)"/ or outcome assessment.mp. (367861)	
19 outcome\$ assessment\$.mp. (29383)	
20 15 or 16 or 18 or 19 (373985)	
21 1 and 20 (1917)	
22 17 and 21 (1192)	
23 9 or 10 or 12 or 13 (36312)	
24 22 and 23 (6)	
25 from 24 keep 1-6 (6)	
26 from 24 keep 1-6 (6)	
27 7 or 8 or 9 or 10 or 12 or 13 (1704375)	
28 22 and 27 (131)	
29 from 28 keep 1-131 (131)	

Search 7 Orthodontics and outcome study (02/10/2007)

Database: Ovid MEDLINE(R) <1950 to September Week 3 2007>

Search strategy	Results
1 orthodontic\$.mp. or exp Orthodontics, Corrective/ or exp Orthodontics, Preventive/ or exp Orthodontics/ or exp Orthodontics, Interceptive/ (36313)	6
63 outcome stud\$.mp. (3661)	
64 outcome study.mp. (1747)	
65 outcome studies.mp. (1911)	
66 63 or 64 or 65 (3661)	
67 1 and 66 (6)	
68 from 67 keep 1-6 (6)	

Search 8 Orthodontics and Patient outcome (02/10/2007)

Database: Ovid MEDLINE(R) <1950 to October Week 3 2007>

Search strategy	Results
1 orthodontic\$.mp. or exp Orthodontics, Corrective/ or exp Orthodontics, Preventive/ or exp Orthodontics/ or exp Orthodontics, Interceptive/ (36313)	5
69 patient outcome.mp. (4763)	
70 patient outcome\$.mp. (10523)	
71 patient\$ outcome\$.mp. (11843)	

72 69 or 70 or 71 (11843)

73 1 and 72 (5)

74 from 73 keep 1-5 (5)

Search 9 Orthodontics and IOTN (02102007)

Database: Ovid MEDLINE(R) <1950 to September Week 3 2007>

Search strategy

Results

- 1 orthodontic\$.mp. or exp Orthodontics, Corrective/ or exp Orthodontics, Preventive/ or exp Orthodontics/ or exp Orthodontics, Interceptive/ (36313)
- 2 exp Epidemiologic Studies/ (992532)
- 3 epidemiologic\$ stud\$.mp. (41258)
- 4 randomized controlled trial\$.mp. or exp Randomized Controlled Trials/ (294484)
- 5 randomised controlled trial\$.mp. (8284)
- 6 controlled clinical trial\$.mp. or exp "Controlled Clinical Trial [Publication Type]"/ (88800)
- 7 review.mp. or exp "Review [Publication Type]"/ (1532417)
- 8 review\$.mp. (1675876)
- 9 systematic review.mp. or exp Meta-Analysis/ (17560)
- 10 systematic review\$.mp. (12079)
- 11 guideline\$.mp. or exp "Guideline [Publication Type]"/ (143526)
- 12 meta analysis.mp. or exp Meta-Analysis/ (27399)
- 13 systematic review.mp. (10164)
- 14 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 (2899991)
- 15 exp Adolescent/ or exp Infant/ or exp Child/ or age 0-18 Years.mp. or exp Child, Preschool/ or exp Infant, Newborn/ (2201816)
- 16 IOTN.mp. (120)
- 17 1 and 16 (119)

Search 10 Orthodontics and ICON (02102007)

Database: Ovid MEDLINE(R) <1950 to September Week 3 2007>

Search strategy

Results

- 1 orthodontic\$.mp. or exp Orthodontics, Corrective/ or exp Orthodontics, Preventive/ or exp Orthodontics/ or exp Orthodontics, Interceptive/ (36313)
- 19 ICON.mp. (348)
- 20 1 and 19 (24)

Search 11 Orthodontics and PAR (02102007)

Database: Ovid MEDLINE(R) <1950 to September Week 3 2007>

Search strategy

Results

- 1 orthodontic\$.mp. or exp Orthodontics, Corrective/ or exp Orthodontics, Preventive/ or exp Orthodontics/ or exp Orthodontics, Interceptive/ (36432)
- 2 exp Epidemiologic Studies/ (999821)
- 3 epidemiologic\$ stud\$.mp. (41456)
- 4 randomized controlled trial\$.mp. or exp Randomized Controlled Trials/ (296234)
- 5 randomised controlled trial\$.mp. (8348)
- 6 controlled clinical trial\$.mp. or exp "Controlled Clinical Trial [Publication Type]"/ (89196)
- 7 review.mp. or exp "Review [Publication Type]"/ (1539912)
- 8 review\$.mp. (1684291)
- 9 systematic review.mp. or exp Meta-Analysis/ (17754)
- 10 systematic review\$.mp. (12268)
- 11 guideline\$.mp. or exp "Guideline [Publication Type]"/ (144480)
- 12 meta analysis.mp. or exp Meta-Analysis/ (27616)
- 13 systematic review.mp. (10333)
- 14 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 (2916487)
- 15 exp Adolescent/ or exp Infant/ or exp Child/ or age 0-18 Years.mp. or exp Child, Preschool/ or exp Infant, Newborn/ (2212363)
- 22 PAR.mp. (65505)
- 23 1 and 22 (287)

24 limit 23 to yr="1987 - 2007" (182)

25 from 24 keep 1-182 (182)

Search 12 Orthodontics and quality of life (02102007)

Database: Ovid MEDLINE(R) <1950 to September Week 3 2007>

Search strategy

Results

- 1 orthodontic\$.mp. or exp Orthodontics, Corrective/ or exp Orthodontics, Preventive/ or exp Orthodontics/ or exp Orthodontics, Interceptive/ (36432)
- 2 exp Epidemiologic Studies/ (999821)
- 3 epidemiologic\$ stud\$.mp. (41456)
- 4 randomized controlled trial\$.mp. or exp Randomized Controlled Trials/ (296234)
- 5 randomised controlled trial\$.mp. (8348)
- 6 controlled clinical trial\$.mp. or exp "Controlled Clinical Trial [Publication Type]"/ (89196)
- 7 review.mp. or exp "Review [Publication Type]"/ (1539912)
- 8 review\$.mp. (1684291)
- 9 systematic review.mp. or exp Meta-Analysis/ (17754)
- 10 systematic review\$.mp. (12268)
- 11 guideline\$.mp. or exp "Guideline [Publication Type]"/ (144480)
- 12 meta analysis.mp. or exp Meta-Analysis/ (27616)
- 13 systematic review.mp. (10333)
- 14 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 (2916487)
- 15 exp Adolescent/ or exp Infant/ or exp Child/ or age 0-18 Years.mp. or exp Child, Preschool/ or exp Infant, Newborn/ (2212363)
- 16 quality of life.mp. or exp "Quality of Life"/ (90852)
- 17 quality of life\$.mp. (90870)
- 18 16 or 17 (90870)
- 19 1 and 18 (109)
- 20 from 19 keep 1-109 (109)

109

Search 13 Orthodontics and self esteem (02102007)

Database: Ovid MEDLINE(R) <1950 to September Week 3 2007>

Search strategy

Results

- 1 orthodontic\$.mp. or exp Orthodontics, Corrective/ or exp Orthodontics, Preventive/ or exp Orthodontics/ or exp Orthodontics, Interceptive/ (36432)
- 21 self-esteem.mp. or exp Self Concept/ (49499)
- 22 self-esteem\$.mp. (8261)
- 23 21 or 22 (49499)
- 24 1 and 23 (243)
- 25 limit 24 to yr="1987 - 2007" (199)
- 26 from 25 keep 1-199 (199)

199

Search 14 Orthodontics and attitude to health (02102007)

Database: Ovid MEDLINE(R) <1950 to September Week 3 2007>

Search strategy

Results

- 1 orthodontic\$.mp. or exp Orthodontics, Corrective/ or exp Orthodontics, Preventive/ or exp Orthodontics/ or exp Orthodontics, Interceptive/ (36313)
- 2 exp Epidemiologic Studies/ (992532)
- 3 epidemiologic\$ stud\$.mp. (41258)
- 4 randomized controlled trial\$.mp. or exp Randomized Controlled Trials/ (294484)
- 5 randomised controlled trial\$.mp. (8284)
- 6 controlled clinical trial\$.mp. or exp "Controlled Clinical Trial [Publication Type]"/ (88800)
- 7 review.mp. or exp "Review [Publication Type]"/ (1532417)
- 8 review\$.mp. (1675876)
- 9 systematic review.mp. or exp Meta-Analysis/ (17560)
- 10 systematic review\$.mp. (12079)
- 11 guideline\$.mp. or exp "Guideline [Publication Type]"/ (143526)
- 12 meta analysis.mp. or exp Meta-Analysis/ (27399)
- 13 systematic review.mp. (10164)

219

- 14 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 (2899991)
- 15 exp Adolescent/ or exp Infant/ or exp Child/ or age 0-18 Years.mp. or exp Child, Preschool/ or exp Infant, Newborn/ (2201816)
- 27 attitude to health.mp. or exp Attitude to Health/ (178461)
- 28 1 and 27 (1006)
- 29 limit 28 to yr="1987 - 2007" (845)
- 30 14 and 29 (347)
- 31 15 and 30 (219)

Search 15 Orthodontics and health behaviour (02102007)

Database: Ovid MEDLINE(R) <1950 to September Week 3 2007>

Search strategy	Results
1 orthodontic\$.mp. or exp Orthodontics, Corrective/ or exp Orthodontics, Preventive/ or exp Orthodontics/ or exp Orthodontics, Interceptive/ (36313)	144
2 exp Epidemiologic Studies/ (992532)	
3 epidemiologic\$ stud\$.mp. (41258)	
4 randomized controlled trial\$.mp. or exp Randomized Controlled Trials/ (294484)	
5 randomised controlled trial\$.mp. (8284)	
6 controlled clinical trial\$.mp. or exp "Controlled Clinical Trial [Publication Type]"/ (88800)	
7 review.mp. or exp "Review [Publication Type]"/ (1532417)	
8 review\$.mp. (1675876)	
9 systematic review.mp. or exp Meta-Analysis/ (17560)	
10 systematic review\$.mp. (12079)	
11 guideline\$.mp. or exp "Guideline [Publication Type]"/ (143526)	
12 meta analysis.mp. or exp Meta-Analysis/ (27399)	
13 systematic review.mp. (10164)	
14 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 (2899991)	
15 exp Adolescent/ or exp Infant/ or exp Child/ or age 0-18 Years.mp. or exp Child, Preschool/ or exp Infant, Newborn/ (2201816)	
34 health behavior.mp. or exp Health Behavior/ (58158)	
35 health behaviour.mp. (887)	
36 (health behavior\$ or health behaviour\$).mp. [mp=title, original title, abstract, name of substance word, subject heading word] (19096)	
37 34 or 35 or 36 (59671)	
38 1 and 37 (476)	
39 limit 38 to yr="1987 - 2007" (366)	
40 14 and 39 (144)	
41 from 40 keep 1-144 (144)	

Search 16 Orthodontics and patient participation (02102007)

Database: Ovid MEDLINE(R) <1950 to September Week 3 2007>

Search strategy	Results
1 orthodontic\$.mp. or exp Orthodontics, Corrective/ or exp Orthodontics, Preventive/ or exp Orthodontics/ or exp Orthodontics, Interceptive/ (36313)	40
42 patient participation.mp. or exp Patient Participation/ (12086)	
43 patient\$ participation\$.mp. (12200)	
44 42 or 43 (12200)	
45 1 and 44 (40)	
46 from 45 keep 1-40 (40)	

Search 17 Orthodontics and patient satisfaction (02102007)

Database: Ovid MEDLINE(R) <1950 to September Week 3 2007>

Search strategy	Results
159 orthodontic\$.mp. or exp Orthodontics, Corrective/ or exp Orthodontics, Preventive/ or exp Orthodontics/ or exp Orthodontics, Interceptive/ (36432)	161
160 exp Epidemiologic Studies/ (999821)	
161 epidemiologic\$ stud\$.mp. (41456)	
162 randomized controlled trial\$.mp. or exp Randomized Controlled Trials/ (296234)	

- 163 randomised controlled trial\$.mp. (8348)
- 164 controlled clinical trial\$.mp. or exp "Controlled Clinical Trial [Publication Type]"/ (89196)
- 165 review.mp. or exp "Review [Publication Type]"/ (1539912)
- 166 review\$.mp. (1684291)
- 167 systematic review.mp. or exp Meta-Analysis/ (17754)
- 168 systematic review\$.mp. (12268)
- 169 guideline\$.mp. or exp "Guideline [Publication Type]"/ (144480)
- 170 meta analysis.mp. or exp Meta-Analysis/ (27616)
- 171 systematic review.mp. (10333)
- 172 160 or 161 or 162 or 163 or 164 or 165 or 166 or 167 or 168 or 169 or 170 or 171 (2916487)
- 173 exp Adolescent/ or exp Infant/ or exp Child/ or age 0-18 Years.mp. or exp Child, Preschool/ or exp Infant, Newborn/ (2212363)
- 205 patient satisfaction.mp. or exp Patient Satisfaction/ (37983)
- 206 patient\$ satisfaction\$.mp. (38476)
- 207 205 or 206 (38476)
- 208 159 and 207 (314)
- 209 limit 208 to yr="1987 - 2007" (314)
- 210 172 and 209 (161)

Search 18 Orthodontics and tooth ankylosis

Database: Ovid MEDLINE(R) <1950 to September Week 3 2007>

Search strategy

Results

- 1 orthodontic\$.mp. or exp Orthodontics, Corrective/ or exp Orthodontics, Preventive/ or exp Orthodontics/ or exp Orthodontics, Interceptive/ (36432) 47
- 2 exp Epidemiologic Studies/ (999821)
- 3 epidemiologic\$ stud\$.mp. (41456)
- 4 randomized controlled trial\$.mp. or exp Randomized Controlled Trials/ (296234)
- 5 randomised controlled trial\$.mp. (8348)
- 6 controlled clinical trial\$.mp. or exp "Controlled Clinical Trial [Publication Type]"/ (89196)
- 7 review.mp. or exp "Review [Publication Type]"/ (1539912)
- 8 review\$.mp. (1684291)
- 9 systematic review.mp. or exp Meta-Analysis/ (17754)
- 10 systematic review\$.mp. (12268)
- 11 guideline\$.mp. or exp "Guideline [Publication Type]"/ (144480)
- 12 meta analysis.mp. or exp Meta-Analysis/ (27616)
- 13 systematic review.mp. (10333)
- 14 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 (2916487)
- 15 exp Adolescent/ or exp Infant/ or exp Child/ or age 0-18 Years.mp. or exp Child, Preschool/ or exp Infant, Newborn/ (2212363)
- 16 tooth ankylosis.mp. or exp Tooth Ankylosis/ (152)
- 17 tooth ankylos\$.mp. (153)
- 18 16 or 17 (153)
- 19 1 and 18 (47)
- 20 from 19 keep 1-47 (47)

Search 19 Orthodontics and tooth eruption and ectopic

Database: Ovid MEDLINE(R) <1950 to September Week 3 2007>

Search strategy

Results

- 1 orthodontic\$.mp. or exp Orthodontics, Corrective/ or exp Orthodontics, Preventive/ or exp Orthodontics/ or exp Orthodontics, Interceptive/ (36313) 76
- 2 exp Epidemiologic Studies/ (992532)
- 3 epidemiologic\$ stud\$.mp. (41258)
- 4 randomized controlled trial\$.mp. or exp Randomized Controlled Trials/ (294484)
- 5 randomised controlled trial\$.mp. (8284)
- 6 controlled clinical trial\$.mp. or exp "Controlled Clinical Trial [Publication Type]"/ (88800)
- 7 review.mp. or exp "Review [Publication Type]"/ (1532417)
- 8 review\$.mp. (1675876)

- 9 systematic review.mp. or exp Meta-Analysis/ (17560)
- 10 systematic review\$.mp. (12079)
- 11 guideline\$.mp. or exp "Guideline [Publication Type]"/ (143526)
- 12 meta analysis.mp. or exp Meta-Analysis/ (27399)
- 13 systematic review.mp. (10164)
- 14 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 (2899991)
- 15 exp Adolescent/ or exp Infant/ or exp Child/ or age 0-18 Years.mp. or exp Child, Preschool/ or exp Infant, Newborn/ (2201816)
- 16 tooth ankylosis.mp. or exp Tooth Ankylosis/ (150)
- 17 tooth ankylos\$.mp. (151)
- 18 16 or 17 (151)
- 19 1 and 18 (46)
- 20 from 19 keep 1-46 (46)
- 21 from 20 keep 1-46 (46)
- 22 (tooth eruption and ectopic).mp. [mp=title, original title, abstract, name of substance word, subject heading word] (1060)
- 23 tooth eruption, ectopic.mp. or exp Tooth Eruption, Ectopic/ (1051)
- 24 (tooth eruption\$ and ectopic\$.mp. [mp=title, original title, abstract, name of substance word, subject heading word] (1062)
- 25 22 or 23 or 24 (1062)
- 26 1 and 25 (452)
- 27 limit 26 to yr="1987 - 2007" (260)
- 28 14 and 27 (76)
- 29 from 28 keep 1-76 (76)
- 30 from 29 keep 1-76 (76)

Search 20 Orthodontics and tooth impacted

Database: Ovid MEDLINE(R) <1950 to September Week 3 2007>

Search strategy

Results

- 217 orthodontic\$.mp. or exp Orthodontics, Corrective/ or exp Orthodontics, Preventive/ or exp Orthodontics/ or exp Orthodontics, Interceptive/ (36432)
- 218 exp Epidemiologic Studies/ (999821)
- 219 epidemiologic\$ stud\$.mp. (41456)
- 220 randomized controlled trial\$.mp. or exp Randomized Controlled Trials/ (296234)
- 221 randomised controlled trial\$.mp. (8348)
- 222 controlled clinical trial\$.mp. or exp "Controlled Clinical Trial [Publication Type]"/ (89196)
- 223 review.mp. or exp "Review [Publication Type]"/ (1539912)
- 224 review\$.mp. (1684291)
- 225 systematic review.mp. or exp Meta-Analysis/ (17754)
- 226 systematic review\$.mp. (12268)
- 227 guideline\$.mp. or exp "Guideline [Publication Type]"/ (144480)
- 228 meta analysis.mp. or exp Meta-Analysis/ (27616)
- 229 systematic review.mp. (10333)
- 230 218 or 219 or 220 or 221 or 222 or 223 or 224 or 225 or 226 or 227 or 228 or 229 (2916487)
- 231 exp Adolescent/ or exp Infant/ or exp Child/ or age 0-18 Years.mp. or exp Child, Preschool/ or exp Infant, Newborn/ (2212363)
- 247 tooth impacted.mp. or exp Tooth, Impacted/ (4305)
- 248 tooth impacted\$.mp. (4305)
- 249 247 or 248 (4305)
- 250 217 and 249 (1071)
- 251 limit 250 to yr="1987 - 2007" (593)
- 252 230 and 251 (170)
- 253 from 252 keep 1-170 (170)

Search 21 Orthodontics and tooth injuries

Database: Ovid MEDLINE(R) <1950 to September Week 3 2007>

Search strategy	Results
1 orthodontic\$.mp. or exp Orthodontics, Corrective/ or exp Orthodontics, Preventive/ or exp Orthodontics/ or exp Orthodontics, Interceptive/ (36313)	136
2 exp Epidemiologic Studies/ (992532)	
3 epidemiologic\$ stud\$.mp. (41258)	
4 randomized controlled trial\$.mp. or exp Randomized Controlled Trials/ (294484)	
5 randomised controlled trial\$.mp. (8284)	
6 controlled clinical trial\$.mp. or exp "Controlled Clinical Trial [Publication Type]"/ (88800)	
7 review.mp. or exp "Review [Publication Type]"/ (1532417)	
8 review\$.mp. (1675876)	
9 systematic review.mp. or exp Meta-Analysis/ (17560)	
10 systematic review\$.mp. (12079)	
11 guideline\$.mp. or exp "Guideline [Publication Type]"/ (143526)	
12 meta analysis.mp. or exp Meta-Analysis/ (27399)	
13 systematic review.mp. (10164)	
14 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 (2899991)	
15 exp Adolescent/ or exp Infant/ or exp Child/ or age 0-18 Years.mp. or exp Child, Preschool/ or exp Infant, Newborn/ (2201816)	
39 tooth injuries.mp. or exp Tooth Injuries/ (6339)	
40 tooth injury.mp. (66)	
41 39 or 40 (6366)	
42 1 and 41 (627)	
43 limit 42 to yr="1987 - 2007" (430)	
44 14 and 43 (136)	
45 from 44 keep 1-136 (136)	

Search 22 Orthodontics and tooth loss

Database: Ovid MEDLINE(R) <1950 to September Week 3 2007>

Search strategy	Results
1 orthodontic\$.mp. or exp Orthodontics, Corrective/ or exp Orthodontics, Preventive/ or exp Orthodontics/ or exp Orthodontics, Interceptive/ (36313)	166
2 exp Epidemiologic Studies/ (992532)	
3 epidemiologic\$ stud\$.mp. (41258)	
4 randomized controlled trial\$.mp. or exp Randomized Controlled Trials/ (294484)	
5 randomised controlled trial\$.mp. (8284)	
6 controlled clinical trial\$.mp. or exp "Controlled Clinical Trial [Publication Type]"/ (88800)	
7 review.mp. or exp "Review [Publication Type]"/ (1532417)	
8 review\$.mp. (1675876)	
9 systematic review.mp. or exp Meta-Analysis/ (17560)	
10 systematic review\$.mp. (12079)	
11 guideline\$.mp. or exp "Guideline [Publication Type]"/ (143526)	
12 meta analysis.mp. or exp Meta-Analysis/ (27399)	
13 systematic review.mp. (10164)	
14 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 (2899991)	
15 exp Adolescent/ or exp Infant/ or exp Child/ or age 0-18 Years.mp. or exp Child, Preschool/ or exp Infant, Newborn/ (2201816)	
47 tooth loss.mp. or exp Tooth Loss/ (2393)	
48 tooth los\$.mp. (2406)	
49 47 or 48 (2406)	
50 1 and 49 (166)	
51 from 50 keep 1-166 (166)	

Search 23a Orthodontics and Malocclusion or Malocclusion, Angle I or Malocclusion, Angle II or Malocclusion, Angle III and limited on systematic review and meta-analysis (27102007)

Database: Ovid MEDLINE(R) <1950 to October Week 3 2007>

Search strategy

Results

- 1 Orthodontic\$.mp. or exp Orthodontics, Corrective/ or exp Orthodontics, Preventive/ or exp Orthodontics/ or exp Orthodontics, Interceptive/ (36483) 9
- 2 exp Epidemiologic Studies/ (1002905)
- 3 epidemiologic\$ stud\$.mp. (41558)
- 4 randomized controlled trial\$.mp. or exp Randomized Controlled Trials/ (297168)
- 5 randomised controlled trial\$.mp. (8490)
- 6 controlled clinical trial\$.mp. or exp "Controlled Clinical Trial [Publication Type]"/ (89331)
- 7 review.mp. or exp "Review [Publication Type]"/ (1544286)
- 8 review\$.mp. (1689002)
- 9 systematic review.mp. or exp Meta-Analysis/ (17868)
- 10 systematic review\$.mp. (12384)
- 11 guideline\$.mp. or exp "Guideline [Publication Type]"/ (145100)
- 12 meta analysis.mp. or exp Meta-Analysis/ (27860)
- 13 systematic review.mp. (10425)
- 14 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 (2924729)
- 15 exp Adolescent/ or exp Infant/ or exp Child/ or age 0-18 Years.mp. or exp Child, Preschool/ or exp Infant, Newborn/ (2215937)
- 16 Malocclusion.mp. or exp Malocclusion, Angle Class I/ or exp Malocclusion, Angle Class III/ or exp Malocclusion/ or exp Malocclusion, Angle Class II/ (24779)
- 17 1 and 14 and 15 and 16 (1889)
- 18 limit 17 to yr="1987 - 2007" (1646)
- 19 9 or 10 or 12 or 13 (36192)
- 20 1 and 15 and 16 and 19 (9)
- 21 from 20 keep 1-9 (9)

Search 23b Orthodontics and Malocclusion or Malocclusion, Angle I or Malocclusion, Angle II or Malocclusion, Angle III and limited on systematic review and meta-analysis and guidelines and review (27102007)

Database: Ovid MEDLINE(R) <1950 to October Week 3 2007>

Search strategy

Results

- 1 Orthodontic\$.mp. or exp Orthodontics, Corrective/ or exp Orthodontics, Preventive/ or exp Orthodontics/ or exp Orthodontics, Interceptive/ (36483) 230
- 2 exp Epidemiologic Studies/ (1002905)
- 3 epidemiologic\$ stud\$.mp. (41558)
- 4 randomized controlled trial\$.mp. or exp Randomized Controlled Trials/ (297168)
- 5 randomised controlled trial\$.mp. (8490)
- 6 controlled clinical trial\$.mp. or exp "Controlled Clinical Trial [Publication Type]"/ (89331)
- 7 review.mp. or exp "Review [Publication Type]"/ (1544286)
- 8 review\$.mp. (1689002)
- 9 systematic review.mp. or exp Meta-Analysis/ (17868)
- 10 systematic review\$.mp. (12384)
- 11 guideline\$.mp. or exp "Guideline [Publication Type]"/ (145100)
- 12 meta analysis.mp. or exp Meta-Analysis/ (27860)
- 13 systematic review.mp. (10425)
- 14 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 (2924729)
- 15 exp Adolescent/ or exp Infant/ or exp Child/ or age 0-18 Years.mp. or exp Child, Preschool/ or exp Infant, Newborn/ (2215937)
- 16 Malocclusion.mp. or exp Malocclusion, Angle Class I/ or exp Malocclusion, Angle Class III/ or exp Malocclusion/ or exp Malocclusion, Angle Class II/ (24779)
- 17 1 and 14 and 15 and 16 (1889)
- 18 limit 17 to yr="1987 - 2007" (1646)
- 19 9 or 10 or 12 or 13 (36192)
- 20 1 and 15 and 16 and 19 (9)

- 21 from 20 keep 1-9 (9)
- 22 from 20 keep 1-9 (9)
- 23 7 or 8 or 9 or 10 or 11 or 12 or 13 (1799301)
- 24 1 and 15 and 16 and 23 (464)
- 25 limit 24 to yr="1987 - 2007" (396)
- 26 limit 25 to yr="1997 - 2007" (230)

Search 24 Orthodontics and jaw malformation (10102007)

Database: Ovid MEDLINE(R) <1950 to September Week 4 2007>

Search strategy

- 1 orthodontic\$.mp. or exp Orthodontics, Corrective/ or exp Orthodontics, Preventive/ or exp Orthodontics, Interceptive/ (36405)
- 2 exp Epidemiologic Studies/ (998112)
- 3 epidemiologic\$ stud\$.mp. (41394)
- 4 randomized controlled trial\$.mp. or exp Randomized Controlled Trials/ (295773)
- 5 randomised controlled trial\$.mp. (8321)
- 6 controlled clinical trial\$.mp. or exp "Controlled Clinical Trial [Publication Type]"/ (89146)
- 7 review.mp. or exp "Review [Publication Type]"/ (1537693)
- 8 review\$.mp. (1681862)
- 9 systematic review.mp. or exp Meta-Analysis/ (17681)
- 10 systematic review\$.mp. (12199)
- 11 guideline\$.mp. or exp "Guideline [Publication Type]"/ (144183)
- 12 meta analysis.mp. or exp Meta-Analysis/ (27555)
- 13 systematic review.mp. (10268)
- 14 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 (2912048)
- 15 exp Adolescent/ or exp Infant/ or exp Child/ or age 0-18 Years.mp. or exp Child, Preschool/ or exp Infant, Newborn/ (2210454)
- 166 exp Jaw Abnormalities/ or jaw malformation.mp. (19463)
- 167 165 or 166 (42335)
- 168 1 and 167 (2760)
- 169 limit 168 to yr="1987 - 2007" (1345)
- 170 14 and 169 (541)
- 171 15 and 170 (420)

Results

420

Search 25 Orthodontics and cross bite (27102007)

Database: Ovid MEDLINE(R) <1950 to October Week 3 2007>

Search strategy

- 1 Orthodontic\$.mp. or exp Orthodontics, Corrective/ or exp Orthodontics, Preventive/ or exp Orthodontics, Interceptive/ (36483)
- 2 exp Epidemiologic Studies/ (1002905)
- 3 epidemiologic\$ stud\$.mp. (41558)
- 4 randomized controlled trial\$.mp. or exp Randomized Controlled Trials/ (297168)
- 5 randomised controlled trial\$.mp. (8490)
- 6 controlled clinical trial\$.mp. or exp "Controlled Clinical Trial [Publication Type]"/ (89331)
- 7 review.mp. or exp "Review [Publication Type]"/ (1544286)
- 8 review\$.mp. (1689002)
- 9 systematic review.mp. or exp Meta-Analysis/ (17868)
- 10 systematic review\$.mp. (12384)
- 11 guideline\$.mp. or exp "Guideline [Publication Type]"/ (145100)
- 12 meta analysis.mp. or exp Meta-Analysis/ (27860)
- 13 systematic review.mp. (10425)
- 14 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 (2924729)
- 15 exp Adolescent/ or exp Infant/ or exp Child/ or age 0-18 Years.mp. or exp Child, Preschool/ or exp Infant, Newborn/ (2215937)
- 23 cross bite.mp. (285)
- 24 1 and 14 and 15 and 23 (28)
- 25 limit 24 to yr="1987 - 2007" (25)
- 26 from 25 keep 1-25 (25)

Results

14

27 from 25 keep 1-25 (25)

Search 26 Tooth crowding (27102007)

Database: Ovid MEDLINE(R) <1950 to October Week 3 2007>

Search strategy

- 1 Orthodontic\$.mp. or exp Orthodontics, Corrective/ or exp Orthodontics, Preventive/ or exp Orthodontics/ or exp Orthodontics, Interceptive/ (36483)
- 2 exp Epidemiologic Studies/ (1002905)
- 3 epidemiologic\$ stud\$.mp. (41558)
- 4 randomized controlled trial\$.mp. or exp Randomized Controlled Trials/ (297168)
- 5 randomised controlled trial\$.mp. (8490)
- 6 controlled clinical trial\$.mp. or exp "Controlled Clinical Trial [Publication Type]"/ (89331)
- 7 review.mp. or exp "Review [Publication Type]"/ (1544286)
- 8 review\$.mp. (1689002)
- 9 systematic review.mp. or exp Meta-Analysis/ (17868)
- 10 systematic review\$.mp. (12384)
- 11 guideline\$.mp. or exp "Guideline [Publication Type]"/ (145100)
- 12 meta analysis.mp. or exp Meta-Analysis/ (27860)
- 13 systematic review.mp. (10425)
- 14 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 (2924729)
- 15 exp Adolescent/ or exp Infant/ or exp Child/ or age 0-18 Years.mp. or exp Child, Preschool/ or exp Infant, Newborn/ (2215937)
- 28 tooth crowding.mp. (25)
- 29 limit 28 to yr="1987 - 2007" (12)
- 30 from 29 keep 1-12 (12)

Results

12

Search 27 Orthodontics and syndromes and meta-analysis or systematic review (27102007)

Database: Ovid MEDLINE(R) <1950 to October Week 3 2007>

Search strategy

- 1 Orthodontic\$.mp. or exp Orthodontics, Corrective/ or exp Orthodontics, Preventive/ or exp Orthodontics/ or exp Orthodontics, Interceptive/ (36483)
- 2 exp Epidemiologic Studies/ (1002905)
- 3 epidemiologic\$ stud\$.mp. (41558)
- 4 randomized controlled trial\$.mp. or exp Randomized Controlled Trials/ (297168)
- 5 randomised controlled trial\$.mp. (8490)
- 6 controlled clinical trial\$.mp. or exp "Controlled Clinical Trial [Publication Type]"/ (89331)
- 7 review.mp. or exp "Review [Publication Type]"/ (1544286)
- 8 review\$.mp. (1689002)
- 9 systematic review.mp. or exp Meta-Analysis/ (17868)
- 10 systematic review\$.mp. (12384)
- 11 guideline\$.mp. or exp "Guideline [Publication Type]"/ (145100)
- 12 meta analysis.mp. or exp Meta-Analysis/ (27860)
- 13 systematic review.mp. (10425)
- 14 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 (2924729)
- 15 exp Adolescent/ or exp Infant/ or exp Child/ or age 0-18 Years.mp. or exp Child, Preschool/ or exp Infant, Newborn/ (2215937)
- 31 exp Mandible/ or mandible pathology.mp. (34421)
- 32 maxilla pathology.mp. (0)
- 33 retrognathism.mp. or exp Retrognathism/ (1248)
- 34 exp Prognathism/ or prognathism.mp. (2548)
- 35 mandible abnormalities.mp. (0)
- 36 exp Maxilla/ or exp Jaw Abnormalities/ or maxilla abnormalities.mp. (33828)
- 37 dental arch pathology.mp. (0)
- 38 dental arch abnormalities.mp. (0)
- 39 exp Jaw Abnormalities/ or jaw malformation.mp. (19507)
- 40 cleft lip.mp. or exp Cleft Lip/ (10348)
- 41 cleft palate.mp. or exp Cleft Palate/ (15115)

Results

3

- 42 cleft face.mp. or exp Craniofacial Abnormalities/ or exp Abnormalities, Multiple/ (92477)
- 43 cleft face.mp. or exp Craniofacial Abnormalities/ or exp Abnormalities, Multiple/ (92477)
- 44 exp Marfan Syndrome/ or exp Prader-Willi Syndrome/ or exp Pierre Robin Syndrome/ or exp Turner Syndrome/ or exp Goldenhar Syndrome/ or exp Syndrome/ or exp Mobius Syndrome/ or exp Down Syndrome/ (112498)
- 45 congenital abnormalities.mp. or exp Abnormalities/ (344254)
- 46 abnormalities multiple.mp. or exp Abnormalities, Multiple/ (64680)
- 47 31 or 33 or 34 or 36 or 39 or 41 or 42 or 43 or 44 or 45 or 46 (447935)
- 48 1 and 14 and 15 and 47 (1738)
- 49 limit 48 to yr="1987 - 2007" (1565)
- 50 9 or 10 or 12 or 13 (36192)
- 51 1 and 15 and 47 and 50 (3)
- 52 from 51 keep 1-3 (3)

Search 28 Orthodontics and syndromes and meta-analysis or systematic review or review or guidelines (27102007)

Database: Ovid MEDLINE(R) <1950 to October Week 3 2007>

Search strategy

Results

- | | | |
|----|--|-----|
| 1 | Orthodontic\$.mp. or exp Orthodontics, Corrective/ or exp Orthodontics, Preventive/ or exp Orthodontics/ or exp Orthodontics, Interceptive/ (36483) | 241 |
| 2 | exp Epidemiologic Studies/ (1002905) | |
| 3 | epidemiologic\$ stud\$.mp. (41558) | |
| 4 | randomized controlled trial\$.mp. or exp Randomized Controlled Trials/ (297168) | |
| 5 | randomised controlled trial\$.mp. (8490) | |
| 6 | controlled clinical trial\$.mp. or exp "Controlled Clinical Trial [Publication Type]"/ (89331) | |
| 7 | review.mp. or exp "Review [Publication Type]"/ (1544286) | |
| 8 | review\$.mp. (1689002) | |
| 9 | systematic review.mp. or exp Meta-Analysis/ (17868) | |
| 10 | systematic review\$.mp. (12384) | |
| 11 | guideline\$.mp. or exp "Guideline [Publication Type]"/ (145100) | |
| 12 | meta analysis.mp. or exp Meta-Analysis/ (27860) | |
| 13 | systematic review.mp. (10425) | |
| 14 | 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 (2924729) | |
| 15 | exp Adolescent/ or exp Infant/ or exp Child/ or age 0-18 Years.mp. or exp Child, Preschool/ or exp Infant, Newborn/ (2215937) | |
| 16 | Malocclusion.mp. or exp Malocclusion, Angle Class I/ or exp Malocclusion, Angle Class III/ or exp Malocclusion/ or exp Malocclusion, Angle Class II/ (24779) | |
| 17 | 1 and 14 and 15 and 16 (1889) | |
| 18 | limit 17 to yr="1987 - 2007" (1646) | |
| 19 | 9 or 10 or 12 or 13 (36192) | |
| 20 | 1 and 15 and 16 and 19 (9) | |
| 21 | from 20 keep 1-9 (9) | |
| 22 | from 20 keep 1-9 (9) | |
| 23 | cross bite.mp. (285) | |
| 24 | 1 and 14 and 15 and 23 (28) | |
| 25 | limit 24 to yr="1987 - 2007" (25) | |
| 26 | from 25 keep 1-25 (25) | |
| 27 | from 25 keep 1-25 (25) | |
| 28 | tooth crowding.mp. (25) | |
| 29 | limit 28 to yr="1987 - 2007" (12) | |
| 30 | from 29 keep 1-12 (12) | |
| 31 | exp Mandible/ or mandible pathology.mp. (34421) | |
| 32 | maxilla pathology.mp. (0) | |
| 33 | retrognathism.mp. or exp Retrognathism/ (1248) | |
| 34 | exp Prognathism/ or prognathism.mp. (2548) | |
| 35 | mandible abnormalities.mp. (0) | |
| 36 | exp Maxilla/ or exp Jaw Abnormalities/ or maxilla abnormalities.mp. (33828) | |
| 37 | dental arch pathology.mp. (0) | |
| 38 | dental arch abnormalities.mp. (0) | |

- 39 exp Jaw Abnormalities/ or jaw malformation.mp. (19507)
- 40 cleft lip.mp. or exp Cleft Lip/ (10348)
- 41 cleft palate.mp. or exp Cleft Palate/ (15115)
- 42 cleft face.mp. or exp Craniofacial Abnormalities/ or exp Abnormalities, Multiple/ (92477)
- 43 cleft face.mp. or exp Craniofacial Abnormalities/ or exp Abnormalities, Multiple/ (92477)
- 44 exp Marfan Syndrome/ or exp Prader-Willi Syndrome/ or exp Pierre Robin Syndrome/ or exp Turner Syndrome/ or exp Goldenhar Syndrome/ or exp Syndrome/ or exp Mobius Syndrome/ or exp Down Syndrome/ (112498)
- 45 congenital abnormalities.mp. or exp Abnormalities/ (344254)
- 46 abnormalities multiple.mp. or exp Abnormalities, Multiple/ (64680)
- 47 31 or 33 or 34 or 36 or 39 or 41 or 42 or 43 or 44 or 45 or 46 (447935)
- 48 1 and 14 and 15 and 47 (1738)
- 49 limit 48 to yr="1987 - 2007" (1565)
- 50 9 or 10 or 12 or 13 (36192)
- 51 1 and 15 and 47 and 50 (3)
- 52 from 51 keep 1-3 (3)
- 53 from 51 keep 1-3 (3)
- 54 7 or 8 or 9 or 10 or 11 or 12 or 13 (1799301)
- 55 1 and 15 and 47 and 54 (426)
- 56 limit 55 to yr="1987 - 2007" (370)
- 57 limit 56 to yr="1997 - 2007" (241)

Search 29 Orthodontics and tooth resorption (27102007)

Database: Ovid MEDLINE(R) <1950 to October Week 3 2007>

Search strategy

Results

- 1 Orthodontic\$.mp. or exp Orthodontics, Corrective/ or exp Orthodontics, Preventive/ or exp Orthodontics/ or exp Orthodontics, Interceptive/ (36483) 38
- 2 exp Epidemiologic Studies/ (1002905)
- 3 epidemiologic\$ stud\$.mp. (41558)
- 4 randomized controlled trial\$.mp. or exp Randomized Controlled Trials/ (297168)
- 5 randomised controlled trial\$.mp. (8490)
- 6 controlled clinical trial\$.mp. or exp "Controlled Clinical Trial [Publication Type]"/ (89331)
- 7 review.mp. or exp "Review [Publication Type]"/ (1544286)
- 8 review\$.mp. (1689002)
- 9 systematic review.mp. or exp Meta-Analysis/ (17868)
- 10 systematic review\$.mp. (12384)
- 11 guideline\$.mp. or exp "Guideline [Publication Type]"/ (145100)
- 12 meta analysis.mp. or exp Meta-Analysis/ (27860)
- 13 systematic review.mp. (10425)
- 14 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 (2924729)
- 15 exp Adolescent/ or exp Infant/ or exp Child/ or age 0-18 Years.mp. or exp Child, Preschool/ or exp Infant, Newborn/ (2215937)
- 121 tooth resorption.mp. or exp Tooth Resorption/ (2792)
- 122 tooth resorption\$.mp. (845)
- 123 121 or 122 (2792)
- 124 62 and 123 (642)
- 125 limit 124 to yr="1987 - 2007" (469)
- 126 75 and 125 (168)
- 127 9 or 10 or 12 (36192)
- 128 1 and 15 and 123 and 127 (2)
- 129 from 128 keep 1-2 (2)
- 130 7 or 8 or 9 or 10 or 11 or 12 or 13 (1799301)
- 131 1 and 15 and 123 and 130 (38)
- 132 from 131 keep 1-38 (38)

Search 30 Orthodontics and treatment outcome or outcome assessment (02/1/2007)

Database: Ovid MEDLINE(R) <1950 to October Week 4 2007>

Search strategy

Results

- 1 orthodontic\$.mp. or exp Orthodontics, Corrective/ or exp Orthodontics, Preventive/ or exp Orthodontics/ or exp Orthodontics, Interceptive/ (36540)
- 2 exp Epidemiologic Studies/ (1004447)
- 3 epidemiologic\$ stud\$.mp. (41615)
- 4 randomized controlled trial\$.mp. or exp Randomized Controlled Trials/ (297570)
- 5 randomised controlled trial\$.mp. (8502)
- 6 controlled clinical trial\$.mp. or exp "Controlled Clinical Trial [Publication Type]"/ (89405)
- 7 review.mp. or exp "Review [Publication Type]"/ (1546282)
- 8 review\$.mp. (1691163)
- 9 systematic review.mp. or exp Meta-Analysis/ (17928)
- 10 systematic review\$.mp. (12448)
- 11 guideline\$.mp. or exp "Guideline [Publication Type]"/ (145436)
- 12 meta analysis.mp. or exp Meta-Analysis/ (27935)
- 13 systematic review.mp. (10479)
- 14 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 (2928683)
- 15 treatment outcome.mp. or exp Treatment Outcome/ (328901)
- 16 treatment\$ outcome\$.mp. (317412)
- 17 exp Adolescent/ or exp Infant/ or exp Child/ or age 0-18 Years.mp. or exp Child, Preschool/ or exp Infant, Newborn/ (2217575)
- 18 exp "Outcome and Process Assessment (Health Care)"/ or exp "Outcome Assessment (Health Care)"/ or outcome assessment.mp. (367861)
- 19 outcome\$ assessment\$.mp. (29383)
- 20 15 or 16 or 18 or 19 (373985)
- 21 1 and 20 (1917)
- 22 17 and 21 (1192)
- 23 9 or 10 or 12 or 13 (36312)
- 24 22 and 23 (6)
- 25 from 24 keep 1-6 (6)
- 26 from 24 keep 1-6 (6)
- 27 7 or 8 or 9 or 10 or 12 or 13 (1704375)
- 28 22 and 27 (131)
- 29 from 28 keep 1-131 (131)

Search 31 orthodontics and outcome assessment (27/10/2007)

Database: Ovid MEDLINE(R) <1950 to October Week 3 2007>

Search strategy

Results

- 1 orthodontic\$.mp. or exp Orthodontics, Corrective/ or exp Orthodontics, Preventive/ or exp Orthodontics/ or exp Orthodontics, Interceptive/ (36483)
- 2 Needs assessment\$.mp. or exp Needs Assessment/ (15304)
- 3 1 and 2 (120)
- 4 exp Needs Assessment/ or needs assessments\$.mp. (14044)
- 5 1 and 2 and 4 (118)
- 6 from 5 keep 1-112 (112)
- 7 exp "Health Services Needs and Demand"/ (30780)
- 8 (Health Services Needs and Demand).mp. [mp=title, original title, abstract, name of substance word, subject heading word] (27430)
- 9 (Health Services Needs and Demand\$).mp. [mp=title, original title, abstract, name of substance word, subject heading word] (27431)
- 10 (Health Services Need\$ and Demand\$).mp. [mp=title, original title, abstract, name of substance word, subject heading word] (27435)
- 11 (Health Service\$ Need\$ and Demand\$).mp. [mp=title, original title, abstract, name of substance word, subject heading word] (27438)
- 12 7 or 8 or 9 or 10 or 11 (30788)
- 13 1 and 12 (354)
- 14 exp Epidemiologic Studies/ (1002905)

- 15 epidemiologic\$ stud\$.mp. (41558)
- 16 randomized controlled trial\$.mp. or exp Randomized Controlled Trials/ (297168)
- 17 randomised controlled trial\$.mp. (8490)
- 18 controlled clinical trial\$.mp. or exp "Controlled Clinical Trial [Publication Type]"/ (89331)
- 19 review.mp. or exp "Review [Publication Type]"/ (1544286)
- 20 review\$.mp. (1689002)
- 21 systematic review.mp. or exp Meta-Analysis/ (17868)
- 22 systematic review\$.mp. (12384)
- 23 guideline\$.mp. or exp "Guideline [Publication Type]"/ (145100)
- 24 meta analysis.mp. or exp Meta-Analysis/ (27860)
- 25 systematic review.mp. (10425)
- 26 14 or 15 or 16 or 17 or 18 or 19 or 20 or 21 or 22 or 23 or 24 or 25 (2924729)
- 27 13 and 26 (105)
- 28 from 27 keep 1-105 (105)
- 29 from 28 keep 1-105 (105)
- 30 Health services accessibility.mp. or exp Health Services Accessibility/ (55739)
- 31 health service\$ accessibility.mp. (29230)
- 32 30 or 31 (55742)
- 33 1 and 32 (101)
- 34 from 33 keep 1-101 (101)
- 35 Treatment need\$.mp. (2539)
- 36 Treatment need.mp. (841)
- 37 Treatment\$ need\$.mp. (2699)
- 38 Treatment needs.mp. (1601)
- 39 35 or 36 or 37 or 38 (2699)
- 40 1 and 39 (326)
- 41 26 and 40 (138)
- 42 from 41 keep 1-136 (136)
- 43 treatment outcome.mp. or exp Treatment Outcome/ (328154)
- 44 treatment\$ outcome\$.mp. (316676)
- 45 43 or 44 (330140)
- 46 1 and 45 (1616)
- 47 limit 46 to yr="1987 - 2007" (1615)
- 48 26 and 47 (948)
- 49 exp Adolescent/ or exp Infant/ or exp Child/ or age 0-18 Years.mp. or exp Child, Preschool/ or
exp Infant, Newborn/ (2215937)
- 50 48 and 49 (630)
- 51 from 50 keep 1-200 (200)
- 52 from 50 keep 201-400 (200)
- 53 from 50 keep 401-619 (219)
- 54 from 53 keep 1-200 (200)
- 55 from 53 keep 201-219 (19)
- 56 exp "Outcome and Process Assessment (Health Care)"/ or exp "Outcome Assessment (Health
Care)"/ or outcome assessment.mp. (367028)
- 57 outcome\$ assessment\$.mp. (29317)
- 58 56 or 57 (367301)
- 59 1 and 58 (1855)
- 60 limit 59 to yr="1987 - 2007" (1852)
- 61 26 and 60 (1058)
- 62 49 and 61 (700)
- 63 19 or 20 or 21 or 22 or 23 or 24 or 25 (1799301)
- 64 46 and 49 and 63 (113)
- 65 from 64 keep 11,13,19,21-24,26,30,32-33,36 (12)
- 66 21 or 22 or 24 or 25 (36192)
- 67 1 and 45 and 66 (14)
- 68 from 67 keep 1-2,4,6,8,11 (6)
- 69 from 67 keep 1-14 (14)

Search strategy Embase

Project name	Orthodontics for child and adolescent
Keywords	

Date	24/09/2007
Database (name + access ; eg Medline OVID)	Embase database EMBASE.com

Search 1 orthodontics and needs assessment

Search strategy	Results
#1. ('orthodontics'/exp OR 'orthodontics') AND [embase]/lim	4,412 24 Sep 2007
#2. orthodontic\$ AND [embase]/lim	2,429 24 Sep 2007
#3. #1 AND #2	1,570 24 Sep 2007
#4. #1 OR #2	5,271 24 Sep 2007
#5. needs AND assessment	19,534 24 Sep 2007
#6. #4 AND #5	8 24 Sep 2007

Search 2 orthodontics and health services needs and demand

Search strategy	Results
#1. ('orthodontics'/exp OR 'orthodontics') AND [embase]/lim	4,412 24 Sep 2007
#2. orthodontic\$ AND [embase]/lim	2,429 24 Sep 2007
#3. #1 AND #2	1,570 24 Sep 2007
#4. #1 OR #2	5,271 24 Sep 2007
#7. ('health'/exp OR 'health') AND services AND needs AND demands AND [embase]/lim	302 24 Sep 2007
#8. #4 AND #7	0 24 Sep 2007

Search 3 orthodontics and needs assessment or health services needs and demand

Search strategy	Results
#1. ('orthodontics'/exp OR 'orthodontics') AND [embase]/lim	4,412 24 Sep 2007
#2. orthodontic\$ AND [embase]/lim	2,429 24 Sep 2007
#3. #1 AND #2	1,570 24 Sep 2007
#4. #1 OR #2	5,271 24 Sep 2007
#5. needs AND assessment	19,534 24 Sep 2007
#6. #4 AND #5	8 24 Sep 2007
#7. ('health'/exp OR 'health') AND services AND needs AND demands AND [embase]/lim	302 24 Sep 2007
#8. #4 AND #7	0 24 Sep 2007
#9. #5 OR #7	19,788 24 Sep 2007
#10. #4 AND #9	8 24 Sep 2007

Search 4 orthodontics and IOTN

Search strategy	Results
#1. ('orthodontics'/exp OR 'orthodontics') AND [embase]/lim	4,412 24 Sep 2007
#2. orthodontic\$ AND [embase]/lim	2,429 24 Sep 2007
#4. #1 OR #2	5,271 24 Sep 2007
#11. iotn AND [embase]/lim	7 24 Sep 2007
#12. #4 AND #11	7 24 Sep 2007

Search 5 orthodontics and ICON

Search strategy	Results
#1. ('orthodontics'/exp OR 'orthodontics') AND [embase]/lim	4,412 24 Sep 2007
#2. orthodontic\$ AND [embase]/lim	2,429 24 Sep 2007
#4. #1 OR #2	5,271 24 Sep 2007
#13. icon AND [embase]/lim	501 24 Sep 2007
#14. #4 AND #13	2 24 Sep 2007

Search 6 orthodontics and PAR

Search strategy	Results
#1. ('orthodontics'/exp OR 'orthodontics') AND [embase]/lim	4,412 24 Sep 2007
#2. orthodontic\$ AND [embase]/lim	2,429 24 Sep 2007
#4. #1 OR #2	5,271 24 Sep 2007
#15. par AND [embase]/lim	44,903 24 Sep 2007
#16. #4 AND #15	13 24 Sep 2007

Search 7 orthodontics and treatment outcome

Search strategy	Results
#1. ('orthodontics'/exp OR 'orthodontics') AND [embase]/lim	4,412 24 Sep 2007
#2. orthodontic\$ AND [embase]/lim	2,429 24 Sep 2007
#4. #1 OR #2	5,271 24 Sep 2007
#16. #4 AND #15	13 24 Sep 2007
#17. 'treatment outcome'/exp	501,820 24 Sep 2007
#18. #4 AND #17	349 24 Sep 2007

Search 8 orthodontics and treatment need

Search strategy	Results
#1. ('orthodontics'/exp OR 'orthodontics') AND [embase]/lim	4,412 24 Sep 2007
#2. orthodontic\$ AND [embase]/lim	2,429 24 Sep 2007
#4. #1 OR #2	5,271 24 Sep 2007
#19. treatment AND need AND [embase]/lim	74,628 24 Sep 2007
#20. treatment AND need\$ AND [embase]/lim	74,628 24 Sep 2007
#21. #19 OR #20	74,628 24 Sep 2007
#22. #4 AND #21	150 24 Sep 2007

Search 9 orthodontics and quality of life

Search strategy	Results
#1. ('orthodontics'/exp OR 'orthodontics') AND [embase]/lim	4,412 24 Sep 2007
#2. orthodontic\$ AND [embase]/lim	2,429 24 Sep 2007
#4. #1 OR #2	5,271 24 Sep 2007
#23. ('quality of life'/exp OR 'quality of life') AND [embase]/lim	95,949 24 Sep 2007
#24. #4 AND #23	36 24 Sep 2007

Search 10 orthodontics and malocclusion and treatment need

Search strategy		Results
#1. ('orthodontics'/exp OR 'orthodontics') AND [embase]/lim	4,412 24 Sep 2007	57
#2. orthodontic\$ AND [embase]/lim	2,429 24 Sep 2007	
#4. #1 OR #2	5,271 24 Sep 2007	
#19. treatment AND need AND [embase]/lim	74,628 24 Sep 2007	
#20. treatment AND need\$ AND [embase]/lim	74,628 24 Sep 2007	
#21. #19 OR #20	74,628 24 Sep 2007	
#25. ('malocclusion'/exp OR 'malocclusion') AND [embase]/lim	1,903 24 Sep 2007	
#26. #4 AND #25	750 24 Sep 2007	
#27. #4 AND #21 AND #26	57 24 Sep 2007	

Search 11 orthodontics and jaw malformation and treatment need

Search strategy		Results
#1. ('orthodontics'/exp OR 'orthodontics') AND [embase]/lim	4,412 24 Sep 2007	11
#2. orthodontic\$ AND [embase]/lim	2,429 24 Sep 2007	
#4. #1 OR #2	5,271 24 Sep 2007	
#19. treatment AND need AND [embase]/lim	74,628 24 Sep 2007	
#20. treatment AND need\$ AND [embase]/lim	74,628 24 Sep 2007	
#21. #19 OR #20	74,628 24 Sep 2007	
#22. #4 AND #21	150 24 Sep 2007	
#28. ('jaw malformation'/exp OR 'jaw malformation') AND [embase]/lim	6,037 24 Sep 2007	
#29. #4 AND #28	453 24 Sep 2007	
#30. #4 AND #21 AND #29	11 24 Sep 2007	

Search 12 orthodontics and cleft lip, cleft face or cleft palate

Search strategy		Results
#1. ('orthodontics'/exp OR 'orthodontics') AND [embase]/lim	4,412 24 Sep 2007	49
#2. orthodontic\$ AND [embase]/lim	2,429 24 Sep 2007	
#4. #1 OR #2	5,271 24 Sep 2007	
#31. ('cleft lip face palate'/exp OR 'cleft lip face pa late') AND [embase]/lim	423 24 Sep 2007	
#32. #4 AND #31	49 24 Sep 2007	

Search 13 orthodontics and tooth disease

Search strategy		Results
#1. ('orthodontics'/exp OR 'orthodontics') AND [embase]/lim	4,412 24 Sep 2007	25
#2. orthodontic\$ AND [embase]/lim	2,429 24 Sep 2007	
#4. #1 OR #2	5,271 24 Sep 2007	
#19. treatment AND need AND [embase]/lim	74,628 24 Sep 2007	
#20. treatment AND need\$ AND [embase]/lim	74,628 24 Sep 2007	
#21. #19 OR #20	74,628 24 Sep 2007	
#22. #4 AND #21	150 24 Sep 2007	
#33. ('tooth disease'/exp OR 'tooth disease') AND [emba se]/lim	29,624 24 Sep 2007	
#34. #4 AND #33	705 24 Sep 2007	
#35. #21 AND #34	25 24 Sep 2007	

Search 14 orthodontics and

Search strategy	Results
#1. ('orthodontics'/exp OR 'orthodontics') AND [embase]/lim 4,412 24 Sep 2007	44
#2. orthodontic\$ AND [embase]/lim 2,429 24 Sep 2007	
#3. #1 AND #2 1,570 24 Sep 2007	
#4. #1 OR #2 5,271 24 Sep 2007	
#36. ('patient satisfaction'/exp OR 'patient satisfacti on') AND [embase]/lim 32,637 24 Sep 2007	
#37. #4 AND #36	

Search 15 orthodontics and self esteem

Search strategy	Results
#1. ('orthodontics'/exp OR 'orthodontics') AND [embase]/lim 4,412 24 Sep 2007	13
#2. orthodontic\$ AND [embase]/lim 2,429 24 Sep 2007	
#3. #1 AND #2 1,570 24 Sep 2007	
#4. #1 OR #2 5,271 24 Sep 2007	
#38. ('self esteem'/exp OR 'self esteem') AND [embase]/ lim 9,694 24 Sep 2007	
#39. #4 AND #38 13 24 Sep 2007	

Search 16 orthodontics and attitude to health

Search strategy	Results
#1. ('orthodontics'/exp OR 'orthodontics') AND [embase]/lim 4,412 24 Sep 2007	0
#2. orthodontic\$ AND [embase]/lim 2,429 24 Sep 2007	
#3. #1 AND #2 1,570 24 Sep 2007	
#4. #1 OR #2 5,271 24 Sep 2007	
#40. ('attitude to health'/exp OR 'attitude to health') AND [embase]/lim 981 24 Sep 2007	
#41. #4 AND #40 0 24 Sep 2007	

Search 17 orthodontics and patient compliance

Search strategy	Results
#1. ('orthodontics'/exp OR 'orthodontics') AND [embase]/lim 4,412 24 Sep 2007	30
#2. orthodontic\$ AND [embase]/lim 2,429 24 Sep 2007	
#3. #1 AND #2 1,570 24 Sep 2007	
#4. #1 OR #2 5,271 24 Sep 2007	
#42. ('patient compliance'/exp OR 'patient compliance') AND [embase]/lim 41,857 24 Sep 2007	
#43. #4 AND #42 30 24 Sep 2007	

Search 18 orthodontics and health behaviour

Search strategy	Results
#1. ('orthodontics'/exp OR 'orthodontics') AND [embase]/lim 4,412 24 Sep 2007	9
#2. orthodontic\$ AND [embase]/lim 2,429 24 Sep 2007	
#3. #1 AND #2 1,570 24 Sep 2007	
#4. #1 OR #2 5,271 24 Sep 2007	
#44. ('health behavior'/exp OR 'health behavior') AND [embase]/lim 56,410 24 Sep 2007	
#45. #4 AND #44 9 24 Sep 2007	

Search 19 24/09/07 orthodontics and patient participation

Search strategy	Results
#1. ('orthodontics'/exp OR 'orthodontics') AND [embase]/lim 4,412 24 Sep 2007	0
#2. orthodontic\$ AND [embase]/lim 2,429 24 Sep 2007	
#3. #1 AND #2 1,570 24 Sep 2007	
#4. #1 OR #2 5,271 24 Sep 2007	
#46. ('patient participation'/exp OR 'patient participa tion') AND [embase]/lim 2,199 24 Sep 2007	
#47. #4 AND #46 0 24 Sep 2007	

Date	08/10/2007
Database (name + access ; eg Medline OVID)	Embase database EMBASE.com
Search Strategy (attention, for PubMed, check « Details »)	
Note	

Search 20 08/10/07 orthodontics and patient outcome

Search strategy	Results
#54 (('orthodontics'/exp AND [embase]/lim) OR (orthodontic*)) AND (('patient'/exp OR 'patient') AND outcome) AND [embase]/lim AND [01-01-1987]/sd NOT [30-09-2007]/sd 120	120

Search 21 orthodontics and outcome assessment

Search strategy	Results
#52 (('orthodontics'/exp AND [embase]/lim) OR (orthodontic*)) AND ('outcome assessment'/exp AND [embase]/lim) 18	18

Search 22 orthodontics and health care delivery

Search strategy	Results
#51 ('health care delivery'/exp) AND (('orthodontics'/exp AND [embase]/lim) OR (orthodontic*)) AND [embase]/lim AND [01-01-1987]/sd NOT [20-09-2007]/sd AND ([controlled clinical trial]/lim OR [meta analysis]/lim OR [randomized controlled trial]/lim OR [systematic review]/lim) AND [embase]/lim 13	13

Search 23 orthodontics and patient outcome

Search strategy	Results
#55 (('orthodontics'/exp AND [embase]/lim) OR (orthodontic*)) AND ('patient'/exp AND outcome) 22	22

Search 24 orthodontics and malocclusion and studies

Search strategy	Results
#46 (('orthodontics'/exp AND [embase]/lim) OR (orthodontic*)) AND (('malocclusion'/exp) OR (('malocclusion'/exp OR 'malocclusion') AND [2003-2007]/py)) AND ([controlled clinical trial]/lim OR [meta analysis]/lim OR [randomized controlled trial]/lim OR [systematic review]/lim) AND [embase]/lim AND [01-01-1987]/sd NOT [30-09-2007]/sd 8	8

Search 25 orthodontics and malocclusion

Search strategy	Results
#45 (('orthodontics'/exp AND [embase]/lim) OR (orthodontic*)) AND (('malocclusion'/exp) OR (('malocclusion'/exp OR 'malocclusion') AND [2003-2007]/py)) AND [embase]/lim AND [01-01- 1987]/sd NOT [30-09-2007]/sd 359	359

Search 26 orthodontics and syndrome

Search strategy	Results
#70 (('orthodontics'/exp AND [embase]/lim) OR (orthodontic*)) AND ('syndrome'/exp AND [embase]/lim) 6	6

Search 27 orthodontics and newborn disease

Search strategy	Results
#58 (('orthodontics'/exp AND [embase]/lim) OR (orthodontic*)) AND (('newborn disease'/exp AND [embase]/lim) OR (congenital AND ('abnormalities'/exp OR 'abnormalities') AND [embase]/lim) OR (('newborn'/exp OR 'newborn') AND disease* AND [embase]/lim)) AND [embase]/lim AND [01-01-1987]/sd NOT [30-09-2007]/sd AND ([controlled clinical trial]/lim OR [meta analysis]/lim OR [randomized controlled trial]/lim OR [systematic review]/lim) 18	18

Search 28 orthodontics and multiple malformation syndrome or abnormalitie, multiple

Search strategy	Results
#56 (('orthodontics'/exp AND [embase]/lim) OR (orthodontic*)) AND (('multiple malformation syndrome'/exp AND [embase]/lim) OR (abnormalities, AND multiple AND [embase]/lim) OR (multiple AND ('malformation'/exp OR 'malformation') AND ('syndrome'/exp OR 'syndrome') AND [embase]/lim)) 102	102

Search 29 orthodontics and tooth disease and ankylosis

Search strategy	Results
#65 (('orthodontics'/exp AND [embase]/lim) OR (orthodontic*)) AND (((('tooth'/exp OR 'tooth') AND ('ankylosis'/exp OR 'ankylosis') AND [embase]/lim) OR ('tooth disease'/exp AND [embase]/lim) OR (('tooth'/exp OR 'tooth') AND ('disease'/exp OR 'disease') AND [embase]/lim)) AND [embase]/lim AND [01-01-1987]/sd NOT [30-09-2007]/sd AND ([controlled clinical trial]/lim OR [meta analysis]/lim OR [randomized controlled trial]/lim OR [systematic review]/lim) AND [embase]/lim 17	17

Search 30 orthodontics and

Search strategy	Results
	0

Search 31 orthodontics and tooth disease

Search strategy	Results
#72 (('orthodontics'/exp AND [embase]/lim) OR (orthodontic*)) AND ('tooth disease'/exp AND [embase]/lim) AND (('tooth'/exp OR 'tooth') AND ('disease'/exp OR 'disease') AND [embase]/lim) AND (('tooth disease'/exp AND [embase]/lim) OR (('tooth'/exp OR 'tooth') AND ('disease'/exp OR 'disease') AND [embase]/lim) OR (('tooth'/exp OR 'tooth') AND impacted AND [embase]/lim)) 425	425

Search 32 orthodontics and open bite

Search strategy	Results
#76 (('orthodontics'/exp AND [embase]/lim) OR (orthodontic*)) AND (('bite'/exp AND [embase]/lim) OR (open AND ('bite'/exp OR 'bite') AND [embase]/lim)) 137	137

Search 33 orthodontics and cross bite

Search strategy	Results
#78 (('orthodontics'/exp AND [embase]/lim) OR (orthodontic*)) AND (('crossbite'/exp AND [embase]/lim) OR (('crossbite'/exp OR 'crossbite') AND [embase]/lim) OR (cross AND ('bite'/exp	98

OR 'bite') AND [embase]/lim)) 98	
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Search 34 orthodontics and tooth crowding

Search strategy	Results
#79 (('orthodontics'/exp AND [embase]/lim) OR (orthodontic*)) AND (('tooth'/exp OR 'tooth') AND ('crowding'/exp OR 'crowding') AND [embase]/lim) 48	48

Search 35 orthodontics and tooth malformation

Search strategy	Results
#82 (('orthodontics'/exp AND [embase]/lim) OR (orthodontic*)) AND (('tooth malformation'/exp AND [embase]/lim) OR (('tooth'/exp OR 'tooth') AND ('abnormalities'/exp OR 'abnormalities') AND [embase]/lim)) AND [embase]/lim AND [01-01-1987]/sd NOT [30-09-2007]/sd 393	393

Search 36 orthodontics and jaw malformation

Search strategy	Results
#85 (('orthodontics'/exp AND [embase]/lim) OR (orthodontic*)) AND (('jaw malformation'/exp AND [embase]/lim) OR (('mandible'/exp OR 'mandible') AND ('pathology'/exp OR 'pathology') AND [embase]/lim)) AND [embase]/lim AND [01-01-1987]/sd NOT [30-09-2007]/sd 301	301

Search 37 orthodontics and maxilla hypoplasia or pathology

Search strategy	Results
#87 (('orthodontics'/exp AND [embase]/lim) OR (orthodontic*)) AND (('maxilla hypoplasia'/exp AND [embase]/lim) OR ('maxilla'/exp AND 'pathology'/exp AND [embase]/lim) OR ('maxilla'/exp AND abnormalit* AND [embase]/lim)) 54	54

Search 38 orthodontics and mandible prognathia or prognatism

Search strategy	Results
#89 (('orthodontics'/exp AND [embase]/lim) OR (orthodontic*)) AND (('prognathia'/exp AND [embase]/lim) OR (('mandible'/exp OR 'mandible') AND ('prognathia'/exp OR 'prognathia') AND [embase]/lim) OR (mandib* AND 'prognathism'/exp AND [embase]/lim)) 130	130

Search 39 orthodontics and mandible hypoplasia

Search strategy	Results
#90 (('orthodontics'/exp AND [embase]/lim) OR (orthodontic*)) AND (('mandible hypoplasia'/exp OR 'mandible hypoplasia') AND [embase]/lim) 26	26

Date	22/10/2007
Database (name + access ; eg Medline OVID)	Embase database EMBASE.com
Search Strategy (attention, for PubMed, check « Details »)	
Note	

Search 40 orthodontics and malocclusion

Search strategy	Results
#3. (((('orthodontics'/exp OR 'orthodontics') AND [embase]/lim) OR (orthodontic\$ AND [embase]/lim)) AND ('malocclusion'/exp OR 'malocclusion') AND [embase]/lim) 752 22 Oct 2007	752

Search 41 orthodontics and jaw malformation

Search strategy	Results
#4. (((('orthodontics'/exp OR 'orthodontics') AND [embase]/lim) OR (orthodontic\$ AND [embase]/lim)) AND ('jaw malformation'/exp OR 'jaw malformation') AND [embase]/lim)	454 22 Oct 2007

Search Strategy Tripdatabase

Search

Search strategy	Results
#1 Orthodontics	136

CHARACTERISTICS OF INCLUDED STUDIES

Study	{Al Yami, 1998 #41}
Methods	Evaluate the overall quality of orthodontic treatment and treatment time over a long time span in a large sample from university clinic.
Participants	1870 patients (799 males and 1071 females) : pre- and post treatment dental casts, mean age 13 +/- 4,1 years at pre-treatment, 16 +/- 3,9 years
Interventions	PAR index on pre- and post-treatment dental casts of the same patient, the individual scores are weighted according to the British weighting factors and summed to the so called weighted PAR score (called PAR score) by 3 examiners(standardized in the use of PAR)
Outcomes	No significant systematic differences between examiners, reproducibility was high. The mean percentage improvement was 68,9 %. Of the total sample : 42,6 % were greatly improved, 49,1 % were improved, and 8,3% were not improved or became worse.
Notes	Validation of the PAR index according to the Dutch orthodontic standard is recommended.
Allocation concealment	Cochrane checklist for diagnostic trial : 6/9

Study	{al, 2000 #25}
Methods	Prospective study design, DHC of IOTN and specially devised local indices of treatment outcomes
Participants	2002 children (1014 boys and 988 girls), approximately equally divided with domicile in an urban area and in a rural area were to be screened in routine dental inspections; 1636 children were screened 530 (33%) children were in need for interceptive R/ (of those only 329 kept a hospital appointment and 239 were still in need for interceptive R/); Only 104 children had received treatment after 12 months.
Interventions	Interceptive orthodontic treatment (104 children) : extraction of deciduous teeth (in 43 children, 41%), extraction of permanent teeth (in 34 children, 33%), extraction of both deciduous and permanent teeth (in 9 children, 9%), appliance therapy (in 12 children, 12%), extractions with appliance therapy (in 5 children, 5%),fraenectomy (in 1 child, 1%) Control group : 27 children, who completed the full schedule of appointments but did not have the treatment implemented
Outcomes	Outcomes measured on casts at first and final visit : DHC of IOTN and local indices specific to the study because IOTN scores only the most significant feature of malocclusion which may nnot have been the irregularity treated by the interceptive procedure

	<p>33% of the children were in need of interceptive treatment, only 20% of those in need both attended for recall and underwent treatment</p> <p>compliance was better in the rural area but the need, with particular reference to extraction of carious first molars, was greater in the urban area</p> <p>69% had IOTN grades 4 and 5 at the beginning of the study to 42% at the end</p> <p>the outcome judged by local indices was 94% in the range of complete success to minimal improvement with only 2% showing deterioration</p> <p>Conclusion : 1 of 3 children would benefit from interceptive orthodontics, however parents and children seem reluctant to accept and undergo interceptive orthodontics, among those complying fully, the interceptive measures are very successful</p> <p>Not only does community interceptive orthodontics improve the condition being treated but also reduces the need for further treatment</p>
Notes	A large convenience sample but not a random sample of the population, caution in extrapolating findings to general population
Allocation concealment	Cohort study : 2/9 but used in study because of a lack of studies and expert opinion A. Richardson
Study	{Atkins, 2002 #70}
Methods	Systematic review
Participants	2 RCT's
Interventions	Early orthodontic treatment of unilateral posterior crossbite
Outcomes	The treatment strategies QH, expansion plates and RME are effective in the early mixed dentition at a high success rate. There is no scientific evidence available to show which of the treatment modalities grinding, Quad-Helix, expansion plates or rapid maxillary expansion is the most effective.
Notes	Most of the studies had serious problems of lack of power because of small sample size, bias and confounding variables, lack of method error analysis, blinding in measurements, and deficient or lack of statistical methods
Allocation concealment	Cochrane checklist : 7/9
Study	{Birkeland, 1996 #33}
Methods	Children randomly selected, after informed consent included in study, children who started or were about to start orthodontic treatment were excluded
Participants	359 children mean age 10,6 years (51% girls, 49% boys) and their parents
Interventions	Separate questionnaire for children and parents, self esteem measured by global negative self-esteem scale (GSE), assessment of children's dental casts with the IOTN by an orthodontist
Outcomes	Allocated to DHC of IOTN 53,2% of children had very great to moderate need for orthodontic treatment, 46,8% little to no need, no sex difference, the children's GSE scores were not correlated to components of IOTN, 70% of the children and 83% of the parents of children who expressed concern for orthodontic treatment had very great to moderate treatment need, this confirms that there is a difference of opinions between laypersons and orthodontists, the parents perceived dental aesthetics equally important for girls as for boys(90,8%), most parents (93%) thought the results of orthodontic treatment were good
Notes	In Norway the orthodontic service has been well organized and about 35% of the children receive orthodontic treatment and in the parent's generation about 27% received orthodontic treatment during childhood.
Allocation concealment	Not possible because this is merely a qualitative study and questionnaires are difficult to validate, however some interesting information can be found

Study	{Birkeland, 1999 #23}
Methods	Separate questionnaires for children and their parents, dental casts at T1 age 11 and T2 age 15, to present the distribution of referral rate and treatment uptake by IOTN index assessed at T1 and to elucidate factors influencing the decision about orthodontic treatment in the period from T1 to T2
Participants	359 children and their parents, 292 families responded 4 years later, for the clinical examination 224 children participated(excluded those in active treatment)
Interventions	IOTN index on dental casts, 2 questionnaires
Outcomes	Mean referral rate was 56%, about 44% of the children had completed or were undergoing orthodontic treatment at T2, no significant sex differences were found among referred and treated children, aesthetic considerations were the most frequently reported subjective reason for orthodontic treatment, the untreated group expressed diminishing treatment desire in the follow up period, DHC is a strong predictor for treatment uptake, followed by parent's concern and attitude to braces
Notes	High referral rates secured low risk for denying care to some patients, treatment decision may be guided by the orthodontist, however individual variation in attitude and desire influence treatment uptake even among children with great need
Allocation concealment	Not possible because this is merely a qualitative study and questionnaires are difficult to validate, however the method and material were described in a proper manner and some interesting results can be found
Study	{Birkeland, 2000 #22}
Methods	Longitudinal study design Separate questionnaires for children and their parents, dental casts at T1 age 11 and T2 age 15, AC and DHC of IOTN assessed on dental casts and PAR
Participants	224 children , at T2 16 children treated with removable appliances, 51 with fixed appliances , 157 untreated
Interventions	Treatment with removable or fixed appliance and no treatment
Outcomes	The children treated with fixed appliances had better dental aesthetics than in both other groups and the average PAR reduction was 71,6 % and satisfaction with their own or child's dental appearance increased significantly. The untreated group showed increased malocclusions, but the children expressed higher satisfaction with their dental appearance at T2 than T1, the parent's satisfaction level was unchanged. IMPROVEMENT IN SELF-ESTEEM FROM 11-15 YEARS WAS NOT CORRELATED WITH TREATMENT CHANGES, a gender difference was not found. INDICATION THAT BOTH CHILDREN AND PARENTS RATE PLEASANT AESTHETICS AS AN IMPORTANT FACTOR OF PSYCHOSOCIAL WELL BEING
Notes	80% of the children and 92,5% of the parents would under similar conditions undergo or allow their child to undergo treatment again, about 45% of the children were of the opinion thaties in life and about 50% felt that treatment results were important for their self-confidence
Allocation concealment	Again not possible because this is merely a qualitative study and questionnaires are difficult to validate, however some interesting information can be found
Study	{Bjerklin, 1994 #76}
Methods	dental record analysis, biometric assessments, histology, bitewing radiographs, peri-apical radiographs, panoramic radiographs, lateral cephalograms, long-term follow-up is difficult since the children had different treatments afterwards
Participants	a total of 2903 children from which subgroups for evaluation of prevalence (N=373); heredity study in cleft children (N=225); heredity or familial tendency study(N=81); aetiological study (N=92); longitudinal study of the atypically resorbed second primary molars (N=71); histological study (N=7); 10 years
Interventions	cervical headgear treatment study (N=46); long-term effects of this cervical headgear

	<p>treatment (N=45)</p> <p>cervical headgear in one subgroup</p> <p>N=37 for the aetiological study; N=45 for the evaluation of long-term effects of cervical headgear treatment</p> <p>an average of 9 months</p>
Outcomes	prevalence 4.3% (1.8% irreversible type, 2.5% reversible type); association with infra-occlusion of primary molars and ectopic maxillary canines; prevalence is 5 times higher in case of an affected sib; aetiologic factors include more mesial inclination of erupting maxillary first molar, higher width of maxillary first molar, genetic factors; treatment with cervical headgear resulted in uprighing of the upper first permanent molars to good occlusion and in about 70 percent in sufficient space for the second premolars
Notes	
Allocation concealment	Cochrane checklist 7/9
Study	{Blair, 1998 #27}
Methods	Retrospective study of consecutively treated patients
Participants	<p>10 years, 1 month to 30 years, 2 months with average of 14 years, 4 months, one or both palatally displaced maxillary canine</p> <p>96; a random sample of 25 (with a total of 30 treated teeth) selected and recalled at an average of 2 years, 7 months after completion of retention for detailed examination</p> <p>two control groups: an internal group (= the contralateral canine or the upper central incisor) and an external control group (matched for age and sex)</p>
Interventions	Surgical exposure and orthodontic treatment, orthodontic treatment without surgical exposure
Outcomes	In the vast majority of the cases surgical exposure of palatally displaced maxillary canines result in a clinically acceptable result. The relapse in vertical alignment of the canine may be prevented by either a degree of overtreatment or the use of a bonded retainer. Further investigation is necessary.
Notes	large age range
Allocation concealment	Cochrane checklist 5/7
Study	{Bos, 2003 #18}
Methods	
Participants	154 (76 males and 75 females) mean age 16 yrs (SD 7.97; median 13; age range 9-20+)
Interventions	2 questionnaires; 2 containing 16 items on satisfaction with facial appearance and 23 items on expectations of orthodontic treatment
Outcomes	Significant correlations between satisfaction with dental appearance and patients' expectations / these correlations invariant over gender (sex had no effect), but not over age (age was significantly related to general facial satisfaction and expectations about self image/appearance)/ CONCLUSION: Satisfaction with dental appearance is a significant predictor of orthodontic patients' expectations of treatment
Notes	N=16 non responses, N=45 not completed questionnaires, persons who applied for orthodontic treatment for his/herself or for his/her child.
Allocation concealment	Convenience sample, there is a possible bias in sample and the instrument used for validation was not standardised.
Study	{Breistein, 1998 #64}

Methods	Epidemiological study
Participants	1584 selected with a random cluster technique 15 and 16 yrs; Average age 16,1 year; Control group : schoolchildren from a school not included in the main study
Interventions	IOTN ; self perception of child asked according to 10 point linear numeric scale, with 1 photograph at number 1 with regular teeth and 1 photograph at number 10 with irregular teeth ; socio-economic status, religious affiliation, local availability of orthodontic care// within the UK NHS orthodontic treatment is provided free for all persons younger than 18 years of age
Outcomes	1/10 had an unmet need for orthodontic treatment// those adolescents who had a good dental health, who regularly attended a dentist and whose mother regularly attended a dentist were more likely to receive orthodontic treatment
Notes	
Allocation concealment	
Study	{Brothwell, #71}
Methods	Systematic literature review
Participants	
Interventions	Guidelines on the use of space maintainers following premature loss of primary teeth
Outcomes	There is poor evidence to recommend for or against the use of space maintainers to prevent or reduce the severity of malocclusion in the permanent dentition.
Notes	
Allocation concealment	Cochrane checklist SR of RCT : 4/9
Study	{Bruks, 1999 #77}
Methods	Retrospective study
Participants	Palatally displaced canines Corrective Treatment group (=CT group) ; N=47 mean age 14.2 years (age range 11.1 to 18.0years); a subgroup (N=15) with extraction of primary maxillary canine on average one year earlier Interceptive Treatment group (=IT group); N=50 mean age 11.7 years (age range 8.9 tot 14.11 years)
Interventions	treatment of palatally displaced maxillary permanent canine interceptive extraction of primary canine or primary first molar and primary canine
Outcomes	age at the time of recognition and referral seems to be the most important factor for the final outcome; the position of the canine is a compromising factor, extraction of the primary canine can help the palatally displaced permanent canine erupting in a normal position
Notes	NO standardisation of radiographic records; with the presence of the interceptive treatment subgroup, both groups are not clearly distinguished
Allocation concealment	Cochrane checklist 4/9
Study	{Buchanan, 1993 #42}
Methods	PAR index and Summers' Occlusal Index, a panel of 74 examiners rated this group in several ways
Participants	80 study models (is a subsample of 256 sets of study models representing a range of standard of model, severity of malocclusion, age of patient, and contained both

	treated and untreated dentitions)
Interventions	PAR score, Occlusal Index Score and mean panel score for deviation from normal occlusion
Outcomes	PAR index was found to be as reliable and as valid as Summer's Occlusal Index
Notes	
Allocation concealment	3/9
Study	{Burden, 1994 #24}
Methods	Clinical examination, no radiographs, no access to any of the subjects dental records , IOTN index was assessed
Participants	Random sample of 924 schoolchildren in Manchester and 996 in Scheffield. 5% of the children in Manchester and 4% of those in Scheffield were excluded because already wearing orthodontic appliance, thus leaving resp. 874 and 955 in the Manchester and Scheffield sample, cross-section of socio-economic status
Interventions	DHC and AC of IOTN
Outcomes	<p>Approximately 1/3 of 11-12-year-olds are in objective need of treatment, both on dental health and/or aesthetic grounds (DHC grades 4 and 5 and AC grades 8,9and 10)</p> <p>The children in need for orthodontic treatment could be grouped into 3 categories: 1° largest groups children with an occlusal anomaly judged to represent a risk to dental health, DHC 4 and 5 but with acceptable or borderline aesthetics 2° Children with both a dental health and aesthetic need for orthodontic treatment 3° smallest group: children with an aesthetic need for treatment only (between 0,5 and 2%)</p>
Notes	
Allocation concealment	Cochrane checklist diagnostic trial : 5/9
Study	{Burden, 1995 #34}
Methods	Self-perception of malocclusion , on linear scale of 1-10, with 2 photographs one at each end of scale
Participants	<p>506 (excluded those in orthodontic R/); 15y 11 m; 274 female and 232 male</p> <p>Ethnic origin 489 white and 17 other ethnic origin; sample randomised</p>
Interventions	self-perception of malocclusion , on linear scale of 1-10, with 2 photographs one at each end of scale ,only AC component by investigator, scale 1-10, socio-economic status derived from postcode home adress using ACORN data : above average, average, below average
Outcomes	<p>Self perception and R/ need: subjects with definite aesthetic need for orthodontic R/ (AC of IOTN: 8,9,10) rates their dentition less attractive than no aesthetic need group or borderline group</p> <p>Gender and self-esteem: no significant difference between males and females in their self-perception of malocclusion</p> <p>Social class and self-perception: no significant difference in self-perception of malocclusion among the three socio-economic groups</p>
Notes	These findings reinforce the importance of correctly assessing each patient's perception of their malocclusion prior to start an orthodontic R/. Evidence to support the hypothesis that children with similar dental aesthetics will have similar perceptions of their malocclusion irrespective of their gender and social class
Allocation concealment	Instrument used for assessment of self-perception is not validated,
Study	{Chestnutt, 2006 #52}
Methods	
Participants	2559 12 year olds and 2142 15 year olds

Interventions	orthodontic treatment need assessed with IOTN for those without orthodontic R/, modified IOTN for those undergoing orthodontic R/ Questionnaires: parents view on orthodontic condition of their children and perceived R/ need; IOTN and modified IOTN
Outcomes	Representative sample of UK 12 and 15 year olds. At age 12 a good number of children will not as yet have commenced orthodontic R/ and by age 15 many will have completed R/ The overall R/ need at age 12 is 43% ay age 15 still 21% in need of R/ : suggests that overall R/ need is about 50% A significantly greater unmet need in boys (24%) than in girls (19%) exists at both ages The influence of socio-economic factors on orthodontic treatment provision and unmet need confirm the findings in previous studies(?) The links between deprivation and orthodontic R/ is complex There were obvious discrepancies between parent/children's views on need for R/ and those recorded by the examining dentists and the potential reasons for this merit further discussion
Notes	
Allocation concealment	Cochrane checklist cohort study : 4/9 but epidemiological data were used
Study	{Cozza, 2005 #82}
Methods	Systematic review on early treatment of anterior open bite
Participants	No RCT's were found, 2 CCT's were found
Interventions	
Outcomes	The quality level of the studies was not sufficient enough to draw any evidence-based conclusions
Notes	Most of the studies had serious problems of lack of power because of small sample size, bias and confounding variables, lack of method error analysis, blinding in measurements, and deficient or lack of statistical methods
Allocation concealment	Cochrane checklist: 7/9
Study	{Cozza, 2006 #85}
Methods	Systematic review of the literature
Participants	4 RCT's and 18 prospective and retrospective longitudinal CCT's with untreated Class II controls
Interventions	Scientific evidence on the efficiency of functional appliances in enhancing mandibular growth in Class II subjects.
Outcomes	2/3 of the samples in the 22 studies reported a clinically significant supplementary elongation in total mandibular length as a result of overall active treatment with functional appliances, the amount of supplementary mandibular growth appears to be significantly larger if the functional treatment is performed at the pubertal peak in skeletal maturation, none of the 4 RCT's reported a clinically significant change in mandibular length induced by functional appliances. The Herbst appliance showed the highest coefficient of efficiency (0,28 mm per month) followed by the Twin block (0,23 mm per month)
Notes	
Allocation concealment	Cochrane checklist : 7/9
Study	{Cunningham, 2001 #65}
Methods	NARRATIVE REVIEW
Participants	
Interventions	

Outcomes	Oral health is an integral part of general health and contributes to HRQL (Health Related Quality of Life). It is essential to understand the effects of orthodontics on HRQL and a practitioner must be able to show that the benefits are derived from treatment. HRQL assessment in orthodontics for a number of reasons : to study treatment need and treatment outcomes; to provide evidence to the NHS, as a part of clinical trials; which have the potential to improve the quality of care
Notes	
Allocation concealment	
Study	{Czochrowska, 2003 #17}
Methods	Follow up study
Participants	Missing maxillary central incisor; retrospective study 20 20 (the neighbouring intact central incisor)
Interventions	orthodontic treatment
Outcomes	orthodontic mesialisation of the lateral incisor to replace a missing central incisor is a valid treatment modality, if the indications for such treatment are present and careful attention to detail in orthodontic and restorative treatment is exercised
Notes	investigators are NOT BLIND during assessment, NO age range; GOOD: control group, clear definition of the study group and scoring systems
Allocation concealment	Cocrane checklist 8/9
Study	{D'Amico, 2003 #16}
Methods	Follow up study
Participants	13.1 years (SD 1.70) at start of treatment to 15.0 years (SD 1.71) at the end of orthodontic treatment impacted maxillary canine; diagnosis established clinically, radiographically and CT scanning 61 children, 83 impacted maxillary canines 39 normally erupted canines orthodontic treatment
Interventions	Surgically exposure of impacted teeth and orthodontic treatment
Outcomes	No difference between impacted teeth and control teeth regarding shape, color or position. Significant difference in inclination which gives less frequent canine guidance on the working side during lateral movement
Notes	
Allocation concealment	Cochrane checklist 6/9
Study	{Daniels, 2000 #49}
Methods	THE DEVELOPMENT OF THE ICON : DESCRIPTION
Participants	240 initial and 98 paired pre-treatment and post-treatment treated study models international panel of 97 orthodontists
Interventions	subjective judgements on the need for R/, R/ complexity, R/ improvement, and acceptability on a diverse sample of 240 initial and 98 treated study models the occlusal treats were scorde according to a defined numerical protocol / 5 highly predictive occlusal traits were identified: 1 IOTN AC - 2 crossbite 3. upper arch crowding/spacing 4. buccal segment anterior-posterior relationships and 5 anterior

	vertical relationship and then used to 'predict' the panellist's decisions using regression analysis
Outcomes	<p>The new index is comprised of an assessment of dental aesthetics, the presence of crossbite, analysis of upper crowding (or the presence of impacted teeth in either arch), buccal segment anterior-posterior inter-digitation and the vertical relationship. All pre-R/ scores > 43 : R/ need</p> <p>Post R/ scores < 31 signify acceptable end occlusion The index assessment of complexity: cutoff point: 28,50,63,77 5 point grading of R/ complexity (simple, mild, moderate, difficult, very difficult)</p> <p>a new occlusal index is proposed. It is developed to enable assessments of treatment need and outcome using one set of occlusal traits and for this reason may offer clear advances on the currently used methods</p>
Notes	
Allocation concealment	This article describes the development of the ICON Index , and is useful to describe this Index.
Study	{DeGuzman, 1995 #43}
Methods	<p>PAR index</p> <p>Control a randomly selected sample of 50 sets of casts from the 200 4 weeks later to check consistency of raters</p>
Participants	200 study casts ; 11 volunteer orthodontists
Interventions	For each study cast opinion regarding: 1. The degree of deviation from ideal occlusion (5 point scale : no deviation =1 to great deviation = 5) ; 2. The anticipated difficulty of R/ ; 3. Their perception of the approximate duration of R/ in months.
Outcomes	PAR index may be considered a good approximation of malocclusion severity and treatment difficulty and may be used as an outcome measure for the assessment of dento-occlusal change, in studies investigating the effectiveness of orthodontic R/ that are based in the US
Notes	
Allocation concealment	Validation study of the PAR
Study	{DiBiase, 2002 #113}
Methods	Narrative review
Participants	
Interventions	Current concepts of early treatment, both psychological and physiological, will be explored and the relevant indications and contra-indications discussed
Outcomes	
Notes	
Allocation concealment	No systematic review, however some outcome of interest
Study	{Firestone, 2002 #11}
Methods	Validation study on the PAR index. Determine if US and UK weightings of the PAR index are valid instruments to determine treatment need.
Participants	15 orthodontists and 1 calibrated examiner
Interventions	15 orthodontists rated treatment need on scale from 1-7 (1 minimal need – 7 great need)of 170 casts and 1 calibrated PAR index of same 170 casts
Outcomes	Calibrated examiner and the panel of orthodontic experts showed high levels of reliability. Both the US PAR and the UK PAR scores were excellent predictors of orthodontic treatment need as determined by a panel of orthodontists. The accuracy of treatment need decisions with the PAR Index is very good. The practitioner should determine which index is the easiest to use at an acceptable level

	of reproducibility. The PAR index was developed as an outcome measure to be applied to models and thus is not suitable for clinic setting. Finally it remains to the user of the index to set up the cutoff point that best matches his or her intention.
Notes	
Allocation concealment	No Cochrane Checklist exists that can be used for a validation study of an orthodontic index.
Study	
	{Firestone, 2002 #50}
Methods	Study cast scored for orthodontic treatment need by an examiner calibrated in the ICON. The results compared with the decisions of an expert panel of 15 orthodontic specialists
Participants	170 study casts, representing a full spectrum of malocclusion types and severity (treated and untreated study cases)
Interventions	ICON index by a calibrated examiner and expert opinion of 15 orthodontic specialists for treatment need on scale from 1 (no/minimal need) and 7 (very great need)
Outcomes	Very high agreement of the ICON with the decisions of the expert panel. The sensitivity (94%), specificity (85%), positive predictive value (92%), negative predictive value (95%), and overall accuracy of the ICON (91%) also confirmed good agreement with the orthodontic specialists. The panel found that 64% of the casts required orthodontic treatment, the ICON scores indicated that 65% of the cases needed treatment. These results support the use of the ICON as validated index of orthodontic treatment need.
Notes	
Allocation concealment	6/9
Study	
	{Fox, 2002 #13}
Methods	Study models ; PAR, IOTN and ICON index recorded
Participants	55 consecutively treated cases
Interventions	Orthodontic treatment
Outcomes	Significant correlations were shown between IOTN and ICON with respect to treatment need and between PAR and ICON with respect to outcome. It appears that ICON does reflect the UK opinion and the current study provides some evidence that ICON may effectively replace PAR and IOTN as a means of determining need and outcome.
Notes	Discontinued cases not included, relatively small sample, but reasonable diverse in as much as a very broad range of treatment starts and treatment was delivered by a variety of expert levels within a hospital setting.
Allocation concealment	Cochrane checklist : Diagnostic trial : 5/9
Study	
	{Fox, 2004 #44}
Methods	PAR, IOTN and ICON were recorded
Participants	All patients completing or discontinuing orthodontic treatment during 2 calendar months : 130 of 145 patients with complete records (pre- and post- treatment dental casts) were included
Interventions	PAR, IOTN and ICON index were assessed and discontinuation rate was noted
Outcomes	The overall treatment discontinuation rate was 24,6% ; The treatment failure rate with respect to the occlusal improvement varied from 3,1 % when measured by PAR and 10,0% using ICON. With respect to residual need it varied from 0,77 to 20,1% with respect to IOTN depending on criteria examined. The residual treatment need with respect to ICON was 17, 2%

	ICON is the most critical index and it was felt the most valid with respect to identifying treatment failure. Its use would enable international comparison of results.
Notes	
Allocation concealment	Cochrane checklist for diagnostic trial : 6/9
Study	{Freer, 1999 #54}
Methods	Study models
Participants	100 randomly selected permanent dentitions, patients between 11-13 year ; subsample of 50 cases to test reproducibility of principal examiner; (excluded subject who previously received orthodontic treatment)
Interventions	IOTN (DHC and AC), DAI (Dental Aesthetic Index), DMH (Danish Ministry of Health screening system)
Outcomes	<p>DAI under – estimate treatment need in malocclusions with displaced canines, deep overbite and unsatisfactory aesthetics of anterior teeth due to incisor rotations and over – estimate treatment need in cases with increased overjet in otherwise well-aligned arches, advantage : simple to use</p> <p>DMH over-estimate treatment need in cases with increased overjet and crowded arches, subjective method</p> <p>DHC somewhat complex, over – estimate cases with increased overjet and contact displacements > 2 mm in otherwise well-aligned arches</p> <p>AC under – estimate treatment need in some cases with excessive overjet and buccally displaced canines</p>
Notes	Cochrane checklist diagnostic trial : 6/9
Allocation concealment	
Study	{Hamdan, 1999 #21}
Methods	Validity testing of PAR index
Participants	80 pre- and post – treatment dental casts, representing equal numbers of Class I, Class II, 1, Class II, 2 and Class III randomly selected.
Interventions	All 160 dental casts assessed by one examiner (reliability tested against a trained calibrated examiner: good level of agreement), 14 orthodontist : identify the key occlusal features, casts were scored for deviations from normal occlusion on 9- and 5- point scales, treatment outcome was scored on 9- and 5point scales comparing pre- and post-treatment casts
Outcomes	<p>Using Par score treatment result for each malocclusion Class were heavily dependent on the number of greatly improved cases in the group; pre treatment scores made a significant contribution to treatment outcome since the higher the score, the easier to achieve the 22 point reduction needed for a greatly improved result. Class III had the highest pre-treatment score, Class I the lowest.</p> <p>A new more sensitive method of assessment is suggested which utilizes a combination of point and percentage reduction in PAR scores, suggested a new weighting system in accordance with the clinical characteristics of each malocclusion Class.</p>
Notes	
Allocation concealment	Cochrane checklist of diagnostic trial : 6/9
Study	{Harrison, 2007 #81}
Methods	Systematic review
Participants	< 16 years, prominent upper teeth

Interventions	
Outcomes	Early orthodontic treatment (Phase I), followed by a later phase of treatment (Phase II) when the child is in early adolescence, does not appear to have any advantages over treatment that is provide in one phase when the child is in early adolescence. When functional appliance treatment is provided in early adolescence it appears that there are minor beneficial effects in skeletal pattern, however these are probably not clinically significant. Similarly, the choice of functional when compared to the Twin-Block does not result in any advantageous effects.
Notes	
Allocation concealment	COCHRANE 9/9
Study	
Study	{Holmes, 1992 #32}
Methods	Clinical assessment, no radiographs and no study casts available
Participants	955 12 year old patients (range 12,00-12,99)
Interventions	IOTN index (DHC and AC component) to asses orthodontic treatment need
Outcomes	The prevalence of unmet orthodontic treatment need: only 5,3% had absolutely no treatment need, 25,5% had little requirement for treatment. If children with a DHC score of 3 or less and an AC score of 5 or less are excluded, the potential level of treatment need amongst the sample population was 36,3 %. The level in which orthodontic treatment is offered can be adjusted to take into account variations in manpower and finance.
Notes	IOTN was found to be quick and simple in use and demonstrated good levels of intra-examiner agreement.
Allocation concealment	Cochrane checklist diagnostic trial : 5/9
Study	
Study	{Hunt, 2001 #35}
Methods	Questionnaire 14 possible outcome variables ; 14 100 mm analogue scales (VAS), end of scales defined by : no reduction/great reduction, no improvement/great improvement or no enhancement/great enhancement; psychosocial and oral health values were mixed randomly together in questionnaire GDP's were asked to record how many fixed or removable appliances treatment they completed and the number of patients they referred to an orthodontist
Participants	29 orthodontists (all) and 150 of 635 GDP's (at random)
Interventions	
Outcomes	GDP's and orthodontist rated psychosocial gain more highly than dental health gain from orthodontic treatment, however both groups still felt that orthodontic treatment reduces susceptibility to dental disease; and rated the beneficial influence of orthodontic treatment in improving teeth cleaning and reducing caries and periodontal disease relatively highly. One of the most interesting findings in this study is the relationship between the number of years since qualification and the ratings awarded. The more recently qualified GDP's were more likely to consider that orthodontic treatment reduced periodontal disease, while the older GDP's thought this of the reduction of caries. Younger orthodontists rated the psychosocial benefits of orthodontic treatment more highly. The frequency of attendance of postgraduate lectures also seems to have influenced the ratings awarded.
Notes	Caution should be taken into account in directly extrapolating these results.
Allocation concealment	Description of data from questionnaires, just a qualitative assessment.
Study	
Study	{Hunt, 2002 #55}
Methods	Validation of the AC of the IOTN Index against lay opinion, questionnaires

Participants	215 social university students median age 19 years
Interventions	Selection of the level of aesthetic impairment that represented the point at which they would seek orthodontic treatment
Outcomes	As currently used the AC does not reflect society's aesthetic expectations. The results indicate that when using the AC of the IOTN the 'no need for treatment' category should be grades 1-3 of the AC rather than grades 1-4
Notes	
Allocation concealment	Cochrane checklist for diagnostic trial : 2/9 but used as remarque
Study	{Jager, 2001 #28}
Methods	Meta-analyse : 85 articles between 1966-1998, 12 included
Participants	Class III malocclusion
Interventions	Maxillary protraction versus no treatment group (Class I or Class III)
Outcomes	Cephalometric measurements Maxillary protraction was shown to have a significant treatment effect Maxillary retrusion by means of maxillary protraction should be started at an early developmental age. No definitive conclusions could be drawn on the most effective force can be drawn from the given data. The consequent potentially bite opening effect of maxillary protraction limits indication of this method to patients with an unproblematic vertical skeletal relationship and sufficient overbite
Notes	However, several of the individual effects variables demonstrated a significant lack of homogeneity. Study characteristics which may be responsible for this were patient's age and a combination of maxillary protraction with RME
Allocation concealment	Cochrane checklist on SR for RCT : 6/9
Study	{Jarvinen, 2001 #122}
Methods	Commentary en literature review
Participants	32 references
Interventions	Indexes for orthodontic treatment need
Outcomes	Despite obvious shortcomings treatment need indexes are commonly used in Scandinavian countries
Notes	
Allocation concealment	Not possible
Study	{Jenny, 1996 #56}
Methods	Comparison and contrasting IOTN and DAI index
Participants	
Interventions	First part description, development, reliability and validity of the DIA Second part description, development, reliability and validity of the IOTN Third part compares and contrasts the indexes
Outcomes	IOTN, the AC and the DHC are separate instruments The unique aspect of the DAI is its linking of people's perceptions of aesthetics with anatomic trait measurements. DAI scores can rank ordered on a continuous scale and can differentiate cases with severity levels, IOTN only has 3 grades. Within the IOTN 1/3 of British schoolchildren are classified as needed treatment with IOTN

Notes	
Allocation concealment	Expert opinion and description, comparison and contrasting DAI and IOTN index
Study {Johansson, 2005 #57}	
Methods	Validation of the ranking of the AC of the IOTN Index and its treatment need classification against Swedish orthodontists, 10 separate colour photographs and questionnaires
Participants	272 orthodontists, 219 returned one or both questionnaires
Interventions	Aesthetic ranking of photographs
Outcomes	Grading of photographs 2-9 varied greatly among orthodontists, but agreement was almost complete for photographs 1 and 10. The participating Swedish orthodontists' aesthetic ranking of the photographs was: 1,2,3,4,6,5,7,9,8,10. Regarding treatment need, no need for treatment was set for photographs 1-4, borderline for 6 and need for treatment 5, 7,8,9,10. Further studies are needed to evaluate if laymen in Sweden make the same judgements as Swedish orthodontists.
Notes	
Allocation concealment	Cochrane checklist for diagnostic trial : 3/9
Study {Jokovic, 2002 #20}	
Methods	Development and evaluation of the CPQ 11-14 (child perception questionnaire), a self report measure of the impact of oral and oro-facial conditions on 11- to 14-year old children. Description of the development process Evaluation of the CPQ 11-14
Participants	Children aged 11-14 yrs with dental diseases (primarily caries), orthodontic disorders, and oro-facial conditions (primarily cleft lip and/or palate)
Interventions	
Outcomes	Characteristics of participants Item impact scores CPQ 11-14 Descriptive Statistics CPQ 11-14 discriminant and construct validity CPQ 11-14 Reliability The results suggest suggests that the CPQ 11-14 is valid and reliable Results indicates that the impact of child oral and oro-facial conditions on functional and psychosocial well-being is substantial, and that children are able to give psychometrically acceptable accounts of that impact. Longitudinal studies are necessary to determine its longitudinal construct validity, responsiveness, and minimal clinically important difference.
Notes	
Allocation concealment	Not possible
Study {Josefsson, 2007 #58}	
Methods	Plaster casts if available, radiographs if available, clinical examination, normative R/ need according to AC and DHC of IOTN, excluded patient in treatment or phase of treatment finished
Participants	493 12 and 13 years old children (Sweden and foreign origin)
Interventions	Compare frequency of malocclusion and orthodontic treatment in 12 and 13 years old Swedish and immigrant backgrounds , from control group 25 12 years old and 25

	13 years old randomly selected , IOTN was scored twice with an interval of 4 weeks
Outcomes	Despite change in demographics, variation in frequencies of malocclusion and treatment need among children of different cultural background are only minor and the overall orthodontic treatment need remains unchanged.
Notes	
Allocation concealment	Convenience sample, a possible bias in method.
Study	{Kalsbeek, 2002 #120}
Methods	Malposition of teeth
Participants	In 5-, 11-, 17- and 23 year-olds in the period between 1987 ad 1999
Interventions	Prevalence of some malocclusions in the Netherlands
Outcomes	In this period an increase of orthodontic treatment in youngsters from 23 to 40%, Youngsters treated orthodontically had a strong improvement of the tooth position between 11 and 17 years, such an improvement did not appear in the untreated.
Notes	Some epidemiological data were retrieved from this study
Allocation concealment	Since epidemiological data are hard to find this survey was used.
Study	{Kasrovi, 2000 #125}
Methods	Description of some commonly used orthodontic terms
Participants	
Interventions	
Outcomes	
Notes	
Allocation concealment	Not possible
Study	{Kau, 2004 #121}
Methods	Randomised controlled trial Lower incisor crowding according to Irregularity Index of Little
Participants	8 and 9 years old, crowding of lower incisors ≥ 6 mm, Class I malocclusion by molar relationship according to Irregularity Index of Little, lower molars should have a good long term prognosis, overbite should be within normal limits.
Interventions	55 received R/ (primary canine extraction), 53 remained for follow up 42 received no R/ (no extraction), 30 remained for follow up
Outcomes	The amount of lower incisor crowding was reduced to a greater extent in the extraction group . The arch length was reduced to a greater extent in the extraction group, suggesting molars migrated forward. There is only 1 in 20 chance that the amount of crowding will improve in the arch when extractions occur. It would appear that the benefits of extracting lower deciduous canines for the “relief” of lower incisor crowding are questionable.
Notes	
Allocation concealment	Cochrane checklist of RCT : 5/10
Study	{Kenealy, 2007 #5}
Methods	A prospective longitudinal cohort design with four studies of the effect of orthodontic treatment Extensive assessment of dental health and psychosocial well-being

	<p>Facial and dental photographs and plaster casts of dentition, rated for attractiveness and pre-treatment need</p> <p>At third follow-up 337 (30-31 years olds) were re-examined in 2001</p> <p>Follow up 20 years</p>
Participants	1018 11-12 years old (663 with specific occlusal arrangements, 355 with non-specific occlusal arrangements) in 1981, 337 30-31 years old in 2001
Interventions	<p>No recommendation about orthodontic treatment were made, an observational approach was adopted with no attempt to influence children's attitudes to orthodontic treatment.</p> <p>Psychological data were collected at each of the 3 stages (1981, 1984, 1989 and 200-2001). Questionnaires under supervision of a psychologist.</p>
Outcomes	<p>Participants with a prior need for orthodontic treatment as children and who obtained treatment, demonstrated better tooth alignment and satisfaction. However when self-esteem at the baseline was controlled for, orthodontics had little positive effect in adulthood.</p> <p>Dental status in adulthood, whilst statistically significant, appeared to be of minor importance in a model that included other psychological variables. When prior treatment need is taken into account there was little evidence to support the assumption that orthodontics improves long-term psychological health.</p>
Notes	
Allocation concealment	Cohort study, but psychological assessment , qualitative.
Study	{Kennedy, 2005 #83}
Methods	Literature review
Participants	Unilateral posterior crossbite with unilateral shift.
Interventions	
Outcomes	Data on epidemiology , some data on prevalence
Notes	
Allocation concealment	Review was not performed very systematically, but data on prevalence were extracted from this review.
Study	{Kim, 1999 #84}
Methods	Meta-analysis Class III, only 4 studies included
Participants	Experimental : 246 for expansion group, control group : 281 only face mask
Interventions	Experimental group : palatal expansion and face mask, control group : only face mask
Outcomes	Complete cephalometric data. No distinct differences between palatal expansion group and non-expansion group, except for upper incisor angulation (a greater proclination in non expansion group) Protracted face mask therapy is effective in patients who are growing but to a lesser degree in patients who are older than 10 years of age.
Notes	<p>Limitation of meta-analysis by the lack of standardization of the design of various studies and the necessity to use all the studies that met the inclusion criteria.</p> <p>Gender differences were not examined in this meta – analysis</p>
Allocation concealment	Cochrane review for SR : 6/9
Study	{Kuijpers, 2005 #51}
Methods	Literature review
Participants	

Interventions	
Outcomes	Description of 3 orthodontic indexes : IOTN, DAI and ICON
Notes	
Allocation concealment	Literature review with description of different indexes, no information about methodology of literature search and inclusion/exclusion criteria and evidence.
Study	{Lagravere, 2005 #93}
Methods	Systematic review
Participants	4 clinical trials that assessed immediate dental arch changes after RME using cephalometric analysis, model casts or both
Interventions	Evaluation long term dental arch changes after rapid maxillary expansion (RME)
Outcomes	Similar maxillary molar and cuspid expansion could be founding adolescents and young adults, significantly less indirect mandibular molar and cuspid expansion was attained in young adults compared with adolescents. A significant overall gain in the maxillary and mandibular arch perimeter was found in adolescents. More transverse dental arch changes were found after puberty as compared with before, but difference may not be clinically significant. No anteroposterior dental changes were found on lateral cephalometric radiographs.
Notes	
Allocation concealment	Cochrane 6/9
Study	{Lagravere, 2005 #8}
Methods	Systematic review
Participants	Only 3 articles measured RME stability after active expansion
Interventions	Evaluation of long-term transverse, anteroposterior and vertical skeletal changes after RME (Rapid Maxillary Expansion)
Outcomes	Long term skeletal maxillary increase is approximately 25 % of the total dental expansion for prepubertal adolescents. Better long-term outcomes are expected in transverse changes because of RME in less skeletally mature patients. RME appears not to produce clinically significant anteroposterior or vertical changes in the position of the maxilla and mandible. The conclusions for this systematic review should be considered with caution because only a secondary level of evidence was found. Long-term randomized clinical trials are needed.
Notes	All of the 3 articles had some methodological flaws, which limit the attainable conclusions. An individual analysis of these articles was made.
Allocation concealment	Cochrane checklist for SR of RCT : 6/9
Study	{Leifert, 2003 #78}
Methods	A retrospective study
Participants	14,11 years; at least one palatally displaced permanent canine 235 (mean age 10.0 years of age)
Interventions	examination for ten different morphologic parameters: impaction and congenital absence of further teeth, hypoplastic, peg-shaped, rotated and congenitally missing upper lateral incisors, supernumerary teeth, Angle classification, cover-bite
Outcomes	The risk of palatal canine displacement was significantly higher in patients with hypoplasia, peg shape or congenital aplasia of upper lateral incisors, further impacted and congenitally missing teeth and cover-bite
Notes	NO AGE MATCH BETWEEN TEST AND CONTROLGROUP;

Allocation concealment	Cochrane checklist 4/9
Study	{Lentini-Oliveira, 2007 #2}
Methods	Cochrane review
Participants	Anterior open bite , ≤ 16 years, number not available
Interventions	Is orthodontic or orthopaedic treatment or both in children with anterior open bite effective at correcting the anterior open bite?
Outcomes	<p>Only five outcomes were found:Anterior open bite correction;Alteration of hyperdivergent growth pattern;Position of the incisors;Mandibular ramus growth;Expansion of the upper and lower jaw</p> <p>Recommendations for clinical trials can not be made based on the results of these clinical trials. There is no clinical evidence on which to make a clinical decision of the type of intervention to use. Recommendations for future studies are made in this Cochrane review.</p>
Notes	The included RCT's didn't describe their method for randomisation or calculation of the sample size. Trials have included potential bias.
Allocation concealment	Cochrane checklist for SR :7/9
Study	{Ling, 2007 #1}
Methods	Retrospective study panoramic radiograph, 35 mm slides
Participants	total N=28: group SE (surgical exposure and orthodontic extrusion) N=14; group OT (extraction of deciduous canine and excess space created for natural eruption) N=14 ; mean pre treatment age 13.5 years
Interventions	orthodontic treatment ; group SE: surgical exposure and orthodontic treatment; group OT: extraction and space creation
Outcomes	Palatally impacted canines treated by surgical exposure and orthodontic treatment were more likely to be displaced vertically (intruded) after treatment than palatally impacted canines treated by extraction of the deciduous canine and creation of excess of space; no changes detected by ABO OGS; the subjects were satisfied
Notes	
Allocation concealment	Cochrane checklist 4/9
Study	{Littlewood, 2006 #40}
Methods	Cochrane systematic review
Participants	RCT's on children and adults
Interventions	Retainers fitted or adjunctive procedures undertaken, following orthodontic treatment with braces to prevent relapse.
Outcomes	<p>The outcomes were : how well the teeth were stabilised, survival of retainers, adverse effects on oral health and quality of life.</p> <p>There are insufficient data on which to base our clinical practice on retention at present.</p> <p>Suggestion that circumferential fiberotomy reduces relapse when combined with full-time removable retainer, when compared with full-time removable retainer</p> <p>Suggestion that Hawley retainer, worn full time, allows more settling of the occlusion than a clear overlay retainer, worn at night, after 3 months. However the evidence is very weak</p> <p>All these findings should be interpreted with caution due to the quality of the</p>

	research.
Notes	There is an urgent need for high quality randomised controlled trials.
Allocation concealment	Cochrane checklist for SR on RCT : 7/9
Study	{Malandris, 2004 #9}
Methods	Review to evaluate need for correcting posterior cross-bites in the primary dentition
Participants	
Interventions	
Outcomes	Posterior cross-bites in the primary dentition are relatively common and their causes are numerous. Because a significant proportion of posterior cross-bites self-correct beyond primary dentition, routine correction in the primary dentition phase cannot be advocated. A unilateral posterior cross-bite as a result of a functional displacement of the mandible is one of the few malocclusions which should be considered for correction in the primary dentition.
Notes	Further research is needed in the management of this condition.
Allocation concealment	This literature review seems very complete, however it was not performed in a systematic way or at least the method used was not explained.
Study	{Mandall, 2001 #19}
Methods	Prospective cross-sectional
Participants	At random sample of 439, 11-12 year old children
Interventions	Association between normative orthodontic treatment need and some consumer values, IOTN index and questionnaires
Outcomes	A child's self-esteem score appears to be related to their level of self-perceived aesthetic malocclusion and its psycho-social impact. It is still important to have additional information derived from consumer measures rather than solely on normative need. It remains to be seen whether these factors subsequently influence demand and uptake of orthodontic treatment
Notes	
Allocation concealment	Cochrane checklist diagnostic trials: 5/9
Study	{Mandall, 2005 #59}
Methods	Child perceived AC, Examiner AC and DHC, child socio-economic status
Participants	525 randomly selected schoolchildren at DCI (baseline), 525 randomly selected control group, who did not participated at DCI
Interventions	Evaluate if IOTN could be weighted by using consumer-based socio-dental measures to predict uptake of orthodontic services
Outcomes	Child's age, dentist-population ratio and child's normative need as measured by IOTN are predictors of the use of orthodontic services, conversely, socio-dental consumer based measures did not have an influence. Children who are teased about their teeth are more likely to receive orthodontic treatment.
Notes	Study in UK
Allocation concealment	Cochrane checklist 7/9
Study	{Mohlin, 2002 #36}
Methods	Epidemiological study

Participants	263 (130 BOYS AND 133 GIRLS); 12 year old
Interventions	intra-oral photographs, interview of the children : previous experience of dental R/ and their feelings about whether an orthodontic treatment would be a benefit to them; clinical examination of occlusal function and morphology
Outcomes	77% Class I, 23% Class II and only 1 child Class III, 13 % large overjet ≥ 6 mm (of these children 71% incompetent lipclosure), 19 % overjet $\geq 4,5$ mm(of these 52 % incompetent lipclosure), 27% deep bite ≥ 5 mm, open bite only in 3 children other features to a lesser extent; 60% placed themselves as looking better than average, whereas the orthodontist at the clinical examination placed 51 % in a similar interval and the dental team 73%; 30% of the children expressed a desire to correct their malocclusion
Notes	Diagnosis up to the age of 12 years of ectopic and congenitally missing teeth was fairly successful and so was the correction of lateral crossbites. A distinction between forced and non forced crossbites was often lacking. This study seems to confirm that the age of 12 is too early to about orthodontic treatment on aesthetic grounds both from psychological and physical viewpoint.
Allocation concealment	Convenience sample used for epidemiological data collection, possible bias in sample (already listed for dental examination)
Study	{Mohlin, 2003 #69}
Methods	Descriptive review on the health risk of deviations from a normal occlusion
Participants	
Interventions	
Outcomes	
Notes	No material and method
Allocation concealment	Not a systematic review, but since no systematic review exists on this item, this review is included to describe the current views on this item.
Study	{Nelson, 2004 #10}
Methods	Cross sectional study
Participants	2808 tenth grade students, control group :subsample of 561 untreated subjects
Interventions	Dental survey including questions on demographic, dental health, and orthodontic services and assessment of smile using the visual analogue scale, control group : DAI score on study casts
Outcomes	Minority groups and infrequent dental attenders may experience disparities in unmet orthodontic treatment need.
Notes	
Allocation concealment	Convenience sample to study disparity in orthodontic utilization and treatment need among high school students
Study	{O'Brien, 1996 #31}
Methods	Consultation by orthodontist :Questionnaire completed by parent, study casts of patient, record of outcome of consultation
Participants	First phase of the study : baseline data were collected on the referral of orthodontic patients in the areas . Number of patients referred over a 3-month period. A number of 149 general dental practitioners, stratified on number of patients referred and social class of the ward in which they worked, was selected. Second phase of the study : The prospective collection of data on all patients referred by the sample of dentists over a further 3 month period. 162 referred

	patients mean age 12,7 years, 62%girls and 38%boys. 46% referred to specialist orthodontic practitioner, 54% to the hospital service
Interventions	Outcome of consultation : of the 162 referred patients: 54% were accepted for treatment (54% girls and 38% boys)
Outcomes	The uptake of orthodontic treatment is influenced by the dental health need of the patient and the gender of the patient. Most of the patients who were accepted for treatment were in definite need of orthodontic treatment. There were no differences in the need for treatment of the patients that were referred to or accepted by the hospital or fee-per-item orthodontists.
Notes	
Allocation concealment	Prospective epidemiological survey, no Cochrane checklist exists for this survey.
Study	{O'Brien, 1998 #115}
Methods	Conference proceedings
Participants	
Interventions	
Outcomes	
Notes	
Allocation concealment	Not possible , however some interesting ideas used
Study	{O'Brien, 1993 #118}
Methods	Retrospective study
Participants	1630 sets of patient records
Interventions	Analysed for orthodontic treatment need and standard of treatment with IOTN and PAR index respectively
Outcomes	The hospital service provided treatment of a high standard, the effectiveness of treatment provision was influenced by the grade of operator, the choice of treatment and by departmental attitudes and aspirations ;2-arch fixed appliance more effective than single arch fixed appliance and single arch fixed appliance more effective than removable appliance
Notes	Possible bias because the degree of non-response of some departements and absence of cases treated incompletely or to a poor standard because of deficiencies in record collection
Allocation concealment	Cohrane 5/9
Study	{Onyeaso, 2007 #4}
Methods	Examine relationship between 4 indexes that are used to score orthodontic treatment need and outcome, and determine wether 1 index could replace the other 3
Participants	100 pre- and post-treatment study models randomly selected
Interventions	ICON, PAR, DAI and ABO-OGS (American Board of Orthodontics objective grading system) index
Outcomes	The ICON can be used in place of the PAR and the ABO-OGS for assessing treatment outcome and in place of the DAI for assessing treatment need
Notes	
Allocation concealment	
Study	{Papadopoulos, 2007 #124}
Methods	Systematic review

Participants	16 orthodontic-related articles were identified as meta-analyses
Interventions	
Outcomes	Currently there is for only a few orthodontic topics adequately supported evidence. More well-conducted high quality studies are needed to produce strong evidence in orthodontics The topics that provide the best evidence are : maxillary protraction treatment, correlation between anterior tooth injuries and magnitude of overjet, correlation of external root resorption with treatment related factors and tpe of tooth movement, and prevalence of tooth agenesis
Notes	
Allocation concealment	Cochrane 8/9
Study	{Pietila, 1994 #30}
Methods	Qualitative study
Participants	261 (55% boys and 45% girls) 7-8 year old children
Interventions	Questionnaire to parents ; orthodontist assessment of treatment need, overbite, overjet and sagittal relationship according to Angle's classification
Outcomes	90 % of parents returned questionnaires, the orthodontist assessed 101 children in need of R/ In a dental care system, where children visit their dentist regularly, the parents' awareness of orthodontic problems agrees fairly well with the orthodontist's assessment of treatment need and the parents also seem to accept the concept of early treatment
Notes	
Allocation concealment	Qualitative study, possible bias in sample (children in consultation in Health Centre)
Study	{Pietila, 1996 #37}
Methods	Questionnaire completed under teacher supervision during school hours; IOTN assessed by orthodontist on subsample of 75 children's study casts
Participants	Experimental group : 280 15-16 years old ; selected for orthodontic treatment by dentist during routine dental visits Control group : at random subsample of 75 children
Interventions	Experimental group :questionnaire / Control group : study casts
Outcomes	Adolescents' perceived satisfaction seemed to coincide well with objective treatment need. However adolescents with prevailing orthodontic treatment need were found both in the group with completed treatment and with no previous treatment. It thus seems important to assess the outcome of orthodontic services using the opinions of the patients in addition to a professional evaluation.
Notes	Cochrane checklist of diagnostic trial : 3/9
Allocation concealment	
Study	{Pizzo, 2007 #72}
Methods	Systematic review of the literature
Participants	
Interventions	Following items : Histopathology and pathogenesis, risk factors related to the orthodontic treatment, patient-related risk factors, epidemiological evidence, clinical observations
Outcomes	Root resorption is most common sequela of the orthodontic treatment. The

	<p>onset and progression of root resorption are associated with risk factors such as the duration of treatment, the magnitude of the force applied, the direction of the tooth movement, the method of force application (continuous versus intermittent), the orthodontic movement. Patient-related risk factors are the individual susceptibility on a genetic basis, some systemic diseases, anomalies in root morphology, dental trauma, and previous endodontic treatment.</p> <p>The prevention of root resorption during orthodontic treatment may be performed controlling the risk factors</p> <p>The periodic radiographic control during the treatment in order to detect the occurrence of root damages and quickly reassess treatment goals.</p>
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Notes

Allocation concealment	Review of the literature. No EBM review, method failing.
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Study	{Proffit, 1998 #68}
Methods	Epidemiological study on malocclusion in US population, from 1988-1991 NHANES III (National health and nutrition examination survey), an interview, a physical examination
Participants	+/- 7000 individuals, a multistage, clustered, probability sample designed to be generalized to the civilian, noninstitutional population of the US and a subsample
Interventions	<p>Current information for malocclusions in US children and youths. Comparison of current malocclusion prevalence to that of 30 years ago.</p> <p>Following major characteristics of occlusion used: 1) anterior alignment (irregularity index), midline diastema, posterior crossbite, overjet, overbite and open bite and DHC of IOTN</p>
Outcomes	<p>Noticeable incisor irregularity in majority of all racial/ethnic groups, only 35% of adults have well-aligned mandibular disorders; in 15% severe irregularity so that social acceptability and function could be affected</p> <p>Deviations from ideal bite relationship in 20 % of population, in 2% severe enough to be disfiguring</p> <p>IOTN showed that 57 to 59% of each racial/ethnic group has at least some degree of orthodontic treatment need: over 30% in Whites</p> <p>Treatment is much more frequent in higher income groups and 10-15 % in intermediate income group.</p>

Notes

Allocation concealment	A large sample for this epidemiological study gives a good idea of the prevalence of some malocclusions
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Study	{Reichmuth, 2005 #117}
Methods	Comparisons of 3 groups of children who varied by location payment source and ethnicity
Participants	150 in the Bronx, 100 in Seattle undergoing or anticipating orthodontic treatment in publicly funded dental clinics (PFDC), 84 children in Seattle, Anchorage and Chicago who sought treatment by private practitioners
Interventions	Data collected from children or guardians by questionnaires
Outcomes	<p>Desire for R/ higher among children in PFDC and among blacks than among whites or Asian Americans</p> <p>Children in PFDC rated themselves as having worse malocclusions. Children in Bronx clinic accepted a wider range of occlusion as attractive</p> <p>Stage of R/ affected judgments of attractiveness Hispanic and mixed ethnicity children rated themselves more negatively on all dimensions</p> <p>THESE RESULTS INDICATE THAT BOTH SOCIOECONOMIC STATUS AND ETHNICITY PLAYS ROLES IN CHILDREN'S DESIRE FOR R/ , SELF ASSESSED NEED, AND JUDGMENTS OF ESTHETICS A clinician 's sensitivity to such differences can improve patient cooperation with treatment</p>

Notes

Allocation concealment	Qualitative study on convenience sample, no allocation possible
Study	{Richardson, 2002 #114}
Methods	Literature review
Participants	
Interventions	Causes of the crowding that occurs particularly in the lower arch after eruption of the second permanent molars
Outcomes	THE EVIDENCE ON THE ETIOLOGY OF LATE CROWDING REMAINS INCONCLUSIVE, WHICH IS NOT SPRISING IN VIEW OF ITS MULTIFACTORAL NATURE
Notes	Future post retention studies are needed
Allocation concealment	No systematic review, not possible

Study	{Richmond, 1992 #45}
Methods	Development for relating numerical change in the weighted PAR scores to consensus professional judgements.
Participants	
Interventions	
Outcomes	A measure was developed to assess improvement objectively. Using the PAR index it was revealed that at least 30% reduction was needed for a case to be judged as improved. A change in score usually of 22 was needed to bring a change judged as greatly improved. The greater the mean percentage reduction in weighted PAR score the higher the standard of orthodontics achieved.
Notes	
Allocation concealment	Outcome can be usefull

Study	{Richmond, 1992 #46}
Methods	Development and validation of PAR Index
Participants	
Interventions	
Outcomes	The score provides an estimate of how far a case deviates from normal alignment and occlusion. The difference in scores between pre- and post- treatment cases reflects the degree of improvement and, therefore, the success of treatment.
Notes	
Allocation concealment	Description of PAR index

Study	{Richmond, 1994 #60}
Methods	Retrospective assessment of IOTN
Participants	A systematic 5 % sample of 1225 orthodontic cases collected by DPB
Interventions	Assessment orthodontic treatment need using IOTN pre- and post-treatment. Excluded discontinued cases, cases with poor information, missing final study models.
Outcomes	Full upper and lower fixed appliances brought about a greater improvement in AC and DHC of IOTN compared to other appliance techniques, and were less likely to make occlusion worse. It was found that certain occlusal traits were more likely to be successfully treated than others.

Notes**Allocation concealment**

Study	{Schindel, 2007 #74}
Methods	Clinical trial
Participants	Randomly selected patients; mean age 9.5 years; 84 patients in experimental group: mixed dentition with maxillary discrepancy; 100 patients in control group : without maxillary discrepancy
Interventions	Classification of permanent canines using panoramic radiographs
Outcomes	Patients with a transverse discrepancy are more likely to have an impacted canine than are patients without a transverse discrepancy; however they do not have a greater likelihood of having a bilateral impaction
Notes	this study investigates the correlation between maxillary transverse discrepancy and the occurrence of impacted canines in patients during the mixed-dentition stage
Allocation concealment	Cochrane checklist : 5/9

Study	{Schopf, 2003 #12}
Methods	Registered data included orthodontically relevant findings Assessment of treatment need was based on the recommendations of the German Orthodontic Society.(Class III malocclusion, increased overjet ≥ 10 mm, lateral crossbite (but no edge-to-edge bite in the buccal region), extreme anterior open bite ≥ 6 mm) Except traumatic or syndromally induced anomalies and congenitally missing or supernumerary teeth.
Participants	2326 children between 6 and 7 years (ca 45% of all first-year schoolchildren in Frankfurt am Main und in the neighbouring rural district of Offenbach), so children both of urban and rural environments, many different social classes, permitting nationally representative conclusions to be drawn
Interventions	Intake examination by school dental service
Outcomes	Group 1 : No relevant orthodontic findings : 14,7 % of 6-7 years olds Group 2 : Orthodontic findings without (immediate) orthodontic need 28,1 % of the dentitions displayed anterior crowding (23% in lower arch), 27,2 % mandibular retrognathism (Class II) most frequent form of malocclusion, 27 % overjet ≥ 4 mm, 20,7 % deep bite with gingival contact, 7,9 % anterior open bite, 7,9 % crossbite of one or more incisors, 5,2 % negative overjet or edge-to-edge bite of incisors, 3,5 % mesio-occlusion, 6,5 % unilateral posterior crossbite, 1,8 % bilateral posterior crossbite Group 3 : Orthodontic findings with an immediate treatment need 8,3 % lateral crossbite (but no edge-to-edge bite in the buccal region), with the prognostically less favourable form approximately 4 times more frequent than the bilateral form, 1,4 % increased overjet ≥ 10 mm, 1,9 % Class III malocclusion (except edge-to-edge bite), 0,09 % extreme anterior open bite ≥ 6 mm Overall immediate treatment need in 187 children, i.e. 8,04 %

Notes

Allocation concealment Cochrane checklist cohort study 5/9

Study	{Shaw, 2007 #38}
Methods	A prospective longitudinal cohort study design

Participants	1018 at T1 aged 11 to 12 years in 1981, and at T3 337 patients 30-31 years old in 2001
Interventions	Extensive assessments of dental health and psychosocial well being, facial and dental photographs and plaster casts collected and rated for attractiveness and pre-treatment need, no recommendations about orthodontic treatment were made
Outcomes	The percentage changes of ICON scores for the 4 groups were need/no treatment (12,7%), no need/no treatment (- 17,1%), need/treatment (31%), no need/treatment (-11,4%) Participants with a prior need for orthodontic treatment and who obtained orthodontic treatment had better tooth alignment and satisfaction. However when self-esteem at baseline was controlled for, orthodontic treatment had little positive impact on psychological health and quality of life in adulthood.
Notes	Bias in this study to many loss to follow up
Allocation concealment	Cochrane checklist : 4/9 however some interesting results
Study	{Souames, 2006 #62}
Methods	Epidemiological study : 2 examiners, IOTN calculated from direct oral examination
Participants	511 9-12 year old schoolchildren
Interventions	IOTN index to assess treatment need
Outcomes	21 % of the children presented objective need for orthodontic treatment, the DHC of IOTN was found reliable and simple in use, no significant differences were found between males and females, the IOTN may be adequate for public health planning and epidemiological studies
Notes	
Allocation concealment	Cochrane checklist on diagnostic trial : 5/9
Study	{Stahl, 2003 #79}
Methods	
Participants	Maxillary canine displacement in 675 patients; from which 34 with "potential canine displacement" who exhibited further symptoms of "genetically determined predisposition to disturbed development of the dentition"
Interventions	Radiographs taken
Outcomes	Any symptom of predisposition to disturbed development of the dentition is an indication of potential risks; early recognition is important; the symptoms include agenesis, displaced tooth buds, rotated or tilted incisors, aplasia and microdontia of lateral incisors
Notes	
Allocation concealment	Cochrane checklist 4/ 9
Study	{Stewart, 2001 #75}
Methods	Retrospective observational study
Participants	47 (=29 unilateral impaction, 18 bilateral impaction); younger than 20 years of age; mean age at start 14.4 years; at least one palatally impacted canine, control group: 50
Interventions	surgical exposure and orthodontic treatment; control group : non-extraction orthodontic treatment
Outcomes	unilateral impaction requires on average 3 months more to treat than control; bilateral impaction requires 9 months longer to treat; the younger the patient at

	the start of treatment, the more severely displaced the canine and the longer the treatment; the longer the distance of the impacted crown to the occlusal plane, the longer the treatment
Notes	a total of 18 patients with bilateral impacted canines is rather small
Allocation concealment	Cochrane checklist : 5/9
Study	{Taylor, 1996 #47}
Methods	Pre- and post-treatment casts and records
Participants	156: 81 two arch fixed appliance and 75 removable/mini fixed appliance cases; 104 females and 52 males , average age 13,8 years
Interventions	Change in PAR score produced by treatment and the duration of treatment
Outcomes	For fixed appliances the initial PAR score was consistently an influential variable on change in PAR score and duration of treatment. Patient compliance , the need to extract a permanent first molar and the presence of an anterior crossbite were also important. The initial PAR also explained much of the variation in change in PAR for removable/mini fixed appliances.
Notes	
Allocation concealment	Convenience sample, outcome of interest
Study	{Tickle, 1999 #39}
Methods	Assessment of both normative treatment need and perceived need for orthodontic treatment. Each subject was categorised according to socio-economic status using the Super Profiles geo-demographic classification(This is a three-tier, hierarchical, small area typology, available under contract to NHS organisations)
Participants	7888 14 year old children (excluded subjects wearing an orthodontic appliance or who reported wearing one in the past were excluded from the analyses)
Interventions	7888 IOTN examination by 18 trained and calibrated orthodontists, DHC to assess normative treatment need 7422 (94%) provided responses to a questionnaire survey, designed to examine their perception of their need for orthodontic treatment. Finally 5918 children (full sets of data, postcode data available and not in orthodontic treatment or not been treated orthodontically) remained for analysis by socio-economic status.
Outcomes	26,2% IOTN scores 4 or 5 and in need of orthodontic treatment, more frequently in deprived children Most of the children had IOTN scores 1 or 2; among the 2019 children who reported a self-perceived for treatment, 58% did not have a normative assessed need. Normative orthodontic treatment need (IOTN) is greater in deprived socio-economic groups. Desire for orthodontic treatment need is greater in deprived socio-economic groups. Children who desire orthodontic treatment are not necessarily those who are deemed by the IOTN to need it. The mismatch of need and desire for treatment leads to problems for the speciality of orthodontics when prioritising the use of resources
Notes	
Allocation concealment	Cochrane checklist for diagnostic trial : 5/9
Study	{Turbill, 1996 #26}
Methods	Assessment of PAR and IOTN index , scored by one of the authors, calibrated in use of both indexes
Participants	1505 consecutively submitted cases at the Dental Practice Board (DPB) of England

	and Wales
Interventions	PAR and IOTN index
Outcomes	As the indexes are related to collective peer opinion and have been shown to be more reproducible than subjective gradings, it is suggested by the authors that the indexes could largely replace subjective gradings at the DPB, if the following adjustments are made: 1. levels of residual need and need for treatment should be included in assessment, 2. weightings for buccal occlusion and residual spacing could be reviewed, subject to peer opinion, 3. assessing removable appliance cases more leniently may encourage their use where fixed appliances are more appropriate, 4. allowances should still be made for some limited objective treatments, and when, for reasons outwith the practitioners' control, the optimum treatment cannot be effected.
Notes	
Allocation concealment	Cochrane checklist for diagnostic trial : 2/9
Study	{Turbill, 1999 #48}
Methods	to score the study casts examiner was calibrated, relevant information from the NHS for each case
Participants	1527 consecutive cases from the routine systematic sample of the Dental Practice Board of England and Wales (DPB), mean age 12,7 year (SD 2,5)
Interventions	malocclusions at the start and finish of treatment
Outcomes	Small differences in entry and exit levels of malocclusion between the social strata in this sample, suggest no real disadvantage to the patients from 'lower class' areas who received treatment. Levels of malocclusion at start showed little variation between the groups studied. Two groups had marginally lower thresholds for entry to R/ (start PAR score) 1. patients in permanent dentition and 2. patients from more middle class 'areas' (ie areas with fewer manual class heads of household) The results show that: Dual arch fixed appliances are more consistent in achieving lower finish PAR, independently from start PAR and with less influence from other variables Social class of practice area was associated with small differences in finish PAR of little clinical significance. Suggested that orthodontic R/ may be less readily available in areas with a high proportion of manual class heads of household and this may be a barrier to R/ for children in such areas (they tend to travel less for R/) Longer R/ were associated with marginally lower residual malocclusion Age of patient and stage of development had no significant effect on outcome. Number of arches R/ (non dual)
Notes	
Allocation concealment	Sample to heterogeneous, but some conclusions are useful, since more reliable studies are failing
Study	{Vakiparta, 2005 #66}
Methods	Longitudinal approach
Participants	A whole cohort of 87 children
Interventions	Examined at age 8, 10 and 12 years ; assessment treatment need using a modified DHC of the IOTN, and a 10 grade scale based on the TPI Early R/ started in the children with a definite R/ need according to both indices
Outcomes	The agreement between the indices was good between 8 and 12 yrs and moderate at 10 yrs Of the 29 with definite R/ need at 8 yrs only 2 had a definite need for R/ at 12 yrs Of the 38 with no treatment need at 8 yrs, 28 remained in this category Conclusion: systematically planned early treatment may have contributed to the significant reduction in R/ need from 8 to 12 yrs of age.

Notes	
Allocation concealment	Cochrane checklist cohort trial : 4/9
Study	{Vig, 1999 #123}
Methods	Narrative review
Participants	
Interventions	
Outcomes	Because orthodontics is a condition without the natural history of disease process for which no intervention has predictable consequences, new strategies have been developed to estimate need and demand for orthodontic treatment. The design of clinical studies is discussed in the context of future directions for clinical research, and the usefulness of the information generated will directly relate to providing patients all the information needed to give informed consent for orthodontic treatment
Notes	
Allocation concealment	Not possible
Study	{Willems, 2001 #67}
Methods	Retrospective study Dental casts, panoramic and cephalometric x-rays, intra- and extra-oral radiographs
Participants	1477 (641 males and 836 females) (patients with incomplete records or craniofacial deformity or syndrome excluded)
Interventions	Malocclusion according to Angle 's classification and multiple measurements, IOTN was assessed on dental casts
Outcomes	Proportion males/females 4/6, Class I : 31%, Class II,1 :52%, Class II,2: 11%, Class III : 6%, no statistically significant difference between sexes, IOTN 1-3 : 37%, IOTN 4-5 : 63%
Notes	
Allocation concealment	Convenience sample, possible bias in sample, the data cannot be extrapolated to Belgian population, but they are the only available data
Study	{Wong, 2004 #80}
Methods	Descriptive review on interceptive orthodontics in early mixed dentition
Participants	
Interventions	
Outcomes	Normal occlusal development in early mixed dentition Early orthodontic intervention Preventive orthodontics Interceptive orthodontics : Definition, interceptive procedures and treatment outcome, crowding, space maintenance, ectopic eruption of maxillary permanent canine, diastema, mandibular displacement during function, habits Limitations of interceptive treatment
Notes	
Allocation concealment	Rather large number of articles reviewed and no systematic review exists.

Study	{Younis, 1997 #63}
Methods	A panel of 18 orthodontists, on 2 separate occasions a sample of dental casts representing a broad range of malocclusion
Participants	160 study casts representing all types of malocclusion
Interventions	Cast scored with the following indexes : IOTN, HLD (Handicapping Labio-Lingual Deviations index) an HMAR modified (Handicapping Malocclusion Assessment Record
Outcomes	The orthodontic raters demonstrated very high levels of intra- and interrater reliability in determining orthodontic treatment need. The overall diagnostic accuracy was similar for each index : IOTN 98,6%, HLD 96,1%, HMAR 96,6%. The reliability results indicate that all indexes can be scored reliably both by the same rater and between two raters. These results indicate that the three occlusal indexes provide valuable information for determining orthodontic treatment need.
Notes	
Allocation concealment	Cochrane checklist of diagnostic trial : 5/9
Study	{Bondemark, 2004 #53}
Methods	Systematic review
Participants	
Interventions	Swedish research in orthodontics during the past decade.
Outcomes	A total of 15 572 articles in orthodontic research , Swedish contribution was 1,9% The majority of articles evaluated therapeutic interventions and although RCT is the preferred design for such interventions, only 5,2% of all articles used this method.
Notes	
Allocation concealment	
Study	{Glasl, 2006 #3}
Methods	Identify prevalence of malocclusions in early mixed dentition and compare it with the results 4 years later : to discover to what extent the children's spectrum of malocclusion had changed
Participants	1251 schoolchildren
Interventions	KIG only recorded clinically
Outcomes	Lateral crossbite in 23,2% of children; overjet ≥ 6 mm : 21%, contact point displacements > 3 mm : 21% ; KIG grades I and 2:58,6%; KIG 3: 10,6%, KIG 4: 29,4% and KIG 5 : 1,4% : A total of 41,4% required treatment (KIG 3,4,5). Treatment need is clearly greater in late mixed dentition than in early mixed dentition.
Notes	
Allocation concealment	Epidemiological data collected in a systematic way
Study	{Grabowski, 2007 #61}
Methods	Cross-sectional study
Participants	Randomly selected, fully developed primary or early mixed dentition, 3041 children (766 in primary dentition and 2275 in early mixed dentition), mean age 4,5 years (primary dentition) and 8,3 years (early mixed dentition), from all social backgrounds
Interventions	Clinical examination : overjet, sagittal relationship in posterior relationship, transverse occlusal relationship in anterior region, vertical relationship in anterior

	region,
Outcomes	<p>Normal occlusal relationships in 25,3% of children in primary dentition and in 7,3% of children in early mixed dentition. Prevalence of bilateral distocclusion increased significantly from the primary to mixed dentition. Increased maxillary overjet in 49,3 % of children in primary dentition and of 59,0 % in early mixed dentition. Prevalence of lateral crossbites increased significantly from primary (7,2 %) to mixed dentition (12,0 %). Deep bites and edge-to-edge bites significantly more prevalent in early mixed dentition.</p> <p>The significant increase in the prevalence of malocclusions between primary and mixed dentition, reveal need for orthodontic prevention.</p>
Notes	
Allocation concealment	Epidemiological data collected in a systematic way
Study	{Kerosuo, 2002 #6}
Methods	Description of simple interceptive measures
Participants	<p>Arch length discrepancies due to caries; Nonnutritive sucking habits; Anterior open bite; Posterior cross bite; Impaction of maxillary canines</p> <p>Early versus late treatment</p>
Interventions	
Outcomes	Prevention and early orthodontic interception of non-nutritive sucking are generally successful – interception and early treatment of functional posterior crossbites and signs of ectopic canine eruption have been equally successful
Notes	
Allocation concealment	Descriptive review, no evidence but clinically of importance.
Study	{Skeggs, 2007 #15}
Methods	Cochrane systematic review
Participants	I study
Interventions	The use of surgical anchorage reinforcement system
Outcomes	At present few trials have been carried out in this field and there are little data of adequate quality in the literature to meet the objectives in this review. Only one study assessing the use of surgical anchorage reinforcement system was found.
Notes	
Allocation concealment	Cochrane checklist for SR of RCT : 6/9
Study	{Millett, 2006 #129}
Methods	Cochrane review
Participants	RCT's and CCT's, no RCT's or CCT's were identified that assessed the treatment of Class II division 2 malocclusion in children
Interventions	Orthodontic treatment for deep bite and retroclined upper front teeth in children
Outcomes	It is not possible to provide any evidence based guidance to recommend or discourage any type of orthodontic treatment to correct Class II division 2 malocclusion in children
Notes	
Allocation concealment	Cochrane 9/9

Study	{Swedish-Council-on-Technology-Assessment-in-Health-Care, 2005 #86}
Methods	Systematic review on malocclusion and orthodontic treatment in a health perspective
Participants	
Interventions	
Outcomes	
Notes	The full text was not recovered, only an extract of this study was found in English
Allocation concealment	
Study	{Harrison, 2001 #14}
Methods	Cochrane review for posterior crossbites
Participants	5 RCT's and 7 CCT's identified,
Interventions	
Outcomes	<p>Only two trials achieved a significant result</p> <p>The evidence suggests that removal of premature contacts of the primary teeth is effective in preventing a posterior crossbite from being perpetuated to the mixed and adult dentitions. When grinding alone is not effective, using an upper removable expansion plate to expand the top teeth will decrease the risk of a posterior crossbite from being perpetuated to the permanent dentition.</p> <p>In view of the suggestion that a quadhelix is the preferred method of expanding the upper teeth further research is necessary, and in this context a RCT would be preferred.</p>
Notes	
Allocation concealment	Cocrane checklist SR for RCT : 7/9
Study	{Feldmann, 2007 #91}
Methods	A systematic review of RCT's prospective and retrospective controlled trials and clinical trials comparing at least two anchorage situations
Participants	2 reviewers
Interventions	Orthodontic anchorage
Outcomes	Because of contradictory results and the vast heterogeneity in study methods, the scientific evidence was too weak to evaluate anchorage efficiency during space closure.
Notes	Controlled RCT's with sufficient sample sizes are needed to determine which anchorage system is the most effective in the respective anchorage situation.
Allocation concealment	Cochrane checklist for SR of RCT : 6/9
Study	{Nguyen, 1999 #88}
Methods	Systematic review
Participants	11 articles
Interventions	Dental injury due to overjet
Outcomes	Children with an overjet >3 mm are approximately twice as much at risk of injury to anterior teeth than children with an overjet < 3 mm. The effect of overjet on the risk of trauma is less in boys than in girls in the same overjet group. The risk on injury increases with increasing overjet size .
Notes	

Allocation concealment	Cochrane checklist for SR of RCT: 9/9
Study	{Grabowski, 2007 #136}
Methods	Cross-sectional study, the patients were selected randomly with fully developed primary or early mixed dentition and without orthodontic pre-treatment or orthodontic treatment.
Participants	766 children in primary dentition and 2275 children in early mixed dentition
Interventions	Occlusal relationships and myofunctional status.
Outcomes	In 25.3% normal occlusal relationships in primary dentition, in 7.3% normal occlusal relationships in mixed dentition. Prevalence of bilateral disto-occlusion increased significantly from primary to mixed dentition. Increased maxillary overjet in 49.3% in primary and 59% in mixed dentition. Lateral crossbites in 7.2% in primary and 12.0% in mixed dentition, which is a significant increase. Deep bites and edge-to-edge bites were found significantly more often in the early mixed dentition.
Notes	Significant increase in the prevalence of malocclusion between the primary and mixed dentition-distal-occlusion and lateral crossbite, and impairment of vertical occlusal relationships in mixed dentition in particular- reveal need for orthodontic prevention
Allocation concealment	Not possible, convenience sample and just description of the myofunctional disorders in relation to the occlusal features
Study	{Vanderas, 1987 #92}
Methods	A review of the published results of epidemiologic studies conducted in different races on the incidence of cleft lip, cleft palate and cleft lip and palate and to provide a critical evaluation of the methods used to record the incidence rate.
Participants	Studies published in English
Interventions	Classification of the studies on different races
Outcomes	Prevalence : incidence rate of cleft lip and palate for Europe ranged from 1.30 to 1.94 per thousand
Notes	Importance of inclusion criteria : livebirths, stillbirths and abortions
Allocation concealment	Not possible literature review
Study	{Shaw, 1992 #90}
Methods	International multi- centre clinical audit of treatment outcome in the treatment of children with unilateral CLP
Participants	Five European cleft lip and palate teams
Interventions	Comparison of dental form, dental arch relationship, and naso-labial appearance
Outcomes	Standardization, centralisation, and the participation of high volume operators were associated with good outcomes, non-standardization and the participation of low volume operators with poor outcomes. Therapeutic factors associated with good outcomes were the employment of a vomer flap to close the anterior palate, and poor outcomes with primary bone grafting and with active pre-surgical orthopaedics.
Notes	
Allocation concealment	Not possible according to Cochrane checklists
Study	{Semb, 2005 #89}
Methods	Cross-sectional study as part of the overall longitudinal cohort study reported elsewhere
Participants	127 treated CLP patients + parents

Interventions	Multidisciplinary cleft services in Northern Europe : questionnaire surveys
Outcomes	There was a high level of satisfaction, there were no relationships among satisfaction, objectively rated outcomes and the amount of care/ This study underlines the need for collective efforts to improve our understanding of this issue.
Notes	
Allocation concealment	Not possible
Study	{American Cleft Palate-Craniofacial Association, 1993 #135}
Methods	Narrative review
Participants	Interdisciplinary teams : composition, qualification of team members; Contemporary practices of the team during early months of life of the patient; longitudinal evaluation and treatment.
Interventions	Fundamental principles regarding the optimal care of patients with craniofacial anomalies
Outcomes	
Notes	
Allocation concealment	Not possible
Study	{Ross, 1987 #139}
Methods	Cross-sectional design
Participants	538 males with CLP compared with control group of 600 children with UCLP.
Interventions	1600 cephalometric radiographs ; cephalometric parameters
Outcomes	Notable differences between cleft and noncleft samples were in the maxillary complex and mandibular posture. Differences within the cleft sample attributable to the treatment received were also in the maxillary complex and mandibular posture
Notes	15 Cleft lip and palate Centres : sample variability, ethnic differences , radiographic technique age differences and treatment received were the variables
Allocation concealment	
Study	{Ross, 1987 #139}
Methods	Cross-sectional design
Participants	97 males with CLP at 10-years of age who received presurgical orthopedics were compared with 218 untreated subjects at matching age.
Interventions	Cephalometric records
Outcomes	Presurgical orthopedics in the neonatal period has no apparent longterm effect on facial growth
Notes	
Allocation concealment	
Study	{Ross, 1987 #139}
Methods	Cross-sectional design .
Participants	413 males with CLP .
Interventions	Early lip repair (2 months), medium repair (3 months), late repair (4 months)
Outcomes	The best results appears to follow liprepair at the age of 4_5 months with no repair of the alveolus
Notes	
Allocation concealment	

Study	{Ross, 1987 #139}
Methods	Cross-sectional design:
Participants	538 males with CLP
Interventions	Cephalometric radiographs of
Outcomes	A real conclusion on the timing of palate closure was not proved. Their was a suggestion that the surgeon had a greater effect on growth than the technique being used.
Notes	
Allocation concealment	
Study	{Ross, 1987 #139}
Methods	
Participants	
Interventions	
Outcomes	Significant differences in growth attributable to differences in treatment provided were proved. Repair of the alveolus in infancy, especially using bone crafts, had undesirable effects. Repair of the hard palate appeared to be the major influence on maxillary forward translation and development of the dentofacial process. Variation in timing and technique of the hard palate repair within the first decade did not affect the results appreciably. Circumstantial evidence suggested that the surgeon was the most important variable.
Notes	
Allocation concealment	
Study	{Johnson, 1999 #137}
Methods	Review
Participants	
Interventions	
Outcomes	The most consistently reported traits are Class III arch relationship, an anterior open bite, increased overjet, and spacing. However, there is no clear evidence of a direct relationship between severity of malocclusion and severity of misarticulation. In a review Johnson N. et al stated that although it is accepted that teeth play an important role in speech production, the relationship between tooth position and speech remains controversial. There was found no definitive proof that alteration of tooth position can improve articulation disorders and this while certain dental irregularities show a relationship with speech disorders, this not appear to correlate with the severity of the malocclusion.
Notes	
Allocation concealment	Not possible but some outcome of interest
Study	Handsearched van Gastel 2007
Methods	Literature review
Participants	PubMed database, articles between 1970 and 30 april 2007
Interventions	
Outcomes	Dental plaque is the primary cause of gingival inflammation and periodontitis. Conditions that encourage the growth and retention of dental plaque result in localised gingivitis, which rarely progresses to periodontal disease. Only a few studies report attachment loss during orthodontic treatment. The contradictory findings on the impact of malocclusion and orthodontic appliances on periodontal health may be partly due to the selection of materials and differences in the research methods employed.

Notes	No clear method for search and inclusion of articles
Allocation concealment	Not possible because no systematic literature review; however 81 references included and some outcome of interest.
Study	{Killiany, 1999 #97}
Methods	Literature review
Participants	Sample-based clinical studies, clinical case reports, animal model studies
Interventions	Root resorption caused by orthodontic treatment
Outcomes	Great variability for root shortening , including resorption experienced by individuals who had never undergone orthodontic treatment It was estimated in one study that 5% of the patients treated would experience more than 5 mm of root shortening For most patients, the complication of apical root shortening is not great
Notes	Very few of the sample based studies were prospective RCT's
Allocation concealment	Not really systematic literature review, but outcome of some interest
Study	{Lagravere, 2006 #96}
Methods	Meta-analysis
Participants	14 clinical trials that assessed immediate dental and/or skeletal changes after RME using cephalometric analysis, model casts or both
Interventions	Evaluation immediate transverse, anteroposterior and vertical dental and skeletal relationship
Outcomes	The greatest change from RME are dental and skeletal transverse changes and this is clinical relevant. Few vertical and anteroposterior changes are statistically significant but probably not clinically important
Notes	The 14 clinical trials had methodological deficiencies
Allocation concealment	Cochrane 7/9
Study	{Stenvik, 1997 #130}
Methods	Prospective observational study
Participants	80 persons at age 20 years of a cohort of 305 children of 12 year old that had been screened by NOTI
Interventions	Re-screening NOTI of treated and untreated patients
Outcomes	Individuals who received treatment (n = 22) showed an improvement in occlusion (health gain) corresponding on average to one category of need. The occlusal status of the untreated individuals was unchanged. All the individuals that desired treatment at 12 years of age (n = 15) did not want treatment at 20, and they were satisfied with their dental arrangement. Most of these individuals had received treatment, but a few with minor malocclusions had at age 12 been informed about the small objective need and refrained from treatment. All the individuals that wanted treatment at 20 years of age, 29 per cent of the total sample, had not desired treatment at 12 years of age. The results underline the importance of information and education during orthodontic counselling of potential patients.
Notes	
Allocation concealment	Cochrane 5/9

Characteristics of excluded articles

Study	Reason for exclusion
Ackerman 1995	Method unclear
Ackerman 1997	Method unclear
Aelbers 1996	Literature review. Cochrane review exists on this subject.
Ahlgren 1993	Material and method
Ahlin 1999	Personal point of view.
Ahmad 2006	Method
Albert 1998	Type article
Albino 1993	NA
Albino 1994	NA
Alkhatib 2005	Subject
Al Yami 1998	Cochrane review exists on this subject.
Al Yami 1998	Subject. Not of outcome of interest.
Al Yami 1998	Subject. Non orthodontic sample.
Al Yami 1999	Cochrane review exists on this subject.
Allister 1996	Subject. Not outcome of interest. South Australia.
American Academy of Pediatric Dentistry 2005	Type article
Artun 2005	NA
Atack 1999	NA
Atkins 2002	Personal audit.
Azizi 1999	Subject.
Baart 2000	Type article
Baca-Garcia 2004	NA
Baccetti 1998	NA
Baccetti 1998	Possible bias material
Bacetti 2001	Systematic review exists
Baccetti 2007	OM 25
Barton 1997	Cochrane review exists on this subject.
Baumrind 1996	Outcome not of interest
Baumrind 1996	OM 28, NA
Bearn 1996	Subject.
Becker 2001	Country Israel
Beckwith 1999	Subject
Beglin 2001	Type article
Benkert 1997	Cochrane review exists on this subject.
Bennett 2001	Subject.
Berger 2005	Subject
Bergström 1997	Material
Berk 2002	Method unclear
Berset 2000	Material : Age patients.
Bets 1999	Country Malta
Bierenbroodspot 2002	Subject. Adult patient.
Bimler 1987	Subject.
Binda 1994	Cochrane review exists on this subject.
Birkeland 1997	Subject
Birkeland 1997	Material
Bishara 1992	NA
Bishara 1995	Cochrane review exists
Bishara 1998	No outcome of interest & type article
Bishara 1999	Cochrane review exists on this subject.
Bjerklin 1995	Cochrane review exists on this subject.
Bjerklin 2000	Cochrane review exists on this subject.
Bolhuis 1999	Subject
Bondemark 2007	Cochrane review exists on this subject
Bongaarts 2004	No scope of this study
Bos 2005	Subject
Bowden 1994	OM 61 NA
Bowman 1998	Cochrane review exists on this subject.
Bousaba 2002	Subject
Breuning 2004	Subject
Brook 1989	Type article
Brouwer 1988	Case report
Brown 1986	No outcome of interest
Brown 1987	NA
Brown 2005	Subject
Buchenau 2007	Subject
Burch 1994	Case report.
Burden 1995	Type article
Burden 1998	Cochrane review exists on this subject.

Burden 1999	Cochrane review exists on this subject.
Burden 1999	Subject
Burden 2001	Pilot study
Cadman 2002	Subject
Caldwell 1999	Cochrane review exists on this subject.
Caminiti	OM 80 NA
Carvalho 2007	Subject
Cassinelli 2003	Subject
Castelein 2006	Subject
Castelein 2006	Subject
Chadwick 2007	Cochrane review exists
Chaushu 2004	Review
Chi 2000	New Zealand
Chi 2000	New Zealand
Chung 1987	NA
Cohen 1997	Subject.
Cook 2005	Subject.
Cooper 2000	Subject.
Coyne 1999	Method: telephone survey
Cozza 2004	Cochrane review exists on this subject.
Cozza 2004	Method unclear
Cozza 2006	Method unclear
Cozza 2007	Method
Crescini 2007	Subject
Cunningham 2000	Subject
Cunningham 2002	Subject
Currier 1991	Method unclear
Dann 1995	Cochrane review exists on this subject.
Danyluk 1999	Canada
da Silva 2004	Subject.
Daw 2004	Schisis method
De 2004	Subject
Dean 2005	Subject
Dearing 2007	Report of symposium
Delaire 1997	Personal review and systematic reviews exist
De Oliveira 2003	No outcome of interest
Dewinter 2003	Subject
Dhanrayani 2002	NA
Di Biase 1998	Type article
Di Biase 2001	Narrative review
Doll 2000	Subject
Donahue 2004	A preliminary prospective investigation
Dugoni 1998	Case report
Dujarric 1989	Subject
Durward 2000	Study design
Duterloo 1998	Cochrane review exists on this subject.
Duterloo 2000	Subject
Dyken 2001	Material
Egolf 1990	Cochrane review exists on this subject.
Ellis 2002	Subject
Espeland 1992	Not outcome of interest
Evans 2004	Type article
Farge 2001	Type article
Felton 1998	NA
Ferguson 1997	NA
Ferguson 2006	Type article
Ferguson 1995	Cochrane review exists on this subject.
Fernandes 1999	Subject

Ferris 2005	Subject
Fogle 2004	Cochrane review exists on this subject.
Follin 1994	Cochrane review exists on this subject.
Fox 2000	Subject
Fox	Cochrane review exists on this subject.
Fox 1997	Subject
Frank 2002	Subject
Friede 1998	Type article
Gallagher 1998	Method unclear
Galloway 2002	Subject
Gardner 1998	Cochrane review exists on this subject.
Ghafari 1989	Subject
Ghem	NA
Ghiz 2005	Method unclear
Giddon 1995	Type article
Glendor 2001	Subject Provisional records
Green 1994	Subject
Gu 2005	Method unclear
Habibian 2003	Subject
Hamdan 2004	Jordania
Hancock 1996	Method unclear
Hannaksela 1977	Age article
Hansson 1998	Material: age patient
Harris 1993	Subject, age patient
Harzer 2000	Subject
Haynes 1974	Age article
Hedayati 2007	Method
Heidbuchel 1994	Subject
Heidbuchel 1997	Subject
Heidbuchel 2002	Subject
Hintze 1990	Subject
Holman 1998	Method unclear
Hong 2001	Country Australia
Hoppenreijis 1999	Method unclear
Horsley 2007	Subject
Hosseini 1999	Method
Howat 1993	Only description, no literature review
Hsieh 2005	Cochrane review exists on this subject.
Ingelsson-Dahlstrom 1994	Subject
Iramaneerat 1998	Subject.
Isaacson 1990	Subject
Jacobs 1996	Country Australia
Janson 2004	Cochrane review exists on this subject.
Jarvinen 2002	Subject
Jeffery 2001	No interest of outcome
Jerrold 1997	Subject
John 1994	No interest of outcome
Johnson 1998	Cochrane review exists on this subject.
Johnson 2000	Country : Australia
Johnson 2000	Country : New Zealand
Johnson 2007	Subject
Johnston 2006	Cochrane review exists on this subject.
Jokovic 2003	Subject
Jokovic 2006	No suitable outcomes, preliminary findings
Josefsson 2000	Subject
Josefsson 2005	Subject
Josefsson 2005	NA
Kahl-Nieke 1995	Cochrane review exists on this subject.

Josefsson 2005	NA
Kahl-Nieke 1995	Cochrane review exists on this subject.
Kahnberg 1987	Case reports
Kandasamy 2005	Subject
Kapp-Simon 2004	Material and method
Kapust 1998	Subject
Karaiskos 2005	Canada
Kavadia-Tsatala 2004	Subject
Keay 1993	Material & method
Keeling 1998	Cochrane review exists on this subject.
Kelly 1996	Subject.
Kenealy 1989	Method unclear
Kenealy 1991	Method unclear
Kerr 1993	Subject
Kerr 1996	Method unclear
Keruso 2002	Narrative review
Kiekens 1999	Subject
Kiekens 2006	Subject
Kim 2000	Cochrane review exists on this subject.
King 1990	Cochrane review exists on this subject.
King 1999	Cochrane review exists on this subject.
King 2003	Cochrane review exists on this subject.
King 2006	Subject
Kisely 1997	Method unclear
Kjellberg 1995	Material
Kjellberg 1998	Subject
Koch 1996	Cochrane review exists on this subject
Kok 2004	?
Kokich 1993	Subject
Kokich 2002	Cochrane review exists on this subject.
Konst 2004	Subject
Koochek 2001	Subject
Korbmacher 2007	Subject
Koroluk 2003	Cochrane review exists on this subject.
Kotilainen 1995	Subject
Kotsomitis 1997	NA
Koudstaal 2006	Subject
Kugel 2006	Subject
Kuijpers-Jagtman 2000	No scope of this study
Kuijpers-Jagtman 2000	Cochrane review exists on this subject.
Kuijpers-Jagtman 2005	No scope of this study
Kunkel 2006	Subject. Provisional record
Kurol 1992	Cochrane review exists on this subject.
Kurol 2002	NA
Laitinen 1992	Subject
Lang 2002	Cochrane review exists on this subject.
Lapatki 2004	Cochrane review exists on this subject.
Larsson 2005	Material : age patients
Lavelle 2002	Method unclear, no outcome of interest.
Layug 1996	Subject
Legovic 1999	Subject
Lenz 1999	Cochrane review exists on this subject.
Leonardi 2004	Cochrane review exists on this subject.
Lima Fihlo 2007	Cochrane review exists on this subject and Brazil.
Lindauer 1998	NA
Linder-Aronson 2002	NA
Lindner 1989	Cochrane review exists on this subject.
Lindsten 2000	Subject

Linklater 2002	Material: to many loss to follow up
Lippold 2002	Subject
Lippold 2003	Cochrane review exists on this subject
Littlewood 2006	Type article
Livas 2006	Cochrane review exists on this subject.
Lobb 1994	Subject
Locker 2007	Subject
Locker 2007	Subject
Louwerse 2006	NA OM 276
Ludwig 2007	Subject
Lupori 1997	Subject
Luppanapornlap 1993	Subject
Lyle 2000	Subject
Mandall 2004	Subject
Mandall 2006	Subject
Marci 2004	Subject
Marcovitch 2002	Country Venezuela
Marriott 2001	Subject
Marshman 2005	Subject
Maruko 2001	Subject
Mascarenhas 2005	Subject
Mattick 2004	Method unclear
Mavreas 1995	Subject
Mayers 2005	Subject
Mayo 1991	Subject
McCarthy 1999	Subject
McComb 1996	Subject
McFadden 1989	Material: no control group
McGuinness 1994	Type article: no literature review
McGorray 1999	NA
McMullan	Subject
McSherry 1998	NA
McSherry 2000	Cochrane review exists on this subject.
Meechan 2003	Subject
Melsen 1997	Cochrane review exists on this subject.
Mergen 2004	Cochrane review exists on this subject.
Mew 2003	Personal point of view
Mirabelli 2005	Subject
Mirabelli 2005	Cochrane review exists on this subject.
Mohlin 2003	Material
Mommaerts 2005	Cochrane review exists on this subject.
Monahan 2001	Subject
Moore 1997	Subject
Moorrees 1991	No outcome of interest
Morales 2000	Subject
Morris 2006	Material: Bias and method
Moskowitz 2005	Subject
Mouradian 1999	Personal point of view
Mouradian 1999	Subject
Musich 2007	Case report
Myrberg 1973	Age article
Nett 2005	Cochrane review exists on this subject.
Neyt 2002	Subject
Ngan 1997	Narrative review, no Cochrane checklist
Ngan 1998	Subject
Ngan 2000	Material: Chinese patients
Nurko 2004	Subject
O'Brien 1990	Subject

O'Brien 1992	Material
O'Brien 2001	Subject
O'Brien 2001	Na
O'Brien 2003	Cochrane review exists on this subject.
O'Brien 2003	Cochrane review exists on this subject.
O'Brien 2003	Cochrane review exists on this subject.
O'Brien 2006	Cochrane review exists on this subject.
O'Brien 1995	Cochrane review exists on this subject.
O'Connor 2000	Material
O'Dowling 1985	Method
O'Hanrahan 2007	Material
Oliveira de 2003	Type article
Opperhuizen 1997	Subject
O'Regan 1991	Material
Ormiston 2005	NA
Otuyemi 1995	Type article
Owman-Moll 1995	Method unclear
Pancherz 1997	Cochrane review exists on this subject.
Pangrazio-Kulbersh 1999	Subject
Panula 2002	Provisional record
Paquette 1992	Cochrane review exists on this subject.
Parker 1998	Outcome not of interest
Patel 2002	Cochrane review exists on this subject.
Prahl 2001	No scope of this study
Prahl 2006	No scope of this study
Peck 1995	NA
Peck 1998	NA
Pelosse	Type article
Permert 1998	Provisional record
Perlyn 2002	Subject
Petersen 1998	Material
Petrone 2003	Subject
Pietila 1998	Subject
Pinto 2000	Country Australia
Pirttiniemi 2005	Cochrane review exists on this subject.
Plunkett 1997	Personal point of view
Plunkett 1998	Subject
Poulton 2005	Subject
Poulton 2002	Subject
Prahl 2005	Subject
Prahl 2006	NA
Prahl-Andersen 1973	Age article
Prahl-Andersen 2000	Subject
Prove 1997	Australia
Quirynen 2000	Subject

Radnizic 2002	Subject
Redahan 2003	Subject
Remmelink 1997	Cochrane review exists on this subject.
Remmelink 2006	Subject
Richardson 1999	Subject
Richardson 2000	Country Canada
Richardson 2001	Subject
Richmond 1992	Possible bias of sample
Richmond 1995	Subject
Richmond 1997	Material and method unclear
Richmond 2001	Material and method unclear
Richmond 2001	Subject
Richmond 2004	Subject
Richter 1999	Subject
Rinchuse 2006	Type of article
Rizell 2006	Cochrane review exists on this subject.
Roberts-Harry 2003	Type article no systematic review
Roberts-Harry 2004	Type article no systematic review
Roghoebar 2004	Material and method
Rosenstein 2002	Method unclear
Rukin 2001	Case report
Rupp 1995	Material and method unclear
Russell 1999	Subject
Russell 2001	Case report
Russell 2003	Subject
Ryan 2000	Subject
Sadowsky 1998	Type of article
Salyer 2004	Subject
Sameshima 1997	Subject
Sandy 1998	Method unclear
Savastano 2003	Method unclear
Scheuer 2001	Material
Schnyder 1999	Cochrane review exists on this subject.
Schopf 1989	Subject
Schuster 2003	Subject
Schuster 2005	Age patient
Schutz-Fransson 2006	Systematic review exists on this subject.
Semb 1999	Subject
Semb 1999	Subject
Sergl 2000	Subject
Severens 1998	Subject
Sfondrini 2001	Type article
Shah 2003	Cochrane review exists on this subject.
Shaw 1991	(OM 419) Method unclear
Shaw 1991	(OM 418) Method unclear
Shaw 1991	Overview of R/ need indices & R/stand.
Shaw 1995	Conference proceeding
Shell 2003	Cochrane review exists on this subject.
Shue-Te 2000	Outcome unclear
Skidmore 2006	Australia
Song 2000	Cochrane review exists on this subject.
Speidel 1994	Subject
Stahl 2002	Subject
Stahl 2003	Material and method unclear
Stahl 2004	Subject
Stahl 2005	Subject
Stenvik 1997	Subject
Strobel-Schwartoff 2002	Subject

Strobel-Schwartoff 2002	Subject
Stewart 1997	Subject
Stivaros 2000	Subject
Stivaros 2000	Subject
Stormann 2002	Cochrane review exists on this subject.
Sugawara 1997	Material: Japanese patients
Svedstrom-Oristo 2003	Subject
Tarvit 1998	Type article
Tausche 2004	Epidemiological study
Taylor 1993	Method unclear
Taylor 1994	Type article
Taylor 1998	NA
Teh 2000	Subject
Templeton 2006	Subject
Theis 2004	Material & method
Thind 2005	Type article
Thomas 1995	Subject
Thomas 1998	Subject
Thomson 2002	New Zealand
Thomson 1998	Subject
Tollaro 1996	Meta analysis exists on this subject.
Trankmann 2001	Type article . Systematic review exists on this subject.
Trenouth 2003	Subject
Trulsson 2002	Subject
Tsakos 2006	Thailand
Tsarapatsani 1999	Cochrane review exists on this subject.
Tucker 1995	Subject
Tulloch 1997	Cochrane review exists on this subject.
Tulloch 1997	Cochrane review exists on this subject.
Tulloch 1999	Cochrane review exists on this subject.
Tulloch 2004	Cochrane review exists on this subject.
Tung 1998	Subject
Turbill 1994	Subject
Turbill 1996	Subject
Turbill 2001	Outcome not of interest
Turner 1993	Subject
Turpin 2007	Editorial
Valmaseda-Castellon 1999	Material : adult patient
van Strijen 2003	Subject
Varela 1995	Material: adult patient
Vehmanen 1997	Subject
Vetlesen Westwood 2002	Cochrane review exists on this project
Vig 1998	Material
Von 2002	Cochrane review exists on this subject.
Wagner 2000	Subject
Waldman 2006	Subject
Watts 1994	Personal point of view
Weaver 1998	Subject
Webster 1996	Subject
Weeks 1996	Type article
Weerakome 2003	Subject
Weinberg 1996	Type article

Wellfelt 1988	Subject
Wells 2006	Material and method
Wes 1992	Type article
Westling 1998	Subject
Westwood 2003	Case control study
Wheeler 1994	Material and method
Wheeler 2002	Cochrane review exists on this subject.
White 2001	Personal point of view
Wholley 2003	Subject
Wiechmann 2007	Age patient, material
Wijayaratne 2000	Cochrane review exists on this subject.
Willems 2001	Material and method
Williams 1996	Eurocleft study exists
Willmot 1995	Subject
Wilson 1999	Subject
Witt 1996	Subject
Witt 1991	Subject
Wong 2004	Subject Provisional record
Woods 2000	Material and method
Woolass 1988	Material and method
Wright 1990	Case report
Yang-Powers 2002	Subject
Yilmaz 2000	Case report
Zetner 2001	Material: no control group
Zetner 2003	Cochrane review exists on this subject.
Zierhut 2000	Cochrane review exists on this subject.

Figure 1: Lateral view of a Class I malocclusion:

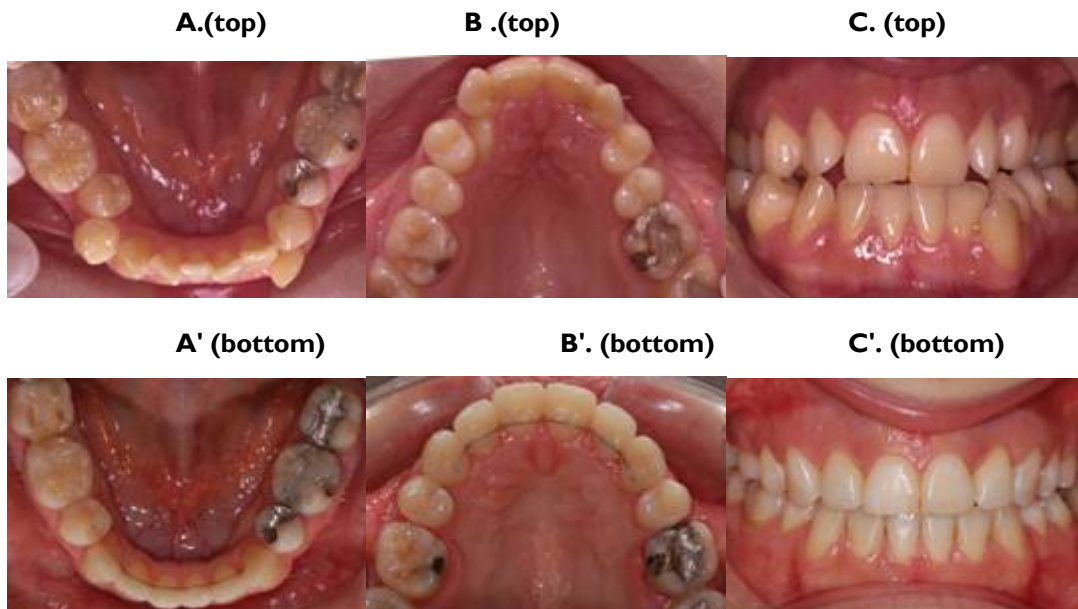
prior to treatment with crowding in upper and lower canine area: the upper right canine erupts in an ectostemic position and the lower canine is still impacted (buccal swelling of the gingiva); B. during treatment with fixed appliances and after the extraction of the 4 first premolars to provide space to move the canines into the dental arch; C. after active treatment, the brackets are removed and the palatal retainer is put in place.



Source: Orthodontic Clinic UZ St Rafaël

Figure 2: Occlusal view of A.(top)

the lower dental arch prior to treatment: shows extreme crowding with completely blocked out left lower canine and lingually inclined second premolar A'. (bottom) the same patient after treatment, with the lingual retainer in place; B. (top). the upper dental arch prior to treatment: shows extreme crowding with palatal impaction of the upper left canine (swelling in the palate and with palatal eruption of the right upper canine B'. (bottom) the same patient after treatment with fixed appliances and after the extraction of the 4 first premolars to provide space to move the canines into the dental arch; retention is performed with palatal retainer; C.(top) frontal view of the occlusion before orthodontic treatment; C'. (bottom) same view of the occlusion after the active treatment, with the palatal and lingual retainers in place.



ORTHODONTIC INDICES

IOTN index (Index of Orthodontic Treatment Need)

Consists of 2 components

- 1.1 The Dental Health Component (DHC)
- 1.2 The Aesthetic Component (AC)

1.1 The Dental Health Component

Grade 1 : No treatment required

1. Extremely minor malocclusions, including displacements less than 1 mm

Grade 2 : Little treatment need

- 2.a Increased overjet > 3,5 mm but < 6 mm (with competent lips)
- 2.b Reverse overjet > 0 mm but ≤ 1 mm
- 2.c Anterior or posterior crossbite with ≤ 1 mm discrepancy between retruded contact position and intercuspal position
- 2.d Displacement of teeth > 1 mm but ≤ 2 mm
- 2.e Anterior or posterior open bite > 1 mm but ≤ 2 mm
- 2.f Increased overbite ≥ 3,5 mm (without gingival contact)
- 2.g Prenormal or postnormal occlusions with no other anomalies. Includes up to half a unit discrepancy.

Grade 3 : Borderline treatment need

- 3.a Increased overjet > 3,5 mm but ≤ 6 mm (incompetent lips)
- 3.b Reverse overjet > 1 mm but ≤ 3,5 mm
- 3.c Anterior or posterior crossbites with > 1 mm but ≤ 2 mm discrepancy between the retruded contact position and intercuspal position
- 3.d Displacement of teeth > 2 mm but ≤ 4 mm
- 3.e Lateral or anterior open bite > 2 mm but ≤ 4 mm
- 3.f Increased and incomplete overbite without gingival or palatal trauma

Grade 4 : Treatment need

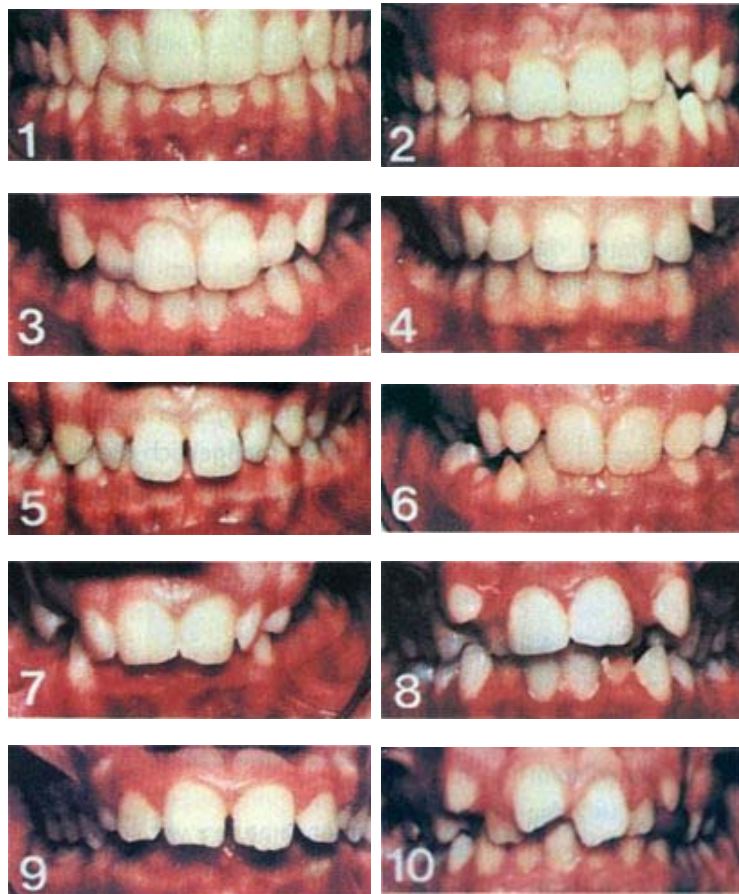
- 4.a Increased overjet > 6 mm but ≤ 9 mm
- 4.b Reverse overjet > 3,5 mm with no masticatory or speech difficulties
- 4.c Anterior or posterior crossbites with > 2 mm discrepancy between the retruded contact position and intercuspal position
- 4.d Severe displacements of teeth > 4 mm
- 4.e Extreme lateral or anterior open bites > 4 mm
- 4.f Increased and complete overbite with gingival or palatal trauma
- 4.h Less extensive hypodontia requiring pre-restorative orthodontics or orthodontic space closure or obviate need for a prothesis
- 4. l Posterior lingual crossbite with no functional occlusal contact in one or more buccal segments
- 4.m Reverse overjet > 1 mm but ≤ 3,5 mm with recorded masticatory and speech difficulties
- 4.t Partially erupted teeth, tipped and impacted against adjacent teeth
- 4.x Existing supernumerary teeth

Grade 5 : High treatment need

- 5.a Increased overjet > 9 mm
- 5. h Extensive hypodontia with restorative implications (more than one tooth missing in any quadrant requiring pre-restorative orthodontics)
- 5.i Impeded eruption of teeth (excluded the 3 rd molars) due to crowding, displacement, the presence of supernumerary teeth, retained deciduous teeth, and any pathological cause
- 5.m Reverse > 3,5 mm with reported masticatory and speech difficulties
- 5.p Defects of cleft lip and palate
- 5.s Submerged deciduous teeth

1.2 Aesthetic Component

- **Grade 1** = most aesthetic arrangement of the Dentition
- **Grade 10** = least aesthetic arrangement of the Dentition
- **Grade 1-4** = little or no treatment required
- **Grade 5-7** = moderate or borderline treatment required
- **Grade 8-10** = treatment required



Source: Brook PH, Shaw WC 1989. The development of an index of orthodontic treatment priority. European Journal of Orthodontics 11: 309-320

2. PAR Index

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APPENDIX D: THE PAR INDEX

I. GUIDELINES FOR THE PAR INDEX (PEER ASSESSMENT RATING INDEX)

A. Introduction

The Peer Assessment Rating Index, or PAR Index, is a quantitative, objective method for measuring malocclusion and the efficacy of orthodontic treatment. The PAR Index provides a single score, based on a series of measurements, that represents the degree to which a case deviates from normal alignment and occlusion. The average time to record the PAR Index score is approximately five minutes.

THE FIVE COMPONENTS OF THE PAR INDEX

- Upper and Lower Anterior Segments
- Left and Right Buccal Occlusion
- Overjet
- Overbite
- Centerline

B. Components of the PAR Index

1. Upper and Lower Anterior Segments

Record scores for both upper and lower anterior segments from the mesial contact point of the right cuspid to the mesial contact point of the left cuspid. Record crowding, spacing, and impacted teeth. Contact point displacement equals the shortest distance between contact points of adjacent teeth. The greater the contact point displacement, the greater the score. A tooth is impacted if the space between adjacent tooth is less than or equal to 4mm. Sum the scores for contact displacements, ectopic teeth, and impacted teeth to give the overall score for each anterior segment. **Please Note:** The PAR Index Recording Form contains a section for recording the clinical widths of the maxillary and mandibular right central incisors. This will account for any photographic enlargement on the occlusal photographic views.

Upper and Lower Anterior Segments	
Score	Displacement
0	0 to 1mm
1	1.1mm to 2mm
2	2.1mm to 4 mm
3	4.1mm to 8mm
4	greater than 8mm
5	impacted teeth

2. Left and Right Buccal Occlusion

Left and right buccal occlusion concerns the fit of the teeth recorded in three planes of space. With the teeth in occlusion, the recording zone is from the canine to the last molar, either first, second, or third. Sum the antero-posterior, vertical, and transverse for each buccal segment. Exclude transitional stages and submerging deciduous teeth.

Antero-Posterior Score	Vertical Score	Transverse Score
0 Good interdigitation, Class I, II, or III	0 No open bite	0 No crossbite
1 Less than half unit from full interdigitation	1 Lateral open bite on at least two teeth (not partial eruption)	1 Crossbite tendency
2 Half a unit (cusp to cusp)		2 Single tooth crossbite
		3 More than one tooth in crossbite
		4 More than one tooth in scissor bite

3. Overjet

Record positive overjet and anterior crossbite for all incisor teeth. Record the most prominent incisor. Record canine crossbites in overjet assessment.

Overjet Score	Anterior Crossbite Score
0 0 to 3mm	0 No crossbite
1 3.1 to 5mm	1 One or more teeth edge to edge
2 5.1 to 7mm	2 One single tooth in crossbite
3 7.1 to 9mm	3 Two teeth crossbite
4 over 9mm	4 More than two teeth in crossbite

4. Overbite and Open Bite

Record the greatest overlap or open bite of any of the incisors.

Open Bite Score	Overbite Score
0 No open bite	0 Less than or equal to one third coverage of the lower incisor
1 Open bite less than or equal to 1mm	1 Greater than 1/3 but less than 2/3 coverage of the lower incisor
2 Open bite 1.1 to 2mm	2 Greater than 2/3 coverage of the lower incisor
3 Open bite 2.1 to 3mm	3 Greater than or equal to full tooth coverage
4 Open bite greater than or equal to 4 mm	

5. Centerline Assessment

Record the difference between upper and lower midline in relation to the lower midline.

Centerline	
Score	
0	Coincident and up to $\frac{1}{4}$ lower incisor width
1	$\frac{1}{4}$ to $\frac{1}{2}$ lower incisor width
2	Greater than $\frac{1}{2}$ lower incisor width

C. Additional Clinical Information

1. General

- a. All scoring is cumulative.
- b. There is no maximum cutoff level.
- c. Do not record increased overjet or contact point displacements associated with poor restorative work.
- d. Do not record contact points between deciduous teeth and between deciduous and permanent teeth.
- e. **Do not record spaces** if the patient is to receive prosthesis.

2. Canines

Record ectopic canines that have erupted into the palate as anterior crossbite in the overjet section.

3. Impactions

If a tooth is unerupted due to insufficient space or is ectopic, record it as impacted.

4. Incisors

- a. Record anterior spacing from extraction, agenesis, or avulsion of incisors or canines as follows:
 - i. If orthodontic space closure is appropriate, record the space.
 - ii. If increasing the space for prosthesis, record if space is less than or equal to 4mm.
 - b. Estimate the lower midline when lower incisor is missing or extracted.
-

D. Weightings

Various degrees of importance have been attached to the five major components of the PAR Index. Multiply the individual scores for each PAR-Index component by the weightings in the following chart and then total them to establish the weighted score.

Components	Weightings
1. Upper and lower anterior segments	x1
2. Left and right buccal occlusions	x1
3. Overjet	x6
4. Overbite	x2
5. Centerline	x4

E. Exceptional Cases

Part II of the Orthodontics Prior Authorization Form (DEN-002) is available to record information regarding exceptional cases where the PAR Index score does not reflect the overall severity of the patient's condition due to the presence of other severe deviations. In such cases, if the severe deviations are left untreated, irreversible damage to the teeth and underlying structures would occur. Examples of such deviations include the presence of clefts and facial asymmetry.

F. Recordkeeping

A copy of the PAR Index Recording Form must be kept in the patient's dental record.

G. Dental Models

The PAR Index is usually utilized in conjunction with dental models. The Division is not requiring models at this time. The cooperation of orthodontists in submitting high quality photographic prints is paramount to ensure that use of the PAR Index is effective and that models remain unnecessary. Models will only be requested when there is a significant disparity between a provider's recorded score and that of the Division's consultant.

H. PAR Index Ruler

The PAR Index Ruler, an aid for taking PAR Index measurements, can be ordered for a small fee from:

ORTHO-CARE (UK) Limited
3 Oxford Place
Bradford, West Yorkshire BD3 0EF
England
Telephone: #44 (0) 274-392017
Fax: #44 (0) 274-734446

II. GUIDELINES FOR PHOTOGRAPHIC PRINTS

A. Photographic Prints

Orthodontists must submit photographic prints rather than slides. Slides do not provide the clarity required to review PAR-Index measurements.

1. The photographic prints must be exposed with the patient's face clearly discernible.
2. Mount photographic prints in clear plastic mounts, indicating the provider and patient names and the date on the photographic prints.
3. Dental auxiliaries who take photographs must review these guidelines.

B. Lateral Views

Lateral views must be taken with sufficient soft tissue retraction to expose the buccal dentition. The use of pedodontic-size lip retractors facilitates sufficient soft tissue retraction. The antero-posterior relationship must be evaluated from photographs. **The lateral view should be taken as close to ninety degrees to the plane of the buccal dentition as possible.** If necessary, use a mirror.

C. Occlusal Views

Occlusal views must be taken with a mirror. Retract so that the soft tissue of the lower lip does not cover the lower incisors. Try to include as many teeth as possible. Division staff will make contact point measurements on the photographic prints. **Be sure to measure the clinical widths of the maxillary and mandibular right central incisors, and enter the measurements on the PAR Index Recording Form.**

3. Index of Complexity, Outcome and Need (ICON)

Practical use of the index to assess treatment need

To use the index to assess treatment need the pre-treatment study models are examined and occlusal traits are scored according to the protocol below. The five occlusal trait scores are then multiplied by their respective weightings and summed (Table 1). If the summary score is greater than 43, treatment is indicated.

Table 1: ICON index variables, weightings and cut-off points for treatment need and outcome decisions.

Occlusal trait	ICON index weighting
IOTN Aesthetic Component	7
Left + right buccal	3
Antero-posterior upper arch crowding	5
Overbite	4
Crossbite	5
Treatment need cut-off	43
Treatment outcome cut-off	31

Practical use of the index to assess treatment outcome acceptability

To assess treatment outcome, apply the index scoring method to the post-treatment models only. If the summary score is less than 31 the outcome is acceptable.

Practical use of the index to assess treatment complexity

To assess treatment complexity, a five-point scale is used via the cut points for the 20 percentile intervals, using the ranges given in Table 2 from the pre-treatment models.

Table 2: ICON index complexity cut-off values

Complexity grade	Score range
Easy	Less than 29
Mild	29 to 50
Moderate	51 to 63
Difficult	64 to 77
Very difficult	Greater than 77

Practical use of the index to assess the degree of improvement

To assess the degree of improvement multiply the post-treatment score by 4, and subtract the result from the pre-treatment score. Use the ranges in Table 3 to assign a grade.

When the index is used to assess treatment outcomes, it is assumed that an appropriate level of co-operation was obtained from the patient. The index may require confirmation of the presence of teeth using radiography. Except for the aesthetic assessment, occlusal traits are not scored to deciduous teeth unless they are to be retained in the permanent dentition to obviate the need for a prosthetic replacement, for example when the permanent tooth is absent.

The index contains five components all of which must be scored.

Table 3: Pre-treatment- 4 (Post-treatment) ICON index score ranges, for ratings of treatment improvement

Improvement grade	Score range
Greatly improved	> -1
Substantially improved	-25 to -1
Moderately improved	-53 to -26
Minimally improved	-85 to -54
Not improved or worse	< - 85

Dental aesthetics

The dental aesthetic component of the IOTN6 is used. The dentition is compared with the illustrated scale and a global attractive-ness match is obtained without attempting to closely match the malocclusion to a particular picture on the scale (Fig. 5). The scale works best in the permanent dentition.

The scale is graded from 1 for the most attractive to 10 for the least attractive dental arrangement. Once this score is obtained it is multiplied by the weighting of 7.

Crossbite

A normal transverse relationship in the buccal segments is observed when the palatal cusps of the upper molar and premolar teeth occlude preferably into the occlusal fossa of the opposing tooth or at least between the lingual and buccal cusp tips of the opposing tooth. Crossbite is deemed to be present if a transverse reaction of cusp to cusp or worse exists in the buccal segment.

This includes buccal and lingual crossbites consisting of one or more teeth with or without mandibular displacement

In the anterior segment a tooth in crossbite is defined as an upper incisor or canine in edge to edge or lingual occlusion.

Where a crossbite is present in the posterior or anterior segments or both, the raw score of 1 is given which is multiplied by the weighting of 5.

Where there is no crossbite the score for this trait is zero.

Anterior vertical relationship

This trait includes both open bite (excluding developmental conditions) and deep bite. If both traits are present only the highest scoring raw score is counted. Positive overbite is measured at the deepest part of the overbite on incisor teeth. Scoring protocol is given in Table 1

Open bite may be measured with an ordinary millimetre rule to the mid-incisal edge of the most deviant upper tooth. Multiply the raw score obtained by 4.

Retained deciduous teeth (i.e. without a permanent successor) and erupted supernumerary teeth should be scored as space unless they are to be retained to obviate the need for prosthesis. In transitional stages average canine and premolar widths can be used to estimate the potential crowding. Suggested averages are 7 mm for premolar and lower canine and 8mm for upper canine. The presence of erupted antimeric teeth allows more accurate estimation for this purpose. Spacing due to teeth lost to trauma and exodontia is also counted.

Post-treatment spaces created to allow prosthetic replacements should match the antimeric tooth width. Discrepancy between such spaces and the antimeric tooth can be counted as excess spacing or crowding, whichever is appropriate. The use of the index to assess spacing in relation to retained deciduous teeth demands that the fate of the deciduous teeth is known before the index can be applied. Once the raw score has been obtained it is multiplied by the weighting 5.

Upper arch crowding/spacing

This variable attempts to quantify the tooth to tissue discrepancy present in the upper arch or the presence of impacted teeth in both arches.

The sum of the mesio-distal crown diameters is compared with the available arch circumference, mesial to the last standing tooth on either side. This may require the use of a millimetre rule for accuracy, but with practice can be estimated by eye with reasonable accuracy.

No estimation is made to account for the curve of Spee or the degree of incisor inclination. Once the crowding/spacing discrepancy has been worked out in millimetres it is reduced on to the ordinal scale using the categories shown in Table 4.

Note that an impacted tooth in either the upper or lower arch immediately scores the maximum for crowding. A tooth must be unerupted to be defined as impacted.

An unerupted tooth is defined as impacted under the following conditions:

1. If it is ectopically placed or impacted against an adjacent tooth (excluding third molars but including supernumerary teeth).
2. when less than 4mm of space is available between the contact points of the adjacent permanent teeth.

Buccal segment antero-posterior relationship

The scoring zone includes the canine premolar and molar teeth. The antero-posterior cuspal relationship is scored according to the protocol given in Table 4 for each side in turn. The raw scores for both sides are added together and then multiplied by the weighting 3.

Derivation of the final score

Once all of the raw scores have been obtained and multiplied by their respective weights, they are added together to yield a single weighted summary score for a particular cast

Table I: Protocol for occlusal trait scoring

	SCORE	0	1	2	3	4	5
Aesthetic	1-10 as judged using SCAN						
Upper arch crowding	Score only the highest trait either spacing or crowding	<2mm	2.1mm-5mm	5.1-9mm	9.1-13mm	13.1-17mm	>17mm or impacted teeth
Upper spacing		Up to 2mm	2.1mm-5mm	5.1-9mm	>9mm		
Crossbite	Transverse relationship of cusp to cusp or worse	No crossbite	Crossbite present				
Incisor open bite	Score only the highest trait either open bite or overbite	Complete bite	<1mm	1.1mm-2mm	2.1-4mm	>4mm	
Incisor overbite	Lower incisor coverage	Up to 1/3 tooth	1/3-2/3 coverage	2/3 up to full covered	Fully covered		
Buccal segment antero-posterior	Left and right added together	Cusp to embrasure relationship only, Class I, II or III	Any cusp relation up to but not including cusp to cusp	Cusp to cusp relationship			

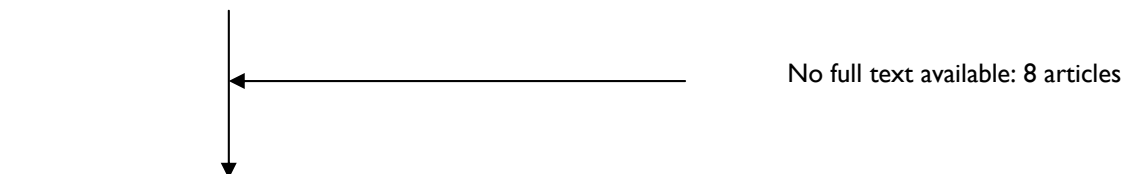
APPENDIX TO CHAPTER 3

FLOW-CHART SEARCHES OVID, COCHRANE AND EMBASE

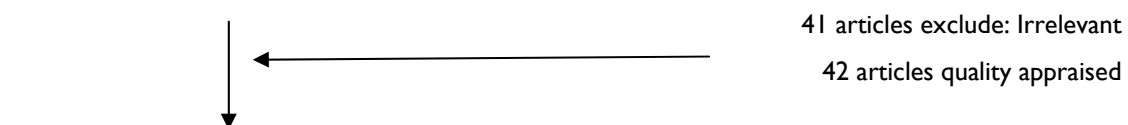
1558 articles found by search strategy



91 possibly relevant articles



83 articles retrieved in full text

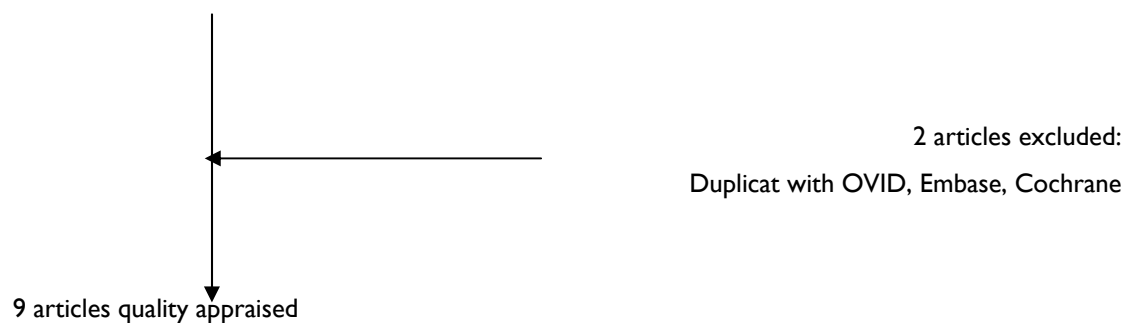


FLOW-CHART SEARCHES CRD

62 articles found by search strategy



11 articles retrieved in full text



SOME PICO'S FOR THE ORGANIZATION AND FINANCING LITERATURE RESEARCH ON ORTHODONTICS

PICO's: organisatie en financiering van de orthodontie					
Organisatie van de orthodontie			Orthodontie en kosten		
1	P	All ages	12	P	All ages
	I	Orthodontic(s)		I	Orthodontic(s)
	C	No orthodontic(s)		C	No orthodontic(s)
	O	Health planning		O	Cost
2	P	All ages	Orthodontie en administratie		
	I	Orthodontic(s)			
	C	No orthodontic(s)	13	P	All ages
	O	Organization		I	Orthodontic(s)
3	P	All ages		C	No orthodontic(s)
	I	Orthodontic(s)		O	Administration
	C	No orthodontic(s)	Financiering van de orthodontie		
	O	Organizations			
4	P	All ages	14	P	All ages
	I	Orthodontic(s)		I	Orthodontic(s)
	C	No orthodontic(s)		C	No orthodontic(s)
	O	State Dentistry		O	Financing
5	P	All ages	Orthodontie en economie		
	I	Orthodontic(s)			
	C	No orthodontic(s)	15	P	All ages
	O	Quality of health care		I	Orthodontic(s)
6	P	All ages		C	No orthodontic(s)
	I	Orthodontic(s)		O	Economics
	C	No orthodontic(s)	16	P	All ages
	O	organization and administration		I	Orthodontic(s)
7	P	All ages		C	No orthodontic(s)
	I	Orthodontic(s)		O	health care economics
	C	No orthodontic(s)	Orthodontie en gedrag		
	O	Delivery of health care			
8	P	All ages	17	P	All ages
	I	Orthodontic(s)		I	Orthodontic(s)
	C	No orthodontic(s)		C	No orthodontic(s)
	O	Health services		O	Behavior
9	P	All ages	18	P	All ages
	I	Orthodontic(s)		I	Orthodontic(s)
	C	No orthodontic(s)		C	No orthodontic(s)
	O	Technology assessment, biomedical		O	patient compliance
Wetgeving en orthodontie			19	P	All ages
				I	Orthodontic(s)
10	P	All ages		C	No orthodontic(s)
	I	Orthodontic(s)		O	patient refusal
	C	No orthodontic(s)	20	P	All ages
	O	Legislation		I	Orthodontic(s)
Orthodontie en terugbetaling				C	No orthodontic(s)
				O	Treatment refusal
11	P	All ages	21	P	All ages
	I	Orthodontic(s)		I	Orthodontic(s)
	C	No orthodontic(s)		C	No orthodontic(s)
	O	Reimbursement		O	Consumer satisfaction
			22	P	All ages
				I	Orthodontic(s)
				C	No orthodontic(s)
				O	Patient perception

DENSITY OF PRACTITIONERS

FRANCE

Density of dentists

The total number of dentists registered in 2006 was 37 000 on a total estimated population of 63.2 million in 2006. In 2006 the population per dentist was 1 708 to 1. See section for an international comparison of density rates and appendix of chapter 3 for details

Density of orthodontists

The total number of orthodontists registered in 2006 was 2 000. The ratio orthodontist to population was 1 to 31 600.

GERMANY

Density of dentists

The total number of dentists registered in 2006 was 81 792^a on a total estimated population of 82.3 million in 2006^b. In 2006 the population per dentist was 1 006 to 1. See section for an international comparison of density rates and appendix of chapter 3 for details

Density of orthodontists

The total number of orthodontists registered in 2006 was 3 881. In 2006 the ratio orthodontists to population was 1 to 21 206.

UK

Density of dentists

The total number of dentists registered in 2006 was 25 000 on a total estimated population of 60.6 million in 2006. In 2006 the population per dentist was 2 424 to 1.

There were 20 748 NHS dentists (including orthodontists) on open contract (NHS + private patients) in England in 2006. The population per NHS dentist was 2 921 to 1.^c See section for an international comparison of density rates and appendix of chapter 3 for details.

Density of orthodontists

The total number of orthodontists registered in 2006 was 1 300 on a total estimated population of 60.6 million in 2006. The ratio orthodontist to population was 1 to 46 615.

THE NETHERLANDS

Density of dentists (scient sum 3.6.2)

The total number of dentists registered in 2006 was 8 034 on a total estimated population of 16.3 million in 2006. In 2006 the population per dentist was 2 028 to 1.

The total number of dentists registered in 2007 was 8 113 on a total estimate population of 16.4 million in 2007. In 2007 the population per dentist was 2 021 to 1.^d

The estimated number of dental practices in 2007 is 5 500.

^a Zahnärztliche Versorgung Daten & Fakten 2006, <http://www.bzaek.de/list/press/datenfakten/df2006.pdf>, november 2007

^b Bevölkerungsstand, <http://www.destatis.de/jetspeed/portal/cms/Sites/destatis/Internet/DE/Navigation/Statistiken/Bevoelkerung/Bevoelkerungsstand/Bevoelkerungsstand.psml>, november 2007

^c NHS Dental Statistics for England: 2006/7, www.ic.nhs.uk/webfiles/publications/dental0607, November.

^d "Hoe is de mondzorg georganiseerd?", http://www.rivm.nl/vtv/object_document/o5550n20334.html, november 2007

See section for an international comparison of density rates and appendix of chapter 3 for details

Density of orthodontists

The total number of orthodontists registered in 2006 was 273. In 2006 the ratio orthodontists to population was 1 to 59 707

The total number of orthodontist registered in 2007 was 294. In 2007 the ratio orthodontists to population was 1 to 55 782.^e

USA

Density of dentists

The total number of dentists registered in 2006 was 173 574 on a total estimated population of 296 million in 2006. In 2006 the population per dentist was 1 705 to 1. See section for an international comparison of density rates and appendix of chapter 3 for details

Density of orthodontists

The total number of orthodontists registered in 2006 was 9 400 on a total estimated population of 296 million in 2006. The ratio orthodontist to population was 1 to 31 498.

SWEDEN

Density of dentists

The total number of dentists registered in 2006 was 7 300 on a total estimated population of 9.1 million^f in 2006. In 2006 the population per dentist was 1 248 to 1. See section for an international comparison of density rates and appendix of chapter 3 for details.

Density of orthodontists

The total number of orthodontists registered in 2006 was 170. In 2006 the ratio orthodontists to population was 1 to 53 529.

SWITZERLAND

Density of dentists

The total number of dentists registered in 2002 was 4 250 on a total estimated population of 7.3 million in 2002. In 2002 the population per dentist was 1 718 to 1. {Kravitz, 2004 #108} See section for an international comparison of density rates and appendix of chapter 3 for details.

Density of orthodontists

The total number of orthodontists registered in 2006 was 200 on a total estimated population of 7.5 million in 2006. The ratio orthodontist to population was 1 to 37 500.

^e "Hoe is de mondzorg georganiseerd?", http://www.rivm.nl/vtv/object_document/o5550n20334.html, november 2007

^f http://www.scb.se/templates/tableOrChart_26041.asp, november 2007.

ORTHODONTIC FEES IN GERMANY

Table 5: orthodontic fees 2002, Bayern^g

G. Kieferorthopädische Leistungen

Nr.	Leistung	Punktzahl	Gebühr in €		
			1-fach	2,3-fach	3,5-fach
600	Profil- oder Enfacefotografie einschließlich kieferorthopädischer Auswertung	80	4,50	10,35	15,75
601	Anwendung von Methoden zur Analyse von Kiefermodellen (dreidimensionale, graphische oder metrische Analysen, Diagramme)	180	10,12	23,27	35,42
602	Anwendung von Methoden zur Untersuchung des Gesichtsschädels (zeichnerische Auswertung von Röntgenaufnahmen des Schädels, Wachstumsanalysen)	360	20,25	46,57	70,87
603	Maßnahmen zur Umformung eines Kiefers einschließlich Retention, geringer Umfang	1350	75,93	174,63	265,75
604	Maßnahmen zur Umformung eines Kiefers einschließlich Retention, mittlerer Umfang	2100	118,11	271,65	413,38
605	Maßnahmen zur Umformung eines Kiefers einschließlich Retention, hoher Umfang	3600	202,47	465,68	708,64
	Bei Maßnahmen von mittlerem Umfang nach der Nummer 604 müssen mindestens drei, bei Maßnahmen von hohem Umfang mindestens vier der Kriterien nach den Buchstaben a bis e erfüllt sein:				
	a) Zahl der bewegten Zahngruppen: zwei und mehr Zahngruppen,				
	b) Ausmaß der Zahnbewegung: mehr als 2 Millimeter,				
	c) Art der Zahnbewegung: körperlich mehr als 2 Millimeter, kontrollierte Wurzelbewegung, direkte Veränderung der Bißhöhe, Zahndrehung mehr als 30 Grad,				

Punktwert GOZ = 5,62421 Cent, GOÄ = 5,82873 Cent
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^g [Http://www.blzk.de/info/goz/GOZ_EURO.pdf](http://www.blzk.de/info/goz/GOZ_EURO.pdf)

Nr.	Leistung	Punktzahl	Gebühr in €		
			1-fach	2,3-fach	3,5-fach
	d) Richtung der Zahnbewegung: entgegen Wanderungstendenz,				
	e) Verankerung: mit zusätzlichen intra- oder extraoralen Maßnahmen,				
606	Maßnahmen zur Einstellung der Kiefer in den Regelbiß während der Wachstumsphase einschließlich Retention, geringer Umfang	1800	101,24	232,85	354,34
607	Maßnahmen zur Einstellung der Kiefer in den Regelbiß während der Wachstumsphase einschließlich Retention, mittlerer Umfang	2600	146,23	336,32	511,80
608	Maßnahmen zur Einstellung der Kiefer in den Regelbiß während der Wachstumsphase einschließlich Retention, hoher Umfang	3600	202,47	465,68	708,64
	Bei Maßnahmen von mittlerem Umfang muß mindestens ein Kriterium nach den Buchstaben a) bis c), bei Maßnahmen von hohem Umfang müssen mindestens zwei der Kriterien erfüllt sein:				
	a) Ausmaß der Bißverschiebung: mehr als 4 Millimeter,				
	b) Richtung der durchzuführenden Bißverschiebung, Unterkiefer relativ zum Oberkiefer: dorsal,				
	c) Skelettale Bedingungen: ungünstige Wachstumsvoraussetzungen.-				
	Die Leistungen nach den Nummern 603 bis 608 umfassen alle im Behandlungsplan festgelegten Maßnahmen innerhalb eines Zeitraumes von bis zu vier Jahren.				
	Neben den Leistungen nach den Nummern 603 bis 608 sind Leistungen nach den Nummern 619 bis 626 nicht berechnungsfähig.				
609	Maßnahmen zur Einstellung der Okklusion durch alveolären Ausgleich bei abgeschlossener Wachstumsphase einschließlich Retention	700	39,37	90,55	137,79
610	Eingliederung eines Klebebrackets zur Aufnahme orthodontischer Hilfsmittel	165	9,28	21,34	32,48
611	Entfernung eines Klebebrackets einschließlich Polieren und gegebenenfalls Versiegelung des Zahnes	70	3,94	9,06	13,79
612	Eingliederung eines Bandes zur Aufnahme orthodontischer Hilfsmittel	230	12,94	29,76	45,29
613	Entfernung eines Bandes einschließlich Polieren und gegebenenfalls Versiegelung des Zahnes	20	1,12	2,57	3,92
614	Eingliederung eines Teilbogens	210	11,81	27,16	41,33
615	Eingliederung eines ungeteilten Bogens, alle Zahngruppen umfassend	500	28,12	64,67	98,42

Punktwert GOZ = 5,62421 Cent, GOÄ = 5,82873 Cent

Gebührenordnung für Zahnärzte

Seite 3

Nr.	Leistung	Punktzahl	Gebühr in €		
			1-fach	2,3-fach	3,5-fach
616	Eingliederung einer intra-extraoralen Verankerung(z.B. Headgear)	370	20,81	47,86	72,83
617	Eingliederung einer Kopf-Kinn-Kappe In den Leistungen nach den Nummern 610 bis 615 sind die Material und Laborkosten enthalten. Die Kosten für die eingegliederten Hilfsmittel nach den Nummern 616 und 617 sind gesondert berechnungsfähig.	500	28,12	64,67	98,42
618	Maßnahmen zur Wiederherstellung der Funktionsfähigkeit und/oder Erweiterung von herausnehmbaren Behandlungsgeräten einschließlich Abformung und Wiedereinfügen, je Kiefer und je Sitzung einmal berechnungsfähig	270	15,19	34,93	53,16
619	Beratendes und belehrendes Gespräch mit Anweisungen zur Beseitigung von schädlichen Gewohnheiten und Dysfunktionen Neben der Leistung nach der Nummer 619 ist eine Leistung nach der Nummer 001 in derselben Sitzung nicht berechnungsfähig .	140	7,87	18,10	27,54
620	Eingliedern von Hilfsmitteln zur Beseitigung von Funktionsstörungen (z. B. Mundvorhofplatte) einschließlich Anweisung zum Gebrauch und Kontrollen	450	25,31	58,21	88,56
621	Kontrolle des Behandlungsverlaufs oder Weiterführung der Retention einschließlich kleiner Änderungen der Behandlungs- oder Retentionsgeräte, Therapiekontrolle der gesteuerten Extraktion, je Sitzung	90	5,06	11,63	17,71
622	Vorbereitende Maßnahmen zur Herstellung von kieferorthopädischen Behandlungsmitteln (z.B. Abformung, Bißnahme), je Kiefer	180	10,12	23,27	35,42
623	Eingliederung von kieferorthopädischen Behandlungsmitteln, je Kiefer	180	10,12	23,27	35,42
624	Maßnahmen zur Verhütung von Folgen vorzeitigen Zahnverlustes (Offenhalten einer Lücke)	270	15,19	34,93	53,16
625	Beseitigung des Diastemas, als selbständige Leistung	450	25,31	58,21	88,56
626	Maßnahmen zur Einordnung eines verlagerten Zahnes in den Zahnbogen, als selbständige Leistung	1100	61,87	142,30	216,54

Punktwert GOZ = 5,62421 Cent, GOÄ = 5,82873 Cent

PRIVATE INSURANCE POLICIES IN THE NETHERLANDS

Table 6: Overview coverage supplemental insurance policies^h:

ORTHODONTIC coverage 2007

Refund based upon the supplemental insurance with the highest extent of coverage per insurance company

Insurance company	until 18 years of age			> 18 jaar			need more information?
	coverage	maximum in €	refund in € ^b	coverage	maximum in €	refund in € ^b	
de Amersfoortse	100%	Unlimited	2200	100%	Unlimited	2200	www.amersfoortse.nl
ONVZ	100%	Unlimited	2200	100%	1500	1500	www.onvz.nl
AEGON	100%	Unlimited	2200	100%	1500	1500	www.aegon.nl
Nat. Nederlanden	100%	Unlimited	2200	100%	1500	1500	www.natned.nl
VGZ	100%	Unlimited	2200	80%	500	500	www.vgz.nl
Avero	100%	Unlimited	2200	100%	Unlimited	2200	www.
Delta Lloyd	100%	Unlimited	2200	100%	1500	1500	www.deltalloyd.nl
IAK	100%	Unlimited	2200	0%	0	0	www.
Fortis ASR	100%	Unlimited	2200	100%	Unlimited	2200	www.fortisasr.nl
SR	100%	Unlimited	2200	100%	Unlimited	2200	www.
Confior	100%	Unlimited*	2200	50-100%	Only for certain treatments		www.
Ohra	100%	2500	2200	100%	400	400	www.ohra.nl
CZ	80%	2045	2045	80%	345	345	www.cz.nl
Zorg en Zekerheid	85%	2000	1870	85%	1000	1000	www.zorgenzekerheid.nl
de Friesland	80%	Unlimited	1760	100%	750	750	www.defriesland.nl
OZF	80% ⁴	Unlimited	1760	0%	0	0	www.
TRIAS	100%	1750	1750	100%	500	500	www.trias.nl
De Goudse	100%	1750	1750	100%	500	500	www.goudse.nl
DSW	75%	Unlimited	1650	75%	Unlimited*	1650	www.dsw.nl
OZ	80%	2045	1650	80%	345	345	www.oz.nl
PWZ	75%	1650	1650	0%	0	0	www.
Groene Land	75%	1650	1650	0%	0	0	www.
Menzis	100%	Unlimited*	1500	50-100%	Only for certain treatments		www.menzis.nl
UNIVE	100%	1500	1500	100%	1000	1000	www.unive.nl
FBTO	100%	1500	1500	100%	350	350	www.fbto.nl
AGIS	90%	1500	1500	90%	1500	1500	www.agisweb.nl
Pro Life	90%	1500	1500	90%	1500	1500	www.

* after approval

4) max. age 21year

6) refund based upon an average treatment cost of € 2200,-

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^h <http://www.orthodontist.nl/files/vergoedingen%202007%20tot%2018.xls>, 18/10/2007

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INTERNATIONAL QUESTIONNAIRE

Questionnaire I.: page I

INTERNATIONAL BENCHMARKING FOR ORTHODONTIC TREATMENT IN CHILDREN AND ADOLESCENTS (i.e NOT ADULTS)	
<u>1. IDENTIFICATION</u>	
Your country	
<u>2. CONTACT DETAILS FROM THE PERSON COMPLETING THIS FORM</u>	
Name	
Title	
Institution /Organisation	
Address	
Country	
Telephone	
Fax	
E-mail	
<u>3. GENERAL INFORMATION</u>	
01 Current population of your country?	<input type="text"/> millions
02. Number of general dental practitioners in your country ?	<input type="text"/>
03. Is the orthodontic speciality legally recognised in your country ?	☐ Yes ☐ No If yes, since year
04. Number of orthodontists in your country ?	<input type="text"/>
05. Are orthodontic specialists limited to orthodontic treatment?	☐ yes ☐ no
06. Percentage of orthodontic treatment performed in general dental practice compared to specialist practice	% in general practice % in orthodontic practice
07 What is the influx of orthodontists per year in your country ?	<input type="text"/>
08. What is the influx of dentists per year in your country ?	<input type="text"/>

Questionnaire 1. page 2

4.ORGANISATION OF THE ORTHODONTIC PRACTICE						
09. Percentage of orthodontists working.	☐ ☐ ☐ % as employee ☐ ☐ ☐ % as independent (self-employed) ☐ ☐ ☐ % combination					
10. Percentage orthodontists working in	☐ ☐ ☐ % private practice ☐ ☐ ☐ % individual practice ☐ ☐ ☐ % group practice ☐ ☐ ☐ % hospital ☐ ☐ ☐ % general hospital ☐ ☐ ☐ % university hospital ☐ ☐ ☐ % other type of health institutions ☐ ☐ ☐ % specify:.....					
11. Average number of chair side dental assistants (D.A.) / oral hygienists (O.H.) / secretaries (S.) / dental technicians(D.T.) working per orthodontist?		Individ. practice	Group practice	General hospital	University hospital	Other type of health institution
	D.A.					
	O.H.					
	S.					
	D.T.					
12. Average number of treated patients (not number of consultations, for example 1 patient can have 10 consultations per year) per practice on a yearly basis.	☐ ☐ ☐ ☐ average number of treated patients (all ages) ☐ ☐ ☐ ☐ average number of treated children and adolescents					

Questionnaire 1. page 3

5. ECONOMIC ASSESSMENT ORTHODONTIC TREATMENT.																							
13. Are there fixed fees for orthodontic treatment?	☐ Yes If yes, fixed by: ☐ public health insurance system ☐ private insurances ☐ professional organization ☐ combination of:(please specify) ☐ No																						
14. Average fee and duration for:	<table border="1"> <thead> <tr> <th></th> <th>Fee</th> <th>Duration</th> </tr> </thead> <tbody> <tr> <td>Interceptive treatment</td> <td></td> <td></td> </tr> <tr> <td>Orthopaedic treatment (functional appliances, headgears, combinations of both)</td> <td></td> <td></td> </tr> <tr> <td>Standard treatment with full fixed appliance</td> <td></td> <td></td> </tr> <tr> <td>Comprehensive treatment with full fixed appliance</td> <td></td> <td></td> </tr> <tr> <td>End of treatment (incl. installation of retainers)</td> <td></td> <td>NA</td> </tr> <tr> <td>Retention phase</td> <td></td> <td></td> </tr> </tbody> </table>			Fee	Duration	Interceptive treatment			Orthopaedic treatment (functional appliances, headgears, combinations of both)			Standard treatment with full fixed appliance			Comprehensive treatment with full fixed appliance			End of treatment (incl. installation of retainers)		NA	Retention phase		
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	Fee																						
Diagnostic records																							
Treatment planning and proposal																							

Questionnaire I. page 4

<p>16. Is the fee for the appliances included in the treatment fee?</p> <p>☐ Yes ☐ No</p>	<p>If no, please specify</p> <table border="1"> <thead> <tr> <th></th> <th colspan="2">Fee</th> </tr> </thead> <tbody> <tr> <td>Interceptive treatment</td> <td colspan="2"></td> </tr> <tr> <td>Orthopaedic treatment</td> <td colspan="2"></td> </tr> <tr> <td>Standard treatment with full fixed appliances</td> <td colspan="2"></td> </tr> <tr> <td>Comprehensive treatment with full fixed appliances</td> <td colspan="2"></td> </tr> <tr> <td>End of treatment (incl. installation of retainers)</td> <td colspan="2"></td> </tr> </tbody> </table>						Fee		Interceptive treatment			Orthopaedic treatment			Standard treatment with full fixed appliances			Comprehensive treatment with full fixed appliances			End of treatment (incl. installation of retainers)				
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<p>18. Does the severity of the malocclusion (like index for orthodontic treatment need, IOTN...) determine the orthodontic treatment?</p>	<p>☐ gives priority for start of treatment?</p> <p>☐ influence on treatment fee?</p> <p>☐ influence on reimbursement:</p> <p style="padding-left: 20px;">☐ yes ☐ no</p> <p>☐ IOTN determined by</p> <p style="padding-left: 20px;">☐ practitioner</p> <p style="padding-left: 20px;">☐ health insurance</p> <p style="padding-left: 20px;">☐ private insurance?</p> <p style="padding-left: 20px;">☐ other? specify:</p>																								
<p>19. Are new technologies (like distraction osteogenesis, bone anchorage with mini-screws, implants, miniplates, ...) applied in orthodontic practice in your country?</p>	<p>☐ If yes: ☐ supplemental cost</p> <p style="padding-left: 20px;">☐ cost included in fee for</p> <p style="padding-left: 40px;">☐ fixed appliance</p> <p style="padding-left: 40px;">☐ orthopaedic appliance</p> <p>☐ If no: why not?</p> <p>.....</p> <p>.....</p> <p>.....</p>																								

Questionnaire 1. page 5

6. INSURANCE AND REIMBURSEMENT SYSTEMS COVERING ORTHODONTIC CARE. (multiple answers possible)

20. Is there an age limit for a differential reimbursement by national health insurance of children and adolescents versus adults in your country?

☐ Yes

☐ No

If yes, which age group(s)/limits

.....
.....
.....

If yes, please specify

.....
.....
.....

If there are exceptions, please specify

.....
.....
.....
.....

21. Is there reimbursement for:

	Yes	No
Interceptive treatment	☐	☐
Orthopaedic treatment	☐	☐
Standard treatment with full fixed appliance	☐	☐
Comprehensive treatment with full fixed appliance	☐	☐

If yes on any of the treatments mentioned in this table → go to question 22 to specify

If no on all treatments mentioned in the table above → go to question 26

Questionnaire 1. page 6

<p>22 Reimbursement system for orthodontic interceptive treatment?</p>	<p>covered by:</p> <p>☐ national insurance system rate of reimbursement.....</p> <p>☐ private insurance system</p> <p>☐ other</p> <p>.....</p> <p>for all patients? ☐ Yes ☐ No</p> <p>If no, please specify:.....</p> <p>.....</p> <p>.....</p>
<p>23. Is there reimbursement for orthopaedic (functionals, headgears,.....) treatment?</p>	<p>covered by:</p> <p>☐ national insurance system rate of reimbursement.....</p> <p>☐ private insurance system</p> <p>☐ other</p> <p>.....</p> <p>for all patients? ☐ Yes ☐ No</p> <p>If no, please specify:.....</p> <p>.....</p> <p>.....</p>
<p>24. Is there reimbursement for orthodontic 'standard' treatment with fixed appliances?</p>	<p>covered by:</p> <p>☐ national insurance system rate of reimbursement.....</p> <p>☐ private insurance system</p> <p>☐ other</p> <p>.....</p> <p>for all patients? ☐ Yes ☐ No</p> <p>If no, please specify:.....</p> <p>.....</p> <p>.....</p>

Questionnaire 1. page 7

<p>25. Is there reimbursement for orthodontic 'comprehensive' treatment including fixed and other (extra-oral, anchorage devices...) appliances?</p>	<p>covered by:</p> <p>☐ national insurance system rate of reimbursement.....</p> <p>☐ private insurance system</p> <p>☐ other</p> <p>.....</p> <p>.....</p> <p>for all patients? ☐ Yes ☐ No</p> <p>If no, please specify:.....</p> <p>.....</p> <p>.....</p>
<p>26. Do you treat patients with congenital malformations (CLP etc...) in your practice?</p> <p>☐ Yes ☐ No</p> <p>Is there a specific reimbursement system for orthodontic treatment of patients with congenital malformations (CLP etc...)?</p>	<p>☐ Yes ☐ No</p> <p>If yes, specify specific reimbursement system:</p> <p>covered by:</p> <p>☐ national insurance system rate of reimbursement.....</p> <p>☐ private insurance system</p> <p>.....</p> <p>.....</p> <p>for all patients? ☐ Yes ☐ No</p> <p>If no, please specify:.....</p> <p>.....</p> <p>.....</p>
<p><u>7. TREATMENT NEED AND ASSESSMENT</u></p> <p>Remember only related to children and adolescents (no adult orthodontic treatment). Multiple answers possible</p>	
<p>27. Are you obliged to score the Need for Orthodontic Treatment in the patients of the current group (children and adolescents)?</p>	<p>☐ no</p> <p>☐ yes</p> <p>If yes, for which party?</p> <p>☐ national Insurance System</p> <p>☐ private insurance</p> <p>☐ other, please specify</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>

Questionnaire 1. page 8

28. Are there epidemiological data on the orthodontic treatment need (IOTN- or other index) in your country?	reference or source: ☐ published information (please provide reference or source) ☐ non-published information added (please add a copy if possible) ☐ not available
29. Are there epidemiological data on the percentage of the population receiving orthodontic treatment?	reference of source: ☐ published information (please provide reference or source) ☐ non-published information added (please provide reference or source) ☐ not available
30. Are you obliged to rate orthodontic treatment outcome in your country?	☐ Yes if yes, please specify procedure: ☐ which party?..... ☐ rating system? ☐ PAR index ☐ other assessment index please specify ☐ No If no, is it done voluntary? ☐ Yes ☐ No If yes, rating system? *General practitioners ☐ PAR index ☐ other assessment index *Orthodontists ☐ PAR index ☐ other assessment index
31. Estimation of current patient population (children and adolescents) in the average practice total patient load?	☐ < 50% ☐ 50% ☐ 70% ☐ 90% ☐ > 90%

Questionnaire 1. page 9

8. LEGAL ASPECTS.

In Belgium there is a system of convention between providers (e.g. physicians, dentists, orthodontists) and the National Health Insurance System concerning the fees (level of total fee and level of reimbursement by National Health Insurance). These agreements are made every two years.

Each provider who does not reject the agreement is legally bound to apply the fees, specified in the agreement.

But providers are not obliged to sign the agreement. When they do not sign, they are free to set their fees (although reimbursement for the patient remains at the level, specified in the agreement).

A provider is not obliged to subscribe this agreement: he can choose not to subscribe, to subscribe fully or to subscribe partially (e.g. subscribe for his hospital practice, but not for his private practice)..

32. Does there exist such an agreement between National Health Insurance and providers of orthodontic care in your country?	☐ yes → go to question 33 ☐ no → questionnaire is finished ☐ not applicable
33. If yes on 32: is the orthodontic care provider obliged to subscribe this agreement to make it legally binding?	☐ yes → questionnaire is finished ☐ no → go to question 34 ☐ not applicable
34. If no on 33: does every orthodontist subscribe to this agreement?	☐ yes ☐ no ☐ not applicable

Questionnaire 2 to professional orthodontic organization AAO (American Association of Orthodontists) of the USA

Questionnaire 2. page 1

INTERNATIONAL BENCHMARKING FOR ORTHODONTIC TREATMENT IN CHILDREN AND YOUNG ADOLESCENTS (i.e. NOT IN ADULTS)	
<u>1. IDENTIFICATION</u>	
Your country	USA
<u>2. CONTACT DETAILS FROM THE PERSON COMPLETING THIS FORM</u>	
Name	
Title	
Institution /Organisation	
Address	
Country	
Telephone	
Fax	
E-mail	
<u>3. GENERAL INFORMATION</u>	
01 Current population of your country?	<input type="text"/> millions
02. Number of general dental practitioners in your country ?	<input type="text"/>
03. Is the orthodontic speciality legally recognised in your country ?	☐ Yes ☐ No If yes, since year
04. Number of orthodontists in your country ?	<input type="text"/>
05. Are orthodontic specialists limited to orthodontic treatment?	☐ yes ☐ no
06. Percentage of orthodontic treatment performed in general dental practice compared to specialist practice	% in general practice % in orthodontic practice
07 What is the influx of orthodontists per year in your country ?	<input type="text"/>
08. What is the influx of dentists per year in your country ?	<input type="text"/>

Questionnaire 2. page 2

4.ORGANISATION OF THE ORTHODONTIC PRACTICE																																				
09. Percentage of orthodontists working.	☐ ☐ ☐ % as employee ☐ ☐ ☐ % as independent (self-employed) ☐ ☐ ☐ % combination																																			
10. Percentage orthodontists working in	☐ ☐ ☐ % private practice ☐ ☐ ☐ % individual practice ☐ ☐ ☐ % group practice ☐ ☐ ☐ % hospital ☐ ☐ ☐ % general hospital ☐ ☐ ☐ % university hospital ☐ ☐ ☐ % other type of health institutions ☐ ☐ ☐ % specify:.....																																			
11. Average number of chair side dental assistants (D.A.) / oral hygienists (O.H.) / secretaries (S.) / dental technicians(D.T.) working per orthodontist?	<table border="1"> <thead> <tr> <th></th> <th>Individ. practice</th> <th>Group practice</th> <th>General hospital</th> <th>University hospital</th> <th>Other type of health institution</th> </tr> </thead> <tbody> <tr> <td>D.A.</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>O.H.</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>S.</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>D.T.</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>							Individ. practice	Group practice	General hospital	University hospital	Other type of health institution	D.A.						O.H.						S.						D.T.					
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12. Average number of treated patients (not number of consultations, for example 1 patient can have 10 consultations per year) per practice on a yearly basis.	☐ ☐ ☐ ☐ average number of treated patients (all ages) ☐ ☐ ☐ ☐ average number of treated patients between 0 and 15 years of age:..																																			

Questionnaire 2. page 3

5. ECONOMIC ASSESSMENT ORTHODONTIC TREATMENT.																							
13. Are there fixed fees for orthodontic treatment?	☐ Yes If yes, fixed by: ☐ public health insurance system ☐ private insurances ☐ professional organization ☐ combination of:(please specify) ☐ No																						
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Questionnaire 2. page 4

<p>16. Is the fee for appliance included in the treatment fee?</p> <p>☐ Yes ☐ No</p>	<p>If no, please specify</p> <table border="1"> <thead> <tr> <th></th> <th colspan="4">Fee</th> </tr> </thead> <tbody> <tr> <td>Interceptive treatment</td> <td colspan="4"></td> </tr> <tr> <td>Orthopaedic treatment</td> <td colspan="4"></td> </tr> <tr> <td>Standard treatment with full fixed appliance</td> <td colspan="4"></td> </tr> <tr> <td>Comprehensive treatment with full fixed appliance</td> <td colspan="4"></td> </tr> <tr> <td>End of treatment (incl. installation of retainers)</td> <td colspan="4"></td> </tr> </tbody> </table>						Fee				Interceptive treatment					Orthopaedic treatment					Standard treatment with full fixed appliance					Comprehensive treatment with full fixed appliance					End of treatment (incl. installation of retainers)				
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<p>18. Does the severity of the malocclusion (like index for orthodontic treatment need, IOTN or ICON...) determine the orthodontic treatment?</p>	<p>☐ gives priority for start of treatment?</p> <p>☐ influence on treatment fee?</p> <p>☐ influence on reimbursement:</p> <p style="padding-left: 20px;">☐ yes ☐ no</p> <p>☐ IOTN determined by</p> <p style="padding-left: 20px;">☐ practitioner</p> <p style="padding-left: 20px;">☐ health insurance</p> <p style="padding-left: 20px;">☐ private insurance?</p> <p style="padding-left: 20px;">☐ other? specify:</p>																																		
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Questionnaire 2. page 5

6. INSURANCE AND REIMBURSEMENT SYSTEMS COVERING ORTHODONTIC CARE.

(multiple answers possible)

20. Is there reimbursement for:	<table border="1"> <thead> <tr> <th></th> <th>Yes</th> <th>No</th> </tr> </thead> <tbody> <tr> <td>Interceptive treatment</td> <td>☐</td> <td>☐</td> </tr> <tr> <td>Orthopaedic treatment</td> <td>☐</td> <td>☐</td> </tr> <tr> <td>Standard treatment with full fixed appliance</td> <td>☐</td> <td>☐</td> </tr> <tr> <td>Comprehensive treatment with full fixed appliance</td> <td>☐</td> <td>☐</td> </tr> </tbody> </table> <p>If yes on any of the treatments mentioned in this table → go to question 21 to specify If no on <u>all</u> treatments mentioned in the table above → go to question 25</p>		Yes	No	Interceptive treatment	☐	☐	Orthopaedic treatment	☐	☐	Standard treatment with full fixed appliance	☐	☐	Comprehensive treatment with full fixed appliance	☐	☐
	Yes	No														
Interceptive treatment	☐	☐														
Orthopaedic treatment	☐	☐														
Standard treatment with full fixed appliance	☐	☐														
Comprehensive treatment with full fixed appliance	☐	☐														
21 Reimbursement system for orthodontic interceptive treatment?	<p>covered by:</p> <p>☐ Medicaid (HMO) rate of reimbursement.....</p> <p>☐ private insurance system Please specify which insurance..... </p> <p>for all patients? ☐ Yes ☐ No If no, please specify:..... </p>															
22. Is there reimbursement for orthopaedic (functionals, headgears,.....) treatment?	<p>covered by:</p> <p>☐ Medicaid (HMO) rate of reimbursement.....</p> <p>☐ private insurance system Please specify which insurance..... </p> <p>for all patients? ☐ Yes ☐ No If no, please specify:..... </p>															

Questionnaire 2. page 6

<p>23. Is there reimbursement for orthodontic 'standard' treatment with fixed appliances?</p>	<p>covered by:</p> <p>☐ Medicaid (HMO) rate of reimbursement.....</p> <p>☐ private insurance system Please specify which insurance.....</p> <p>for all patients? ☐ Yes ☐ No If no, please specify:.....</p>
<p>24. Is there reimbursement for orthodontic 'comprehensive' treatment including fixed and other (extra-oral, anchorage devices...) appliances?</p>	<p>covered by:</p> <p>☐ Medicaid (HMO) rate of reimbursement.....</p> <p>☐ private insurance system Please specify which insurance.....</p> <p>for all patients? ☐ Yes ☐ No If no, please specify:.....</p>
<p>25. Do you treat patients with congenital malformations (CLP etc...) in your practice?</p> <p>☐ Yes ☐ No</p> <p>Is there a specific reimbursement system for orthodontic treatment of patients with congenital malformations (CLP etc...)?</p>	<p>☐ Yes ☐ No</p> <p>If yes, specify specific reimbursement system:</p> <p>covered by:</p> <p>☐ Medicaid (HMO) rate of reimbursement.....</p> <p>☐ private insurance system Please specify which insurance.....</p> <p>for all patients? ☐ Yes ☐ No If no, please specify:.....</p>

Questionnaire 2: page 7

7. TREATMENT NEED AND ASSESSMENT	
Remember only for children and young adolescents (and thus NOT in adults) Multiple answers possible	
26. Are you obliged to score the Need for Orthodontic Treatment in the patients of the current age group (0 to 15yrs)?	☐ no ☐ yes If yes, for which party? ☐ Medicaid (HMO) ☐ private insurance Please specify which insurance: ☐ other, please specify
27. Are there epidemiological data on the orthodontic treatment need (IOTN- or other index) in your country?	reference or source: ☐ published information (please provide reference or source) ☐ non-published information added (please add a copy if possible) ☐ not available
28. Are there epidemiological data on the percentage of the population receiving orthodontic treatment?	reference of source: ☐ published information (please provide reference or source) ☐ non-published information added (please provide reference or source) ☐ not available
29. Are you obliged to rate orthodontic treatment outcome in your country?	☐ Yes if yes, please specify procedure: ☐ which party?..... ☐ rating system? ☐ PAR index ☐ other assessment index please specify ☐ No If no, is it done voluntary? ☐ Yes ☐ No If yes, rating system? *General practitioners ☐ PAR index ☐ other assessment index *Orthodontists ☐ PAR index ☐ other assessment index

Questionnaire 2 page 8

30. Estimation of current patient age population (0-15yrs) in the average practice total patient load?	☐ < 50% ☐ 50% ☐ 70% ☐ 90% ☐ > 90%
<p><u>8. LEGAL ASPECTS.</u></p> <p>In Belgium there is a system of convention between providers (e.g. physicians, dentists, orthodontists) and the National Health Insurance System concerning the fees (level of total fee and level of reimbursement by National Health Insurance). These agreements are made every two years.</p> <p>Each provider who does not reject the agreement is legally bound to apply the fees, specified in the agreement.</p> <p>But providers are not obliged to sign the agreement. When they do not sign, they are free to set their fees (although reimbursement for the patient remains at the level, specified in the agreement).</p> <p>A provider is not obliged to subscribe this agreement: he can choose not to subscribe, to subscribe fully or to subscribe partially (e.g. subscribe for his hospital practice, but not for his private practice)..</p>	
31. Does there exist such an agreement between National Health Insurance - the Health Maintenance Organization - and providers of orthodontic care in your country?	☐ yes → go to question 32 Please specify: ☐ no → questionnaire is finished ☐ not applicable
32. If yes on 31: is the orthodontic care provider obliged to subscribe this agreement to make it legally binding?	☐ yes → questionnaire is finished ☐ no → go to question 33 ☐ not applicable
33. If no on 32: does every orthodontist subscribe to this agreement?	☐ yes ☐ no ☐ not applicable

RESPONSES TO INTERNATIONAL QUESTIONNAIRE

Extra-tables related to the International Benchmarking Questionnaires and to former related studies

Table 7:

1. The actual population, 2. number of general dental practitioners; 3. legal recognition of orthodontic speciality, 4. number of orthodontists, 5. limitation of orthodontic specialists to orthodontic treatment, 6. a. estimated percentage of orthodontic treatment performed in general dental practice b. compared to estimated percentage of orthodontic treatment in specialist practice, 7. influx of orthodontists per year and 8. influx of dentists per year for all the countries involved.

	1	2	3		4	5	6		7	8
country	pop	n_dent	legal	legal	sn_orth	limited	dentpct	orthpct	influx_orth	influx_dent
France	65	37000	1	1977	2000	0	35	65	70	300
Belgium	10,5	8655	1		360	1	10,3	100	12	116
Netherlands	16	8034	1	1953	273	1	40	60	16	200
UK	60,6	25000	1	1998	1300	0	50	50	75	2200
Sweden	9	7300	1	1965	170	0	25	75		
Germany	82	81792	1	1955	3881	1	80	20	50	1096
USA	300	173574	1	1917	9400	0			250	4350
Switzerland	7,5	4000	1	1975	200	0	50	50	10	80
N.A. in Q										
not certain										
not known										
comment										
corrected 16102007 according to National Statistics UK (Google)										
addition from EFOSA data, 2002 (cfr Website EFOSA)										

Source: International Benchmarking Questionnaires (KCE 2007-20 HSR), website <http://www.statistics.gov.uk/CCI/nugget.asp?ID=6> (Google, October 2007) and EFOSA 2002 data for missing data

Table 8: Average number of treated patientsⁱ per practice on a yearly basis and fixation of the fees for orthodontic treatment in each country.

Country	12		13			
	Nr of treated patients	Nr of treated patients	Fixed fees	Fees fixed	Fees fixed	Fees fixed
France	300	250	0	0	0	0
Belgium	380	285	0	0	0	0
The Netherlands	350	300	1	0	0	1
UK	250	240	1	1	0	0
Sweden	160	150	0			
Germany	600	500	1	1	1	0
USA	547		0	0	0	0
Switzerland			0	0	0	0

N.A. in Q

not certain

not known

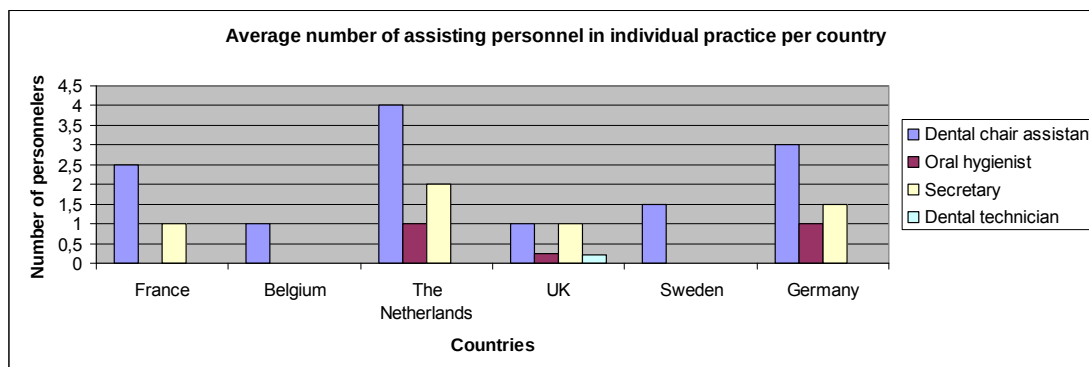
comment: Belgian reimbursement fees are fixed but not the honoraria applied by orthodontists

comment: Belgian honoraria were recommended in (1997?) by the largest mutuality (CM)

comment: Belgian professional orthodontic professional organization followed guidelines in agreement with CM

Source: International Benchmarking Questionnaires (KCE 2007-20 HSR).

Figure 3: Assisting personnel in different types of orthodontic practices per country. Estimated number of chair side dental assistants (D.A.) / oral hygienists (O.H.) / secretaries (S.) / dental technicians (D.T.) working per orthodontist



Source: International Benchmarking Questionnaires (KCE 2007-20 HSR).

ⁱ Id est: not the number of consultations, as in orthodontics 1 patient in treatment roughly has 10 consultations per year

Table 9:

1. the number of inhabitants, 2. number of dentists, 3. ratio of dentists per population, 4. number of orthodontists, 5. ratio of orthodontists per population, 6. percentage of patients treated by orthodontists, 7. estimated number of orthodontists (too many? too little?), 8. general practitioners in orthodontic practices, 9. oral hygienists and 10. dental assistants in orthodontic practices for 23 European countries.

Tabel 1. Aantal inwoners, aantal tandartsen en orthodontisten, en hun ratio ten opzichte van de populatie, percentage patiënten behandeld door orthodontisten, behoefte aan orthodontisten, en algemeen practici, mondhygiënist en tandartsassistenten werkzaam in orthodontische praktijken.

Land	Aantal Inwoners	Aantal tandartsen	Ratio tandartsen: populatie	Aantal orthodontisten	Ratio orthodontisten: populatie	% Patiënten behandeld door orthodontisten	Te veel of te weinig orthodontisten	Algemeen practici in orthodontische praktijken	Mondhygiënist in orthodontische praktijken	Tandarts-assistente werkend in de mond
België	10.260.000	8.536	1:1.202	350	1: 29.314	70	+	Nee	Nee	Nee
Cyprus	900.000	600	1:1.500	24	1: 37.500	70	+	Ja	Nee	Nee
Denemarken	5.200.000	4.880	1:1.066	150	1: 34.667	80	-	Nee	Ja	Ja
Duitsland	82.000.000	62.000	1:1.322	2950	1: 27.779	70	+	Ja	Ja	Ja
Finland	5.100.000	4.800	1:1.250	156	1: 32.692	70	±	Ja	Ja	Ja
Frankrijk	59.000.000	40.000	1:1.475	1711	1: 34.483	66	±	Nee	Nee	Nee
Griekenland	11.000.000	13.000	1: 846	320	1: 34.375	50	+	Ja	Nee	Nee
Ierland	3.700.000	1.800	1:2.056	80	1: 46.250	60	+	Ja	Ja	Nee
IJsland	280.000	300	1: 933	14	1: 20.000	95	±	Ja	Ja	Ja
Israël	5.500.000	6.000	1: 917	130	1: 42.307	85	-	Ja	Ja	Nee
Italië	58.000.000	45.000	1:1.289	850	1: 68.235	20	-	Ja	Ja	Nee
Luxemburg	450.000	300	1:1.500	15	1: 30.000	70	±	Ja	Nee	Nee
Nederland	16.000.000	7.000	1:2.286	260	1: 61.538	70	-	Ja	Ja	Ja
Noorwegen	4.500.000	4.000	1:1.125	180	1: 25.000	100	-	Nee	Ja	Ja
Oostenrijk	7.000.000	3.730	1:1.877	250	1: 28.000	20	-	Ja	Nee	Nee
Polen	39.000.000	18.000	1:2.167	770	1: 50.649	80	-	Ja	Ja	Nee
Portugal	10.000.000	6.000	1:1.666	8	1:1.250.000	5	-	Ja	Ja	Nee
Spanje	40.000.000	16.500	1:2.424	400	1: 100.000	40	±	Nee	Nee	Nee
Turkije	67.800.000	12.000	1:5.650	230	1: 294.783	80	-	Ja	Nee	Ja
Verenigd Koninkrijk	55.000.000	30.000	1:1.833	750	1: 73.333	60	-	Ja	Nee	Nee
Zweden	9.000.000	8.000	1:1.125	290	1: 31.034	50	-	Nee	Nee	Ja
Zwitserland	7.100.000	4.000	1:1.775	163	1: 43.558	50	±	Ja	Ja	Nee

* -: tekort; +: overschot; ±: in evenwicht

Source: EFOSA data from 2002, published in Nederlands Tijdschrift voor Tandheelkunde, 2004 (van der Linden et al, 2004)

Table 10:

1. Date of specialty recognition, 2. recognition of title of orthodontist, 3. presence of specialist register, 4. responsible authority, 5. exclusivity of orthodontics, 6. number of specialties of dentistry recognised in country, 7. estimation of enough orthodontists in country, 8. orthodontic training according to Erasmus program, 9. orthodontic training only at universities, 10. examination at the end of the training, taken by which authority

Tabel 2. Erkenning van het specialisme orthodontie en bescherming van de titel orthodontist, specialistenregister, verantwoordelijke autoriteit, exclusieve orthodontische praktijken, en de mogelijkheid tot erkenning in meer dan één specialisme, voldoende opleidingsplaatsen tot orthodontist, inhoud van het opleidingsprogramma, opleiding alleen aan universiteiten, afsluitend examen, en zo ja, door wie afgenomen, kwaliteit van de opleiding.

Land	Specia- lisme ortho- dontie erkend	Titel ortho- dontist erkend	Specia- listen- register	Verant- woordelijke autoriteit	Uitsluitend orthodontie	Meer dan één specia- lisme	Voldoende opleiding orthodon- tisten	Opleiding conform Erasmus	Alleen aan universiteiten	Afsluitend examen, zo ja, door wie
België	Ja	Ja		Min.v.Gezondh.	Ja	Ja	Ja	Ja	Ja	Erkende Comm. v.Hoogleraren
Cyprus	Ja	Ja	Ja	Min.v.Gezondh.	Ja	Nee	Nee		-	-
Denemarken	Ja	Ja	Ja	Nat.Gezondh. Raad	Nee	Ja	Nee	Ja	Ja	Nat. Gezondh. Raad
Duitsland	Ja	Ja	Ja	"Zahnärzte- kammer"	Nee	Ja	Ja	Nee	Nee: In erkende praktijken	2 Hoogleraren, 1 ext. examiner
Finland	Ja	Ja	Ja	Nat.Gezondh. Autoriteit	Nee	Ja	Nee	Ja	Nee: mag een jaar in erkende kliniek	Hoogleraren van de 3 universiteiten
Frankrijk	Ja	Ja	Ja	Overheid	Ja	Nee	Ja	Ja	Ja	Universiteit
Griekenland	Ja	Ja	Ja	Min.v.Gezondh.	Nee	Nee	Ja	Ja	Ja	Comm. van Min.v. Gezondh.
Ierland	Ja	Ja	Ja	Dental Council	Nee	Ja	Ja	Ja	Nee: parttime met consultants	Royal colleges en universiteiten
Island	Ja	Ja	Ja	Min.v.Gezondh.	Ja	Ja	Nee	Ja		
Israël	Ja	Ja	Ja	Min.v.Gezondh.	Ja	Ja	Ja	Ja	Nee: erkende instituten, leger	Instituten en Min.v. Gezondh.
Italië	Ja	Ja	Ja	Min.v.Onderwijs	Nee	Ja	Ja	Bijna	Ja	Hoogl.
Luxemburg	Nee	Nee	Nee		Nee	Nee	Nee	Nee	-	-
Nederland	Ja	Ja	Ja	NMT / Overheid (C.C.)	Ja	Nee	Nee	Ja	Ja	1 Eigen hoogleraar + 2 ext. exam.
Noorwegen	Ja	Ja	Ja	Min.v.Gezondh.	Ja	Nee	Nee	Ja	Ja	Hoogl.
Oostenrijk	Nee	Nee	Nee		Nee	Ja	Nee	Nee	Nee: (Brenner Instituut)	Nee
Polen	Ja	Ja	Ja	Min.v.Gezondh.	Nee	Ja	Nee	Bijna	Nee: gemeente- klinieken	Comm. v. Min. v. Gezondh.
Portugal	Ja	Ja	Ja	Med./ Dent. Org.	Nee	Nee	Nee	Ja	Ja	Hoogl. v.d. 2 universiteiten
Spanje	Nee	Nee	Nee		Ja		Nee	Ja	Nee: korte privé- programma's	Eigen univ. staf
Turkije	Ja	Ja	Ja	Min.v.Gezondh.	Nee	Ja	Nee	Ja	Nee: Nat. Dent. Instituten	3 Hoogleraren
Verenigd Koninkrijk	Ja	Ja	Ja	Dental Council	Ja	Ja	Nee	Ja	Ja	Royal colleges
Zweden	Ja	Ja	Ja	Nat. Health Board	Nee	Ja	Nee	Ja	Nee: 4 erkende regionale klinieken	Ext. exam. van andere klinieken
Zwitserland	Ja	Ja	Ja	Swiss Dental Society	Nee	Ja	Nee	Ja	Ja	Nee

Source: EFOSA data from 2002, published in Nederlands Tijdschrift voor Tandheelkunde, 2004 (van der Linden et al, 2004)

Table II

1. Percentage of orthodontists working in private practice, 2. percentage of orthodontists working in education, 3. percentage of orthodontists working as employee. 4. Fixation of honoraria or not, and by whom, 5. average honoraria for fixed appliances without X-rays, 6. fee dependence of severity of the deviation.

Tabel 3. Arbeidsomstandigheden van orthodontisten in percentages, regelingen betreffende behandelingshonoraria, hoogte daarvan, de relatie tot de ernst van de afwijking en de beoordeelde redelijkheid van de bedragen.

Land	% Werkzaam in privépraktijk	% Werkzaam fulltime of grotendeels in onderwijs	% Werkzaam in nationaal gezondheids-systeem	% Werkzaam in dienst-verband	Vrije honoraria, zo niet, vastgesteld door	Gemiddeld tarief (€) vaste apparatuur zonder X-foto's	Honorarium afhankelijk van ernst van afwijking
België	95	5	0	5	Ja	2.040	Nee
Cyprus	100	0	0	0	Ja	2.700	Ja
Denemarken	25	5	0	0	Ja	2.500-3.000	Ja
Duitsland	95	5	2	10	Nee, overheid	3.500	Ja
Finland	40	10	51	63	Nee, overheid	2.500-3.000	Nee
Frankrijk	99	1	40	0	Ja	600 per 6 maanden	Nee
Griekenland	95	10	10	5	Ja	2.000	Ja
Ierland	80	10	10	20	Nee, overheid	2.500	Ja
IJsland	50	5-10	40	40	Nee, overheid	3.000-5.000	Ja
Israël	95	5	50	2	Nee, overheid	2.000	Nee
Italië	98	2	5	5	Ja	2.500-4.000	Ja
Luxemburg	100	0	0	0	Ten dele, overheid	3.500	Ja
Nederland	97	3	0	0	Nee, overheid	2.000	Nee
Noorwegen	90	5-10	5-10	2	Ten dele, overheid	2.300	Ja
Oostenrijk	80	10	5	5	Ja	2.900	Nee
Polen	10	8	80	2	Ja	200/part. 1.350 -1.800	Ja
Portugal	90	10	0	0	Ja	3.000	Nee
Spanje	100	20	0	10	Ja	3.500	Nee
Turkije	78	13	5	3	Minimum door Dent. Org.	1.200-2.400	Nee
Verenigd Koninkrijk	60	5	95	40	Nee voor National Health Syst./Ja voor part.	1.400	Alleen voor aantal app.
Zweden	5	8-10	85	95	Ten dele, overheid	2.000	Gerelateerd aan beh.- duur
Zwitserland	95	5	1	1	Nee voor nat. verz./Ja voor part.	6.900	Nee

Source: EFOSA data from 2002, published in Nederlands Tijdschrift voor Tandheelkunde, 2004 (van der Linden et al, 2004)

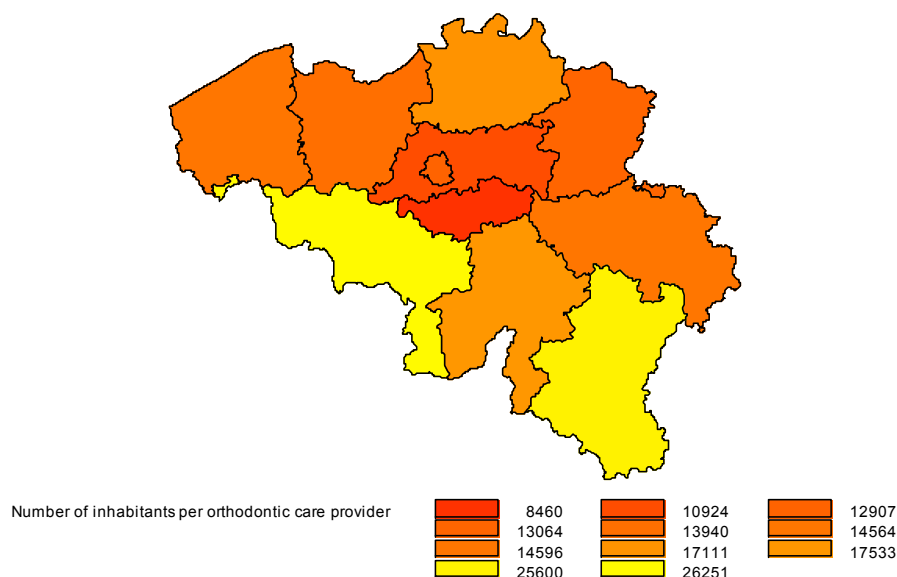
Table 12: For comparison Tabel 4 of the EFOSA-survey of 2002

Tabel 4. Verzekerings- en vergoedingssystemen voor orthodontische behandelingen.		
Land	Verzekering voor orthodontie	Additionele informatie betreffende de regelingen
België	Ja	Gedeeltelijk vergoed door de ziektekostenverzekering ($\pm 25\%$) en particuliere verzekeringen ($\pm 25\%$).
Cyprus	Nee	Particuliere verzekeringen gebaseerd op voorstellen van de Cyprische Orthodontisten Vereniging.
Denemarken	Ja	75% Vergoed door Publieke Gezondheidsdienst tot 19-jarige leeftijd. Daarboven alleen voor gecombineerde chirurgisch-orthodontische behandelingen en daarvoor 100%.
Duitsland	Ja	Ziekenfondssysteem betaalt 80% en de patiënt 20%, die hij echter vergoed krijgt als de behandeling succesvol wordt beëindigd. Verder particuliere verzekeringen.
Finland	Ja	Gemeentelijke gezondheidszorg betaalt 100% voor behandelingen die nodig zijn tot 19-jarige leeftijd en de chirurgisch-orthodontische behandelingen voor volwassenen. Deze echter alleen ten dele, wanneer die in privé-praktijken worden verricht.
Frankrijk	Ja	De patiënt krijgt van de verzekering per zes maanden € 193,- vergoed voor vaste apparaat-behandeling bij cariesvrije gebitten.
Griekenland	Ja	Van de behandelingen wordt 50% door de patiënt zelf betaald, 10% door de overheid, 5% door particuliere verzekeringen en verder 35% gedeeltelijk door particuliere verzekeringen.
Ierland	Nee	Patiënt en orthodontist maken een contract.
Island	Ja	De orthodontist schat de kosten en patiënt betaalt per visite, apparaat, materiaal, X-foto's, etc. Er is een nationaal systeem dat € 1.250,- vergoed voor vaste apparaat-behandeling.
Israël	Nee	Wordt door vrije markt geregeld.
Italië	Ja	Grotendeels particulier. In een aantal regio's van Italië worden door Gezondheidsdiensten bepaalde behandelingen ten dele vergoed.
Luxemburg	Ja	De patiënt krijgt tot de leeftijd van 17 jaar een gedeelte van het honorarium vergoed van de nationale verzekering.
Nederland	Ja	Het honorarium is gebaseerd op een vast bedrag voor iedere maand waarin de patiënt tenminste eenmaal bij de orthodontist is geweest. Daarnaast is er een aanvangshonorarium en een vergoeding die verschillend is voor a) uitneembare apparaat; b) gedeeltelijke vaste apparaat (in een tandboog); c) volledige vaste apparaat. In het geheel zijn de kosten voor apparaat en documentatie (behalve röntgenfoto's) inbegrepen. Gemiddeld wordt door de verzekering 75% vergoed, met vaak een vast bedrag als limiet. Behandelingen van schisis en in ernst vergelijkbare afwijkingen worden voor 100% vergoed.
Noorwegen	Ja	De vergoeding is vastgesteld door de Noorse Regering, geldt tot 19-jarige leeftijd en hangt af van de ernst van de afwijking en kent drie niveaus: 100%, 75% en 40%.
Oostenrijk	Ja	De patiënt krijgt een gedeelte van het honorarium van de verzekering terugbetaald.
Polen	Ja	De nationale ziektekostenverzekering dekt alleen de kosten van de "standaardbehandeling" met uitneembare apparaat tot de leeftijd van 13 jaar. Alle behandelingen en technieken die de "standaardbehandeling" te boven gaan moeten door de patiënt worden betaald.
Portugal	Nee	De overheid betaalt slechts 25% van het orthodontisch honorarium en dat alleen voor ambtenaren. Verder zijn er particuliere verzekeringen.
Spanje	Nee	Steeds meer particuliere verzekeringen nemen orthodontische behandelingen op in hun pakket. De voorwaarden lopen echter sterk uiteen.
Turkije	Nee	Er zijn enige particuliere verzekeringen die € 1.200,- tot € 2.400,- vergoeden.
Verenigd Koninkrijk	Ja	De "National Health Service" dekt volledig de kosten voor orthodontische behandeling tot de leeftijd van 19 jaar. Volwassenen betalen zelf een gedeelte van de kosten met een maximum van € 560,-.
Zweden	Ja	De honoraria zijn vrij, maar de vergoeding is gefixeerd. Binnen dat kader is tot 20 jaar de behandeling voor de patiënt gratis. Het nationale verzekeringssysteem vergoedt verder 40-45% van de kosten die verband houden met de algemene mondgezondheid. Voor prothetiek en orthodontie is dat echter slechts 20%.
Zwitserland	Ja	Ernstige groeifouten worden door de federale verzekering gedekt. Daartoe is een lijst opgesteld met criteria aan de hand waarvan de vergoeding wordt bepaald. De rest wordt overgelaten aan de particuliere verzekeringsmaatschappijen.

APPENDIX TO CHAPTER 4

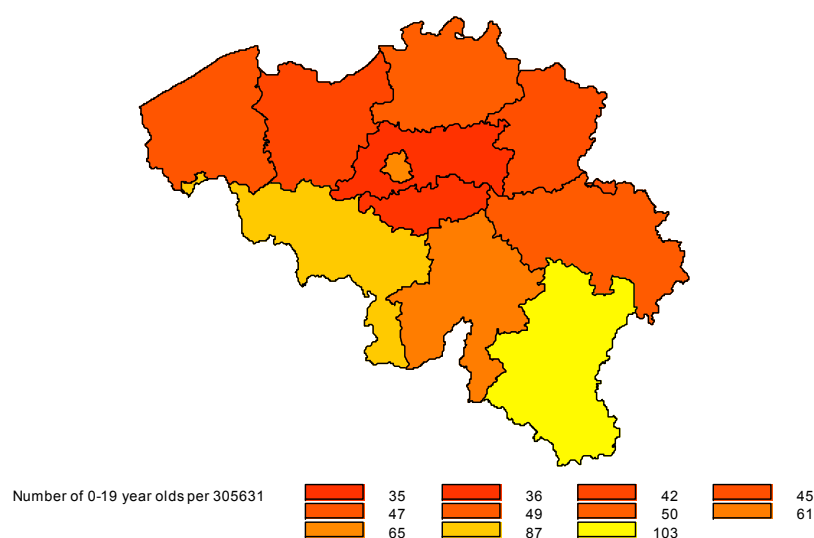
DENSITY OF PRACTITIONERS

Figure 4: Demographic information on the ratio of inhabitants (all ages) per orthodontic care provider (specialists and non-specialists) over the provinces



Source: RIZIV/INAMI and NIS (<http://ecodata.mineco.fgov.be/mdn/bevolking.jsp>; both accessed October 2007)

Figure 5: Number of 0-19 year olds per start of orthodontic treatment in 2005 (act 305631) over the provinces (orthodontic care provided by the total sample of specialists and non-specialists)

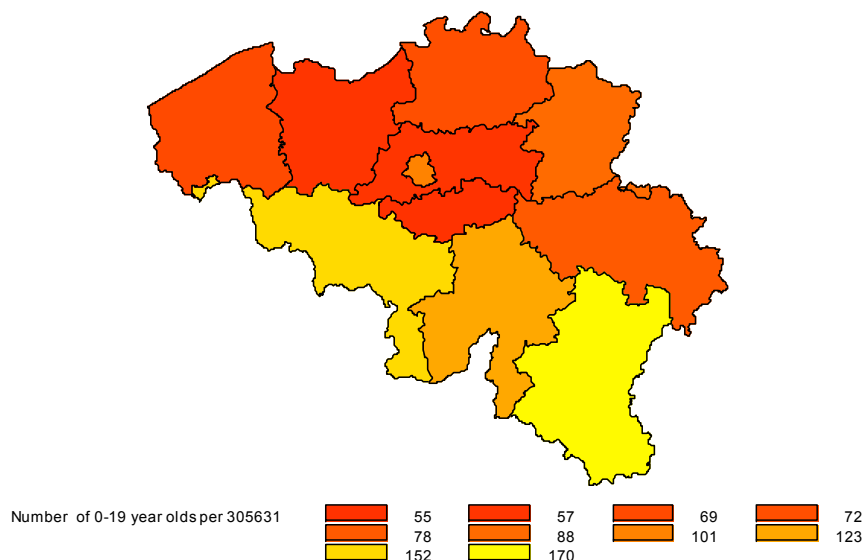


Source: RIZIV (Oct 2007); NIS (<http://ecodata.mineco.fgov.be/mdn/bevolking.jsp>; accessed October 2007)

Although Namur and Brussels are on the lower side of the Belgian spectrum with respectively 1.5% and 1.6% of 0-19yrs olds starting an orthodontic treatment, the situation is rather dramatic in the provinces of Hainaut with 1.15 % and Luxemburg where only 0.97% of the 0-19yr olds starting an orthodontic treatment.

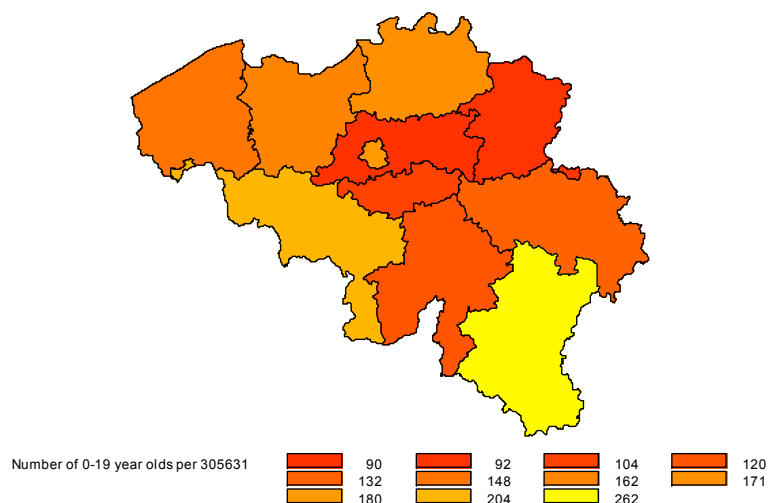
East Flanders, West-Flanders and Limburg are very close to the Belgian average of 2% with respectively 2.4%, 2.1% and 2.2%, while in Antwerp and Liège the Belgian average of 2% is exactly reached.

Figure 6: Number of 0-19yrs olds per start of orthodontic treatment (act 305631) over the provinces (orthodontic care provided by specialists) in 2005



Source: RIZIV (Oct 2007); NIS (<http://ecodata.mineco.fgov.be/mdn/bevolking.jsp>; accessed October 2007)

Figure 7: Number of 0-19yrs olds by start of orthodontic treatment (act 305631) over the provinces (orthodontic care provided by non-specialist orthodontist care provider) in 2005



Source: RIZIV (Oct 2007); NIS (<http://ecodata.mineco.fgov.be/mdn/bevolking.jsp>; accessed October 2007)

Table 13: Distribution of the non-specialist orthodontic care providers over the country and per region and associated demographic data on overall number of inhabitants and number of inhabitants in the selected age category of 0-19yr olds per non-specialist orthodontic care provider. With the number of 305631 (start of orthodontic treatment), the average access to non-specialistic orthodontic treatment in the regions is calculated.

Region	Number of non-specialist orthodontic care providers	Number of inhabitants per non-specialist orthodontic care provider	Number of 0-19 year olds per non-specialist orthodontic care provider	305631	Number of 0-19 year olds per 305631
Belgium	358	29178	6743	17147	141
Flemish region	225	26858	5968	10327	130
Walloon region	101	33623	8233	5491	151
Brussels-Capital region	32	31461	7494	1329	180

Source: RIZIV (Oct 2007); NIS (<http://ecodata.mineco.fgov.be/mdn/bevolking.jsp>; accessed October 2007)

The non-specialist OHCP's as previously defined, delivered on average for Belgium 1 in 141 (0.7%) of the starts of treatment in the 0-19yrs in 2005. This was 1 in 130 (0.8%) for the Flemish region, 1 in 151 (0.7%) for the Walloon region and 1 in 180 (0.6%) in Brussels. The general access to non-specialistic orthodontic care, is the lowest in Brussels capital region followed by the Walloon region and the highest in the Flemish region.

- The access to non-specialist OT starts in 0-19yr old in 2005 was 1 in 141 (0.7%) for Belgium, 1 in 130 (0.8%) for the Flemish region, 1 in 151 (0.7%) for the Walloon region and 1 in 180 (0.6%) for Brussels.
- The general access to non-specialistic orthodontic care, is the lowest in Brussels capital region followed by the Walloon region and the highest in the Flemish region

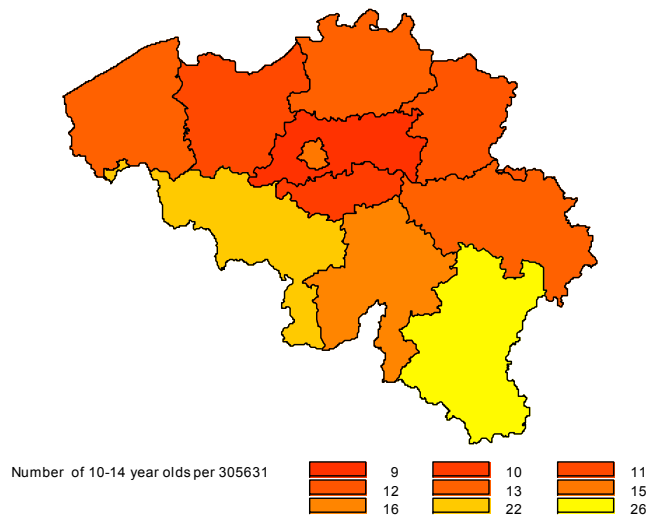
Table 14: Distribution of the non-specialist orthodontic care providers over the provinces and associated demographic data on overall number of inhabitants as well as number of inhabitants in the selected age category of 0-19yr olds per non-specialist orthodontic care provider. With the number of 305631 (start of orthodontic treatment), the average access to non-specialistic orthodontic treatment over the provinces is calculated.

Province	Number of non-specialist orthodontic care providers	Number of inhabitants per non-specialist orthodontic care provider	Number of 0-19 year olds per non-specialist orthodontic care provider	305631	Number of 0-19 year olds per 305631
East Flanders	52	26540	5786	1854	162
West Flanders	48	23719	5187	1684	148
Antwerp	47	35678	8022	2210	171
Flemisch Brabant	41	25312	5736	2610	90
Limburg	37	21890	4882	1969	92
Liège	33	31334	7467	1867	132
Brussels	32	31461	7494	1329	180
Hainaut	29	44354	10702	1520	204
Walloon Brabant	17	21399	5484	897	104
Namur	16	28491	7091	947	120
Luxembourg	6	42667	11340	260	262

Source: RIZIV (Oct 2007); NIS (<http://ecodata.mineco.fgov.be/mdn/bevolking.jsp>; accessed October 2007)

Luxembourg and Hainaut remain in all aspects the most problematic provinces for access to orthodontic treatment. In Flemish Brabant and in Limburg, also the access to orthodontic treatment via the non-specialist OHCP's seems to be rather high.

Figure 8: A. Geographical distribution of the number of 10-14 year olds per start of orthodontic treatment in 2005 (act 305631) over the provinces (orthodontic care provided by the total sample of specialists and non-specialists):



Source: RIZIV (Oct 2007); NIS (<http://ecodata.mineco.fgov.be/mdn/bevolking.jsp>; accessed October 2007)

APPENDIX TO CHAPTER 5

FORM 60

Aanvraag om tegemoetkoming van de verzekering voor geneeskundige verzorging voor orthodontische behandeling (bijlage 60)

Bijlage 60

AANVRAAG OM TEGEMOETKOMING VAN DE VERZEKERING VOOR GENEESKUNDIGE VERZORGING VOOR ORTHODONTISCHE BEHANDELING

in te vullen door de rechthebbende of kleefstrookje aanbrengen

RECHTHEBBENDE: Naam en voornaam
 Adres
 Verzekeringsinstelling
 Inschrijvingsnummer bij de verzekeringsinstelling

in te vullen door de praktiserende :

Patiënt: Naam en voornaam :
 Geboortedatum :

BELANGRIJK De punten 1 tot 6 moeten verplicht ingevuld worden.

1. Het gaat om

☒ **AANVRAAG OM TEGEMOETKOMING**

(bevoegdheid van de adviserend geneesheer)

☐ **AANVRAAG OM VOORTZETTING ALS AANVANKELIJK MINDER DAN 36 VERSTREKKINGEN 305616-305620 ZIJN TOEGESTAAN**

(bevoegdheid van de adviserend geneesheer)

☐ **AANVRAAG OM VERLENGING ALS 36 VERSTREKKINGEN 305616-305620 ZIJN TOEGESTAAN EN UITGEVOERD**

(bevoegdheid van de Technische tandheelkundige raad)

2. In geval van VOORTZETTING of VERLENGING van behandeling :

Behandeling verricht van _____ tot _____

Aantal geattesteerde verstrekkingen 305616-305620



Werd de behandeling regelmatig gevolgd ? JA/NEEN(*)

Indien de behandeling werd onderbroken, was dat dan met de toestemming van de praktiserende ? JA/NEEN

Onderbrekingsperiode : van _____ tot _____ Reden van de onderbreking : _____

3. Gedetailleerde **BESCHRIJVING** van de **AANVANKELIJKE DYSMORFOSE** of,

in geval van voortzetting of verlenging, van de verkregen **RESULTATEN** en van de **HUIDIGE TOESTAND VAN DE DYSMORFOSE**:

1/ _____

2/ _____

3/ _____

4/ _____

5/ _____

6/ _____

4. **BEHANDELINGSPLAN**: -

1/ _____

2/ _____

3/ _____

4/ _____

5. **GEVRAAGDE DUUR**: AANTAL VERSTREKKINGEN 305616-305620: _____

6. De blijvende tanden zijn zonder caries (*) / met caries (*) / verzorgd (*) _____

PRAKTIZERENDE: Naam en voornaam:

Adres :

Inschrijvingsnummer bij het R.I.Z.I.V. (stempel)

Datum :

Handtekening

Beslissing van de adviserend geneesheer: (hiervan moet aan de rechthebbende kennis worden gegeven binnen een maand na de ontvangst van deze aanvraag)

☐ Akkoord voor x het maandelijks forfait 305616-305620 vanaf

☐ Geweigerd :

Motivering bij weigering of beperking van de gevraagde verstrekkingen:

Datum:

☐ Doorsturen van de verlengingsaanvraag naar de Technische tandheelkundige raad

Handtekening:

Identifikatie van de adviserend geneesheer (stempel):

(*) Schrappen wat niet past

DENTAL AND ORTHODONTIC NOMENCLATURE AND ITS APPLICATION IN GENERAL PRACTITIONERS (001) AND ORTHODONTISTS (007)

	Tandarts	Spec. Ortho
	001	007
I. RAADPLEGINGEN		
In de praktijk		
3x1114 – 3x1125 tandarts-specialist parodontologie	Neen	Neen
3x1092 – 3x1103 tandarts-specialist orthodontie	Neen	Ja
Consult bij de zieke thuis		
3x1033 – 3x1044 tandarts	Ja	Ja
Supplement voor dringende raadpleging tandarts		
3x1055 – 3x1066 zat., zond., feestdag tussen 8 en 21 u.	Ja	Ja
3x1070 – 3x1081 tussen 21 u. en 8 u. (nacht)	Ja	Ja
II. PREVENTIE		
Halfjaarlijks mondonderzoek met balans en instructies (<18 jaar)		
3x1556 – 3x1560 eerste semester	Ja	Ja
3x1571 – 3x1582 tweede semester	Ja	Ja
Jaarlijks mondonderzoek met dossier, incl. intrabuccale RX (18 ^{de} tot 56 ^{ste} verjaardag)		
301593 – 301604 jaarlijks mondonderzoek	Ja	Ja
Jaarlijkse profylactische reiniging (<12 jaar)		
371792 – 371803 rechter bovenkwadrant	Ja	Neen
371814 – 371825 linker bovenkwadrant	Ja	Neen
371836 – 371840 linker onderkwadrant	Ja	Neen
371851 – 371862 rechter onderkwadrant	Ja	Neen
371873 – 371884 samengevoegde kwadranten	Ja	Neen
Trimestriële tandsteenverwijdering bij gehandicapte		Neen
3x1696 – 3x1700 rechter bovenkwadrant	Ja	Neen
3x1711 – 3x1722 linker bovenkwadrant	Ja	Neen
3x1733 – 3x1744 linker onderkwadrant	Ja	Neen
3x1755 – 3x1766 rechter onderkwadrant	Ja	Neen
3x1770 – 3x1781 samengevoegd kwadranten	Ja	Neen
Jaarlijkse tandsteenverwijdering om medische reden		Neen
3x1394 – 3x1405 rechter bovenkwadrant	Ja	Neen
3x1416 – 3x1420 linker bovenkwadrant	Ja	Neen
3x1431 – 3x1442 linker onderkwadrant	Ja	Neen
3x1453 – 3x1464 rechter onderkwadrant	Ja	Neen
3x1475 – 3x1486 samengevoegde kwadranten	Ja	Neen
Jaarlijkse tandsteenverwijdering (≥ 18 jaar)		Neen
302153 – 302164 rechter bovenkwadrant	Ja	Neen
302175 – 302186 linker bovenkwadrant	Ja	Neen
302190 – 302201 linker onderkwadrant	Ja	Neen
302212 – 302223 rechter onderkwadrant	Ja	Neen
302234 – 302245 samengevoegde kwadranten	Ja	Neen
III. EXTRACTIES		Neen
374850 – 374861 extractie van melkchoektand,-molaar of blijvende tand (<12jaar)	Ja	Neen
374872 – 374883 idem per bijkomende tand in hetzelfde kwadrant en in dezelfde zitting	Ja	Neen
304850 – 304861 tandextractie ≥ 12 jaar en < 15 jaar, of ≥ 66 jaar	Ja	Neen
304872 – 304883 idem per bijkomende tand in hetzelfde kwadrant en in dezelfde zitting	Ja	Neen
304894 – 304905 tandextractie ≥ 15 jaar en < 66 jaar (om specifieke medische redenen)	Ja	Neen
304916 – 304920 idem per bijkomende tand in hetzelfde kwadrant en in dezelfde zitting	Ja	Neen
IV. PARODONTOLOGIE		Neen
301254 – 301265 bepaling paro-index (18 tem 35 jaar)	Ja	Neen
V. CONSERVERENDE ZORG		Neen

Wortelbehandelingen : < 18 jaar	Ja	Neen
3x4754 - 3x4765 sectie + extractie van één wortel	Ja	Neen
3x4776 - 3x4780 sectie + extractie van meerdere wortels	Ja	Neen
Wortelbehandelingen : ≤ 18 jaar		Neen
304710 - 304721 sectie + extractie van één wortel	Ja	Neen
304732 - 304743 sectie + extractie van meerdere wortels	Ja	Neen
VI. ORTHODONTIE		Neen
305594 – 305605 onderzoek met modellen en aanvraag	Ja	Ja
305616 – 305620 vast bedrag bij regelmatige behandeling	Ja	Ja
305653 – 305664 vast bedrag waarna onderbreking behandeling	Ja	Ja
305712 – 305723 vast bedrag waarna onderbreking tussenkomst	Ja	Ja
305631 – 305642 vast bedrag voor toestel bij aanvang	Ja	Ja
305675 – 305686 vast bedrag voor toestel na aanvang	Ja	Ja
305830 – 305841 orthodontisch advies met verslag	Ja	Ja
305852 – 305863 vast bedrag voor contentiecontrole	Ja	Ja
305896 – 305900 vast bedrag voor contentiecontrole waarna onderbreking	Ja	Ja
305874 – 305885 modellen op verzoek van de T.T.R.	Ja	Ja
305911 – 305922 schedelanalyse op tele-RX	Ja	Ja
VIII. RADIOLOGIE		Ja
3x7016 – 3x7020 extrabuccale RX van één kaakhelft	Ja	Ja
3x7031 – 3x7042 intrabuccale RX : eerste cliché	Ja	Ja
3x7053 – 3x7064 intrabuccale RX : volgend cliché	Ja	Ja
3x7090 – 3x7101 OPG	Ja	Ja
3x7112 – 3x7123 télé – RX : één cliché	Ja	Ja
3x7134 – 3x7145 télé – RX : twee clichés	Ja	Ja

Source: Letter RIZIV/INAMI -October 2007

Interpretation of the Belgian RIZIV/INAMI nomenclature for orthodontics

A or H	RIZIVcode	Creatie	Label_NL
A	301092	01-sep-07	* Raadpleging in de spreekkamer van een tandarts specialist in de orthodontie vanaf de 12de verjaardag
A	305594	01-jan-85	* Onderzoek vóór een eventuele orthodontische behandeling, inclusief de raadpleging en het nemen van de afdruk van de twee bogen, het vervaardigen van de studiemodellen, het stellen van de diagnose en het behandelingsplan, met verslag
A	305616	01-jan-85	Forfait voor regelmatige behandeling, ten hoogste twee per kalendermaand en zes per periode van zes kalendermaanden
A	305631	01-jan-85	Forfait voor apparatuur en per behandeling, bij het begin van de behandeling
A	305653	01-nov-97	Forfait voor regelmatige behandeling waarna een onderbreking van meer dan zes maanden begint
A	305675	01-jan-85	Forfait voor apparatuur en per behandeling, na de eerste zes forfaits voor regelmatige behandeling en ten vroegste in de loop van de zesde kalendermaand van de behandeling
A	305712	01-mei-02	Forfait voor regelmatige behandeling waarna een periode van niet-vergoedbare regelmatige behandeling volgt of waarvoor de toestemming tot verzekeringstegemoetkoming nog niet werd verleend door de bevoegde instantie
A	305830	01-jan-85	* Orthodontisch advies of orthodontisch onderzoek, met verslag
A	305852	01-jan-85	* Vast maandbedrag voor een contentiecontrole, maximum 4 per kalenderjaar
A	305874	01-jan-85	* Vervaardigen, op verzoek van de Technische tandheelkundige raad, van de studiemodellen van de twee bogen, genomen naar aanleiding van een aanvraag om verdere orthodontische behandeling
A	305896	01-nov-97	* Contentiecontrolezitting, waarna een onderbreking van meer dan zes maanden begint
A	307090	01-jun-91	Radiografisch onderzoek van een gans kaakbeen of van beide kaakbeenderen, per panoramisch cliché, ongeacht het aantal clichés, vanaf de 12de verjaardag
A	307112	01-jun-91	Craniofaciale teleradiografie voor orthodontie: één cliché, vanaf de 12de verjaardag
A	371092	01-sep-07	* Raadpleging in de spreekkamer van een tandarts specialist in de orthodontie tot de 12de verjaardag
A	305911	???	*Schedelanalyse op teleradiografie: tot einde toegestane behandeling??

Source: e-mail sent from KCE to Dr Bogaerts in Aug 2007; modified by CAC with later change

Remark: The website of the Socialistische Mutualiteit provides the interested public with a comprehensive list of the nomenclature codes of the RIZIV/INAMI, as well as the interpretation rules for orthodontic treatment in Belgiumⁱ.

French version

A or H	RIZIVcode	Creatie	Libellé_FR
A	301092	01-sep-07	* Consultation au cabinet d'un spécialiste en orthodontie à partir du 12ième anniversaire
A	305594	01-jan-85	* Examen préliminaire à un traitement orthodontique éventuel, y compris la consultation, et comportant la prise d'empreinte des deux arcades, la confection des moulages d'étude, l'établissement du diagnostic et du plan de traitement, avec rapport
A	305616	01-jan-85	Forfait de traitement régulier, au maximum deux par mois civil et six par période de six mois civils
A	305631	01-jan-85	Forfait pour appareillage et par traitement, en début de traitement
A	305653	01-nov-97	Forfait de traitement régulier après lequel survient une interruption de plus de six mois
A	305675	01-jan-85	Forfait pour appareillage et par traitement, après les six premiers forfaits de traitement régulier et au plus tôt au cours du sixième mois civil de traitement
A	305712	01-mei-02	Forfait de traitement régulier auquel succède une période de traitement régulier non remboursable ou dont l'autorisation pour l'intervention de l'assurance n'a pas encore été accordée par l'instance compétente
A	305830	01-jan-85	* Avis ou examen orthodontique, avec rapport
A	305852	01-jan-85	* Forfait mensuel pour un contrôle de contention, au maximum 4 par année civil
A	305874	01-jan-85	* Confection, à la demande du Conseil technique dentaire, des modèles d'étude des deux arcades pris à l'occasion d'une demande de prolongation de traitement orthodontique
A	305896	01-nov-97	* Séance de contrôle de contention après laquelle survient une interruption de plus de six mois
A	307090	01-jun-91	Examen radiographique de toute une mâchoire ou des deux mâchoires, par cliché panoramique, quel que soit le nombre de clichés, à partir du 12e
A	307112	01-jun-91	Téléradiographie crânio-faciale pour orthodontie : Un cliché, à partir du 12e anniversaire
A	371092	01-sep-07	* Consultation au cabinet d'un spécialiste en orthodontie jusqu'au 12ième anniversaire
A	305911	???	* Analyse céphalométrique: jusque???

TANDVERZORGING Art. 5 pag. 1

officieuze coördinatie

"K.B. 6.12.2005" (in werking 1.9.2005) + "K.B. 31.8.2007" (in werking 1.9.2007)

"Art. 5. Worden beschouwd als verstrekkingen waarvoor de bekwaamheid van tandheelkundige, zoals bepaald in artikel 4, vereist is :"

"K.B. 6.12.2005" (in werking 1.9.2005)

"§ 1. VERSTREKKINGEN TOT DE 12de VERJAARDAG :"

"K.B. 6.12.2005" (in werking 1.9.2005) + "K.B. 11.5.2007" (in werking 1.6.2007) +

"K.B. 31.8.2007" (in werking 1.9.2007)

"RAADPLEGINGEN

"K.B. 31.8.2007" (in werking 1.9.2007)"

371092 371103 * Raadpleging in de spreekkamer van een tandheelkundige, houder van de bijzondere beroepstitel van tandarts-specialist in de orthodontie, tot de 12e verjaardag

N 60

ⁱ [2007I003 CO Interpretatie nomenclatuur deel2_noprint.pdf](#). The rules relevant for orthodontics are situated on p. 306-309, p312-313 and p 329

TANDVERZORGING Art. 5 pag. 6*officieuze coördinatie***RADIOGRAFIEEN**

377016 377020	Extrabuccale radiografie van een onderkaakbeenheft, tot de 12 ^{de} verjaardag	N 26
377031 377042	Intrabuccale radiografie van een tand of van een tandengroep op een zelfde cliché, tot de 12 ^{de} verjaardag	N 13
377053 377064	Intrabuccale radiografie van een tand of van een tandengroep op een zelfde cliché, per bijkomend cliché tijdens een zelfde zitting, tot de 12 ^{de} verjaardag	N 8

TANDVERZORGING Art. 5 pag. 7*officieuze coördinatie*

377090 377101	Radiografisch onderzoek van een gans kaakbeen of van beide kaakbeenderen, per panoramisch cliché, ongeacht het aantal clichés, tot de 12 ^{de} verjaardag	N 41
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De verzekeringstegemoetkoming voor de verstrekkingen 377090 - 377101 of 307090 - 307101 is slechts één keer per kalenderjaar verschuldigd. De verzekeringstegemoetkoming voor de herhaling van de verstrekking 377090 - 377101 of 307090 - 307101 binnen eenzelfde kalenderjaar is enkel verschuldigd na voorafgaande toestemming van de adviserend geneesheer.

Craniofaciale teleradiografie voor orthodontie :

377112 377123	Eén cliché, tot de 12 ^{de} verjaardag	N 40
377134 377145	Twee clichés, tot de 12 ^{de} verjaardag	N 55

Per kalenderjaar geniet slechts één van de volgende verstrekkingen verzekeringstegemoetkoming : 377112 - 377123, 307112 - 307123, 377134 - 377145 of 307134 - 307145.

"K.B. 6.12.2005" (in werking 1.9.2005)

"§ 2. VERSTREKKINGEN VANAF DE 12^{de} VERJAARDAG :"

"K.B. 6.12.2005" (in werking 1.9.2005) + "K.B. 11.5.2007" (in werking 1.6.2007) +

"K.B. 31.8.2007" (in werking 1.9.2007)

"RAADPLEGINGEN

TANDVERZORGING Art. 5 pag. 7

officieuze coördinatie

"K.B. 31.8.2007" (in werking 1.9.2007)"

301092 301103 * Raadpleging in de spreekkamer van een tandheerkundige, houder van de bijzondere beroepstitel van tandarts-specialist in de orthodontie, vanaf de 12^e verjaardag

N 6

TANDVERZORGING Art. 5 pag. 15

officieuze coördinatie

RADIOGRAFIEEN

307016 307020 Extrabuccale radiografie van een onderkaakbeenheeft, vanaf de 12^{de} verjaardag

N 26

307031 307042 Intrabuccale radiografie van een tand of van een tandengroep op een zelfde cliché, vanaf de 12^{de} verjaardag

N 13

307053 307064 Intrabuccale radiografie van een tand of van een tandengroep op een zelfde cliché, per bijkomend cliché tijdens een zelfde zitting, vanaf de 12^{de} verjaardag

N 8

307090 307101 Radiografisch onderzoek van een gans kaakbeen of van beide kaakbeenderen, per panoramisch cliché, ongeacht het aantal clichés, vanaf de 12^{de} verjaardag

N 41

TANDVERZORGING Art. 5 pag. 16

officieuze coördinatie

De verzekeringstegemoetkoming voor de verstrekkingen 377090 - 377101 of 307090 - 307101 is slechts één keer per kalenderjaar verschuldigd. De verzekeringstegemoetkoming voor de herhaling van de verstrekking

377090 - 377101 of 307090 - 307101 binnen eenzelfde kalenderjaar is enkel verschuldigd na voorafgaande toestemming van de adviserend geneesheer.

Craniofaciale teleradiografie voor orthodontie :

307112 307123 Eén cliché, vanaf de 12^{de} verjaardag

N 40

307134 307145 Twee clichés, vanaf de 12^{de} verjaardag
Per kalenderjaar geniet slechts één van de volgende verstrekkingen
verzekeringstegemoetkoming : 377112 - 377123, 307112 - 307123, 377134 - 377145 of 307134 - 307145

N 55

"K.B. 6.12.2005" (in werking 1.9.2005)

"§ 3. OVERIGE VERSTREKKINGEN :

ORTHODONTISCHE BEHANDELINGEN

305594 305605	* Onderzoek vóór een eventuele orthodontische behandeling, inclusief de raadpleging en het nemen van de afdruk van de twee bogen, het vervaardigen van de studiemodellen, het stellen van de diagnose en het behandelingsplan, met verslag	L 50
<i>"K.B. 22.11.2006" (in werking 1.1.2007)"</i>		
305616 305620	Forfait voor regelmatige behandeling, ten hoogste twee per kalendermaand en zes per periode van zes kalendermaanden.	L 16,5
305653 305664	Forfait voor regelmatige behandeling waarna een onderbreking van meer dan zes maanden begint.	L 16,5
305712 305723	Forfait voor regelmatige behandeling waarna een periode van niet-vergoedbare regelmatige behandeling volgt of waarvoor de toestemming tot verzekeringstegemoetkoming nog niet werd verleend door de bevoegde instantie.	L 16,5
305631 305642	Forfait voor apparatuur en per behandeling, bij het begin van de behandeling.	L 125
305675 305686	Forfait voor apparatuur en per behandeling, na de eerste zes forfaits voor regelmatige behandeling en ten vroegste in de loop van de zesde kalendermaand van de behandeling.	L 125
<i>"K.B. 6.12.2005" (in werking 1.9.2005)"</i>		
305830 305841	* Orthodontisch advies of orthodontisch onderzoek, met verslag.	L 20
305852 305863	* Vast maandbedrag voor een contentiecontrole, maximum 4 per kalenderjaar	L 12
305896 305900	* Contentiecontrolezitting, waarna een onderbreking van meer dan zes maanden begint	L 12

TANDVERZORGING Art. 5 pag. 17

officieuze coördinatie

305874 305885	* Vervaardigen, op verzoek van de Technische tandheelkundige raad, van de studiemodellen van de twee bogen, genomen naar aanleiding van een aanvraag om verdere orthodontische behandeling	L 15
<i>"K.B. 5.10.2006" (in werking 1.12.2006)"</i>		
305911 305922	Schedelanalyse op een teleradiografie, exclusief de radiografie, éénmaal per kalenderjaar	L 10

EXCERPT FROM CIRCULAR LETTER OF RIZIV CONCERNING THE REIMBURSEMENT FEES FOR THE RIZIV ACTS ^k

§ I. Verstrekkingen tot de 12e verjaardag

I. Raadpleging

Raadpleging in de spreekkamer van een tandheelkundige, houder van de bijzondere beroepstitel van tandarts-specialist in de orthodontie, tot de 12 verjaardag

N = 3,771409 EUR

Codenummer	Honoraria	Tegemoetkoming	
		Rechthebbenden met voorkeurregeling	Rechthebbenden zonder voorkeurregeling
(2) 371092 371103 = N 6	22,63	22,63	22,63

II. Radiografieën

N = 0,828273 EUR

Codenummer		Honoraria		Tegemoetkomingen rechthebbenden MET voorkeurregeling		Tegemoetkomingen rechthebbenden ZONDER voorkeurregeling	
		100%	75% (stag.)	100%	75% (stag.)	100%	75% (stag.)
(1,2,3) 377016 377020 = N	26	21,54	16,16	21,54	16,16	21,54	16,16
(1,2,3) 377031 377042 = N	13	10,77	8,08	10,77	8,08	10,77	8,08
(1,2,3) 377053 377064 = N	8	6,63	4,97	6,63	4,97	6,63	4,97
(1,2,3) 377112 377123 = N	40	33,13	24,85	33,13	24,85	33,13	24,85
(1,2,3) 377134 377145 = N	55	45,56	34,17	45,56	34,17	45,56	34,17

N = 0,896427 EUR

Codenummer		Honoraria		Tegemoetkomingen rechthebbenden MET voorkeurregeling		Tegemoetkomingen rechthebbenden ZONDER voorkeurregeling	
		100%	75% (stag.)	100%	75% (stag.)	100%	75% (stag.)
(1,2,3) 377090 377101 = N	41	36,75	27,56	36,75	27,56	36,75	27,56

Source: RIZIV, Circular letter VI nr 2007/, of the 11th of December 2007 3910/ applicable from 01/01/2008

^k <http://www.riziv.fgov.be/care/nl/nomenclature/pdf/art05.pdf>

§ 2. Verstrekkingen vanaf de 12e verjaardag

I. Raadpleging

Raadpleging in de spreekkamer van een tandheelkundige, houder van de bijzondere beroepstitel van tandarts-specialist in de orthodontie, vanaf de 12° verjaardag

N = 3,771409 EUR

Codenummer	Honoraria	Tegemoetkoming	
		Rechthebbenden met voorkeurregeling	Rechthebbenden zonder voorkeurregeling
(2) 301092 301103 =N 6	22,63	22,63	18,08

II. Radiografieën

N = 0,828273 EUR

Codenummer	Honoraria	Tegemoetkomingen rechthebbenden MET voorkeurregeling		Tegemoetkomingen rechthebbenden ZONDER voorkeurregeling	
		100%	75% (stag.)	100%	75% (stag.)
(1,2,3) 307016 307020 =N 26	21,54	16,16	19,39	14,55	16,16
(1,2,3) 307031 307042 = N 13	10,77	8,08	9,70	7,28	8,08
(1,2,3) 307053 307064 = N 8	6,63	4,97	5,97	4,48	4,98
(1,2,3) 307112 307123 = N 40	33,13	24,85	29,82	22,37	24,85
(1,2,3) 307134 307145 = N 55	45,56	34,17	41,01	30,76	34,17

N = 0,896427 EUR

Codenummer	Honoraria	Tegemoetkomingen rechthebbenden MET voorkeurregeling		Tegemoetkomingen rechthebbenden ZONDER voorkeurregeling	
		100%	75% (stag.)	100%	75% (stag.)
(1,2,3) 307090 307101 = N 41	36,75	27,56	33,08	24,81	27,57

Source: RIZIV, Circular letter VI nr 2007/, of the 11th of December 2007 3910/ applicable from 01/01/2008

**§ 3. Overige verstrekkingen:
Orthodontische behandelingen**

L 1,400903 EUR

Codenummer	Honoraria	Tegemoetkoming	
		Rechthebbenden met voorkeurregeling	Rechthebbenden zonder voorkeurregeling
(1,2) 305594 305605 = L 50	70,05	70,05	52,54

L = 1,270487 EUR

Codenummer	Honoraria	Tegemoetkoming	
		Rechthebbenden met voorkeurregeling	Rechthebbenden zonder voorkeurregeling
(1,2) 305616 305620 = L 16,5	20,96	20,96	15,72
(1,2) 305653 305664 = L 16,5	20,96	20,96	15,72
(1,2) 305712 305723 = L 16,5	20,96	20,96	15,72

L = 1,270487 EUR

Codenummer	Honoraria	Tegemoetkoming	
		Rechthebbenden met voorkeurregeling	Rechthebbenden zonder voorkeurregeling
(1,2) 305631 305642 = L 125	158,81	158,81	119,11
(1,2) 305675 305686 = L 125	158,81	158,81	119,11
(1,2) 305852 305863 = L 12	15,25	15,25	11,44
(1,2) 305874 305885 = L 15	19,06	19,06	14,30
(1,2) 305896 305900 = L 12	15,25	15,25	11,44

L = 1,379478 EUR

Codenummer	Honoraria	Tegemoetkoming	
		Rechthebbenden met voorkeurregeling	Rechthebbenden zonder voorkeurregeling
(1,2) 305830 305841 = L 20	27,59	27,59	20,70

L = 1,215196EUR

Codenummer	Honoraria	Tegemoetkoming	
		Rechthebbenden met voorkeurregeling	Rechthebbenden zonder voorkeurregeling
(1,2) 305911 305922 = L 20	12,15	12,15	9,12

Source: RIZIV, Circular letter VI nr 2007/, of the 11th of December 2007 3910/ applicable from 01/01/2008

GUIDING TARIFFS

Guiding tariffs for orthodontic treatment initially negotiated between the BBUSO (professional organization of the orthodontists) and the CM/MC sick fund in 1997

Previous years

Minimale Syndicale tarieven orthodontie

I. RICHTTARIEF VOOR 2004

(gez. index nov 2003 | 12.36)

1. Vooronderzoek en advies

301011 + 307090 + 307112	88 €
305594	109 €
305830	26 €

2. Apparaatforfaits

APPARATUUR (1 ^{ste} en 2 ^{de} deel)	1039 €
(min/max)	(987 € - 1091 €)
Retentieapparatuur	209 €
Plaatsen retentiedraad 6 elementen	104 €

3. Controles

Controles 305616 x 6	286 €
Na 24x (bij idem practicus)	
305616 x 6	151 €
Contentiecontrole 305852/305896	18 €

(opm: De terugbetaling wordt geïndexeerd aan 1.38 % volgens het akkoord NCTZ)

II. RICHTTARIEF VOOR 2005

(gez. Index nov 2004 | 14.48)

1. Vooronderzoek en advies

301011 + 307090 + 307112	89.6 €
305594	111 €
305830	26.5 €

2. Apparaatforfaits

APPARATUUR (1 ^{ste} en 2 ^{de} deel)	1058 €
(min/max)	(1005 € - 1111 €)
Retentieapparatuur	213 €
Plaatsen retentiedraad 6 elementen	104 €

3. Controles

Controles 305616 x 6	291 €
Na 24x (bij idem practicus)	
305616 x 6	154 €
Contentiecontrole 305852/305896	18 €

(De terugbetaling wordt geïndexeerd aan 1.38 % volgens het akkoord NCTZ)

III. RICHTTARIEF VOOR 2006

(gez. Index nov 2005 | 16.82)

1. Vooronderzoek en advies

301011 + 307090 + 307112 (> 12 jr)	91.5 €
------------------------------------	--------

371011 + 377090 + 377112 (< 12 jr)	91.5 €
305830 + 307090 + 307112	97.9 €
305594	113 €
305830	27 €

2. Apparaatforfaits

APPARATUUR (1 ^{ste} en 2 ^{de} deel)	1079 €
(min/max)	(1025 € - 1133 €)
Retentieapparatuur	217 €
Plaatsen retentiedraad 6 elementen	106 €

3. Controles

Controles 305616 x 6	296 €
Na 24x (bij idem practicus)	
305616 x 6	157 €
Contentiecontrole 305852/305896	20 €

(De terugbetaling wordt geïndexeerd aan 2.6 % volgens het akkoord NCTZ)

Nieuw in de loop van het 2006 (het RIZIV zal U hierover berichten)

Aanvraag voor verzekeringstegemoetkoming voor de 15^{de} verjaardag

Tracing (1x per kalenderjaar)

IV. RICHTTARIEF VOOR 2007

(gez. Index nov 2005 116.82)

1. Vooronderzoek en advies

301011 + 307090 + 307112 (> 12 jr)	91.5 €
371011 + 377090 + 377112 (< 12 jr)	91.5 €
305830 + 307090 + 307112	97.9 €
305594 + 305991	113 €
305830	27 €

2. Apparaatforfaits

Forfait apparaat RPE (317925)	200 €
APPARATUUR (1 ^{ste} en 2 ^{de} deel) (305631 + 305675)	1079 €
(min/max)	(1025 € - 1133 €)
Retentieapparatuur	217 €
Plaatsen retentiedraad 6 elementen	106 €

3. Controles

Controles 305616 x 6	296 €
Na 24x (bij idem practicus)	
305616 x 6	157 €
Contentiecontrole 305852/305896	20 €

(De terugbetaling wordt geïndexeerd aan 2.6 % volgens het akkoord NCTZ)

Nieuw vanaf 1/12/2006

Aanvraag voor verzekeringstegemoetkoming (mod 60) tot de 15^{de} verjaardag

Tracing (1x per kalenderjaar): 305991

RIZIV/INAMI FEES

Table 15: Overview of convention fees and reimbursement by the national health insurance (€)

	Convention fee	National standard reimbursement
Orthodontic treatment demand: 305594	70.05	52.54
Appliance at the start of the treatment: 305631 and after 6 months of treatment: 305675	158.81	119.11
Monthly regular treatment: - 305616: max 2 per calendar month and 6 per six calendar months - 305653: regular treatment after which an interruption starts of more than 6 months - 305712: regular treatment after which non-reimbursable regular treatment follows	20.96	15.72
Orthodontic advice or research, with report : 305830	27.59	20.70
Contention check: - 305852: Max. 4 check per calendar year - 305896: check after which an interruption of more than 6 months follows	15.25	11.44
Radiographic examination 307090	36.75	27.57
Craniofacial tele-radiographic examination 307112		
Consultation of dentist/orthodontist before the age of 12: 371011/371092:	22.63	22.63
Consultation of dentist/orthodontist after the age of 12: 301011/301092:	22.63	18.08
Fabrication of model, on request of "Technische Tandheelkundige Raad/Conseil technique dentaire": 305874	19.06	14.30

Table 15 shows an overview of the convention fees and according reimbursement fees by the national health insurance. In appendix of chapter 5, the detailed fee-for-service list is included.

APPENDIX TO CHAPTER 6

Table 16: Orthodontic RIZIV/INAMI expenses for orthodontic treatment planning and RIZIV/INAMI-application for orthodontic treatment (ie 305594) per age category and per gender by country

		305594	
		N	Expenses (€)
Age group (yr)	Gender		
0-4	Male	18	915.48
	Female	28	1454.24
5-9	Male	3183	164049.59
	Female	4239	218456.10
10-14	Male	22116	1140743.70
	Female	25224	1301952.51
15-19	Male	1179	60444.64
	Female	958	49534.72

Table 17: Orthodontic RIZIV/INAMI expenses for orthodontic treatment planning and RIZIV/INAMI-application for orthodontic treatment (ie 305594) per age category and per gender by region

			305594	
			N	Expenses (€)
Region	Age Cat.(yr)	Gender		
Flemish region	0-4	Male	4	203.44
		Female	10	522.93
	5-9	Male	1037	53183.26
		Female	1467	74908.95
	10-14	Male	14664	752933.22
		Female	16663	855839.60
	15-19	Male	1016	51956.83
		Female	784	40324.54
Walloon region	0-4	Male	14	712.04
		Female	17	880.45
	5-9	Male	1844	95095.43
		Female	2405	124334.58
	10-14	Male	5955	309056.75
		Female	6805	353157.77
	15-19	Male	121	6379.33
		Female	134	7102.52
Brussels-Capital region	0-4	Male	0	0

		305594	
		N	Expenses (€)
	Female	1	50.86
5-9	Male	299	15620.56
	Female	366	19161.71
10-14	Male	1490	78397.71
	Female	1748	92551.62
15-19	Male	42	2108.48
	Female	40	2107.66

Table 18: Orthodontic RIZIV/INAMI expenses for orthodontic treatment planning and RIZIV/INAMI-application for orthodontic treatment (ie 305594) per age category and per gender by province

			305594	
			N	Expenses (€)
Province	Age Cat.(yr)	Gender		
Antwerp	0-4	Male	2	101.72
		Female	5	269.75
	5-9	Male	317	16267.48
		Female	412	21085.74
	10-14	Male	3826	196565.63
		Female	4387	225999.11
	15-19	Male	303	15455.55
		Female	224	11528.30
Flemish Brabant	0-4	Male	1	50.86
		Female	1	49.74
	5-9	Male	285	14584.63
		Female	454	23143.45
	10-14	Male	2429	124276.73
		Female	2772	141591.86
	15-19	Male	140	7149.20
		Female	119	6077.65
West Flanders	0-4	Male	0	0
		Female	0	0
	5-9	Male	131	6739.57
		Female	185	9400.46
	10-14	Male	2995	153788.38
		Female	3380	173498.78
	15-19	Male	195	9939.18
		Female		

			305594	
			N	Expenses (€)
East Flanders	0-4	Female	126	6520.06
		Male	1	50.86
	5-9	Female	2	101.72
		Male	173	8870.09
	10-14	Female	261	13326.58
		Male	3321	170746.71
	15-19	Female	3816	195790.27
		Male	257	13101.60
		Female	208	10701.97
		Male		
Hainaut	0-4	Male	1	50.86
		Female	3	152.58
	5-9	Male	421	21853.80
		Female	537	27761.34
	10-14	Male	1982	103181.62
		Female	2259	117518.61
	15-19	Male	48	2568.39
		Female	71	3753.77
		Male		
		Female		
Liège	0-4	Male	10	508.60
		Female	12	626.15
	5-9	Male	947	48906.83
		Female	1254	65107.90
	10-14	Male	1882	98293.37
		Female	2113	110421.75
	15-19	Male	23	1255.95
		Female	25	1334.93
		Male		
		Female		
Limburg	0-4	Male	0	0
		Female	2	101.72
	5-9	Male	131	6721.49
		Female	155	7952.72
	10-14	Male	2093	107555.77
		Female	2308	118959.58
	15-19	Male	121	6311.30
		Female	107	5496.56
		Male		
		Female		
Luxembourg	0-4	Male	0	0
		Female	1	50.86
	5-9	Male	156	7983.66
		Female	180	9245.63

			305594	
			N	Expenses (€)
	10-14	Male	365	18868.16
		Female	404	20787.97
	15-19	Male	2	90.92
		Female	2	99.48
Namur	0-4	Male	0	0
		Female	1	50.86
	5-9	Male	156	7989.64
		Female	241	12371.18
	10-14	Male	852	43939.55
		Female	994	51456.04
	15-19	Male	18	955.11
		Female	15	755.42
Brussels	0-4	Male	0	0
		Female	1	50.86
	5-9	Male	299	15620.56
		Female	366	19161.71
	10-14	Male	1490	78397.71
		Female	1748	92551.62
	15-19	Male	42	2108.48
		Female	40	2107.66
Walloon Brabant	0-4	Male	3	152.58
		Female	0	0
	5-9	Male	164	8361.50
		Female	193	9848.53
	10-14	Male	874	44774.05
		Female	1035	52973.40
	15-19	Male	30	1508.96
		Female	21	1158.92
Unknown	0-4	Male	0	0
		Female	0	0
	5-9	Male	3	150.34
		Female	1	50.86
	10-14	Male	7	356.02
		Female	8	403.52
	15-19	Male	0	0
		Female	0	0

Table 19: Orthodontic RIZIV/INAMI expenses for "first part of treatment with orthodontic appliance" (ie 305631) per age category and per gender by country

		305631	
		N	Expenses (€)
Age group (yr)	Gender		
0-4	Male	6	726.89
	Female	20	2374.56
5-9	Male	2628	306483.47
	Female	3463	404132.62
10-14	Male	19381	2265088.68
	Female	23245	2718348.36
15-19	Male	2469	288330.31
	Female	2116	248481.04

Table 20: Orthodontic RIZIV/INAMI expenses for "first part of treatment with orthodontic appliance" (ie 305631) per age category and per gender by region

			305631	
			N	Expenses (€)
Region	Age Cat.(yr)	Gender		
Flemish region	0-4	Male	2	265.65
		Female	7	839.65
	5-9	Male	864	100164.19
		Female	1242	143748.78
	10-14	Male	12866	1497738.01
		Female	15407	1793715.68
	15-19	Male	1884	218871.87
		Female	1587	185489.41
Walloon region	0-4	Male	4	461.24
		Female	13	1534.91
	5-9	Male	1538	179806.38
		Female	1937	226784.90
	10-14	Male	5269	618852.61
		Female	6227	732061.89
	15-19	Male	462	54686.93
		Female	406	48178.54
Brussels-Capital region	0-4	Male	0	0
		Female	0	0
	5-9	Male	223	26166.97

			305631	
			N	Expenses (€)
	10-14	Female	284	33598.94
		Male	1239	147693.44
		Female	1599	191197.27
	15-19	Male	123	14771.51
		Female	123	14813.09

Table 21: Orthodontic RIZIV/INAMI expenses for "first part of treatment with orthodontic appliance" (ie 305631) per age category and per gender by province

			305631	
			N	Expenses (€)
Province	Age Cat.(yr)	Gender		
Antwerp	0-4	Male	0	0
		Female	3	380.96
	5-9	Male	255	29581.91
		Female	368	42768.41
	10-14	Male	3228	376120.41
		Female	4026	470198.07
	15-19	Male	492	56991.01
		Female	410	48314.45
Flemish Brabant	0-4	Male	1	115.31
		Female	1	112.76
	5-9	Male	230	26524.21
		Female	372	42929.01
	10-14	Male	2194	254085.77
		Female	2587	299756.51
	15-19	Male	313	36192.09
		Female	236	27228.55
West Flanders	0-4	Male	0	0
		Female	0	0
	5-9	Male	119	13862.86
		Female	138	15930.81
	10-14	Male	2650	308712.19
		Female	3065	356145.02
	15-19	Male	389	45267.95
		Female	311	36215.36
East Flanders	0-4	Male	0	0

			305631	
			N	Expenses (€)
Hainaut	5-9	Female	1	115.31
		Male	144	16726.91
	10-14	Female	218	25231.80
		Male	2846	331598.86
	15-19	Female	3500	407090.68
		Male	441	51150.84
	0-4	Female	423	49192.46
		Male	0	0
	5-9	Female	2	230.62
		Male	359	42368.63
	10-14	Female	450	52614.77
		Male	1801	211668.99
	15-19	Female	2176	256538.97
		Male	154	18064.26
	0-4	Female	164	19466.22
		Male	4	461.24
Liège	5-9	Female	8	960.91
		Male	755	88371.65
	10-14	Female	972	114386.22
		Male	1641	194568.82
	15-19	Female	1864	220954.18
		Male	135	16558.98
	0-4	Female	97	11657.10
		Male	1	150.34
	5-9	Female	2	230.62
		Male	116	13468.30
	10-14	Female	146	16888.75
		Male	1948	227220.78
	15-19	Female	2229	260525.40
		Male	249	29269.98
	0-4	Female	207	24538.59
		Male	0	0
Limburg	5-9	Female	2	228.07
		Male	149	17230.00
	10-14	Female	168	19557.26
		Male	319	37325.63
	15-19	Female	407	47524.14
		Male	249	29269.98
	0-4	Female	207	24538.59
		Male	0	0
Luxembourg	5-9	Female	2	228.07
		Male	149	17230.00
	10-14	Female	168	19557.26
		Male	319	37325.63
	15-19	Female	407	47524.14
		Male	249	29269.98
	0-4	Female	207	24538.59
		Male	0	0

			305631	
			N	Expenses (€)
Namur	15-19	Male	22	2556.55
		Female	21	2477.12
	0-4	Male	0	0
		Female	0	0
	5-9	Male	129	14952.03
		Female	199	23114.34
	10-14	Male	748	87187.97
		Female	896	104859.42
	15-19	Male	75	8707.36
		Female	57	6716.29
	0-4	Male	0	0
		Female	0	0
	5-9	Male	223	26166.97
		Female	284	33598.94
Brussels	10-14	Male	1239	147693.44
		Female	1599	191197.27
	15-19	Male	123	14771.51
		Female	123	14813.09
	0-4	Male	0	0
		Female	1	115.31
	5-9	Male	146	16884.07
		Female	148	17112.31
	10-14	Male	760	88101.20
		Female	884	102185.18
	15-19	Male	76	8799.78
		Female	67	7861.81
	0-4	Male	0	0
		Female	0	0
Walloon Brabant	5-9	Male	3	345.93
		Female	0	0
	10-14	Male	7	804.62
		Female	12	1373.52
	15-19	Male	0	0
		Female	0	0
Unknown	0-4	Male	0	0
		Female	0	0
	5-9	Male	3	345.93
		Female	0	0
	10-14	Male	7	804.62
		Female	12	1373.52
	15-19	Male	0	0
		Female	0	0

Table 22: Orthodontic RIZIV/INAMI expenses for "second part of treatment with orthodontic appliance" (ie 305675) per age category and per gender by country

		305675	
		N	Expenses (€)
Age group (yr)	Gender		
0-4	Male	1	153.74
	Female	4	538.10
5-9	Male	824	96467.31
	Female	1068	124588.54
10-14	Male	14606	1704786.16
	Female	18915	2206685.82
15-19	Male	6011	701015.01
	Female	5348	625093.25

Table 23: Orthodontic RIZIV/INAMI expenses for "second part of treatment with orthodontic appliance" (ie 305675) per age category and per gender by region

			305675	
			N	Expenses (€)
Region	Age Cat.(yr)	Gender		
Flemish region	0-4	Male	1	153.74
		Female	1	153.74
	5-9	Male	131	15180.93
		Female	188	21870.61
	10-14	Male	9420	1095342.18
		Female	12304	1428986.41
	15-19	Male	4562	529892.63
		Female	3992	465128.32
Walloon region	0-4	Male	0	0
		Female	3	384.36
	5-9	Male	607	71233.85
		Female	755	88078.52
	10-14	Male	4230	495254.32
		Female	5331	625753.59
	15-19	Male	1174	138162.11
		Female	1078	126659.76
Brussels-Capital region	0-4	Male	0	0
		Female	0	0
	5-9	Male	85	9937.22

			305675	
			N	Expenses (€)
	10-14	Female	124	14524.10
		Male	949	113385.04
		Female	1264	150100.86
	15-19	Male	273	32729.65
		Female	277	33189.86

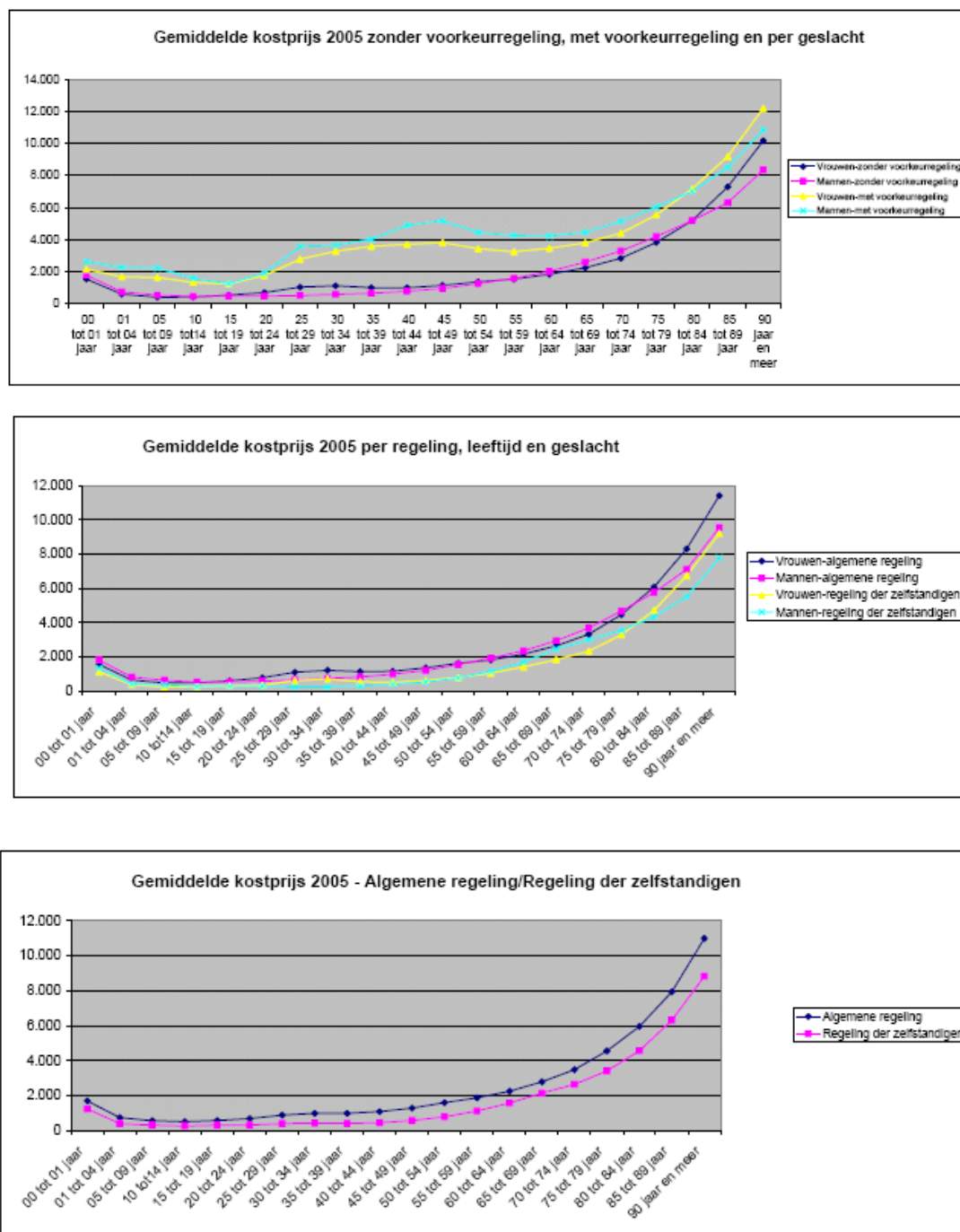
Table 24: Orthodontic RIZIV/INAMI expenses for "second part of treatment with orthodontic appliance" (ie 305675) per age category and per gender by province

			305675	
			N	Expenses (€)
Province	Age Cat.(yr)	Gender		
Antwerp	0-4	Male	0	0
		Female	1	153.74
	5-9	Male	40	4628.71
		Female	60	7010.94
	10-14	Male	2420	282256.40
		Female	3160	367954.56
	15-19	Male	1239	144424.30
		Female	995	116329.55
Flemish Brabant	0-4	Male	0	0
		Female	0	0
	5-9	Male	37	4256.27
		Female	64	7446.50
	10-14	Male	1477	171082.95
		Female	1999	231286.44
	15-19	Male	734	84858.30
		Female	677	78449.98
West Flanders	0-4	Male	0	0
		Female	0	0
	5-9	Male	17	1993.60
		Female	23	2685.46
	10-14	Male	2045	237920.57
		Female	2560	296690.26
	15-19	Male	904	104930.22
		Female	817	94936.51
East Flanders	0-4	Male	0	0

			305675	
			N	Expenses (€)
Hainaut	5-9	Female	0	0
		Male	18	2111.46
	10-14	Female	20	2306.20
		Male	2064	239374.90
	15-19	Female	2824	327920.18
		Male	1053	121906.74
	0-4	Female	984	114244.90
		Male	0	0
	5-9	Female	0	0
		Male	132	15532.79
	10-14	Female	180	21006.11
		Male	1404	164762.39
	15-19	Female	1811	213375.45
		Male	436	51539.25
	0-4	Female	399	46821.49
		Male	0	0
Liège	5-9	Female	3	384.36
		Male	334	39393.54
	10-14	Female	394	46139.56
		Male	1304	153977.88
	15-19	Female	1657	195822.91
		Male	326	38508.55
	0-4	Female	265	31582.83
		Male	1	153.74
	5-9	Female	0	0
		Male	19	2190.89
Limburg	10-14	Female	21	2421.51
		Male	1414	164707.36
	15-19	Female	1761	205134.97
		Male	632	73773.07
	0-4	Female	519	61167.38
		Male	0	0
	5-9	Female	0	0
		Male	49	5634.89
	10-14	Female	64	7405.52
		Male	283	32974.81
Luxembourg	0-4	Female	338	39398.72
		Male	0	0

			305675	
			N	Expenses (€)
	15-19	Male	62	7221.16
		Female	62	7196.31
Namur	0-4	Male	0	0
		Female	0	0
	5-9	Male	50	5793.73
		Female	56	6477.94
	10-14	Male	574	66431.93
		Female	748	87504.60
	15-19	Male	186	21831.61
		Female	176	20525.84
Brussels	0-4	Male	0	0
		Female	0	0
	5-9	Male	85	9937.22
		Female	124	14524.10
	10-14	Male	949	113385.04
		Female	1264	150100.86
	15-19	Male	273	32729.65
		Female	277	33189.86
Walloon Brabant	0-4	Male	0	0
		Female	0	0
	5-9	Male	42	4878.90
		Female	61	7049.39
	10-14	Male	665	77107.31
		Female	777	89651.91
	15-19	Male	164	19061.54
		Female	176	20533.29
Unknown	0-4	Male	0	0
		Female	0	0
	5-9	Male	1	115.31
		Female	1	115.31
	10-14	Male	7	804.62
		Female	16	1844.96
	15-19	Male	2	230.62
		Female	1	115.31

Table 25: Average total expenses per age category and gender of social security system (including RIZIV/INAMI) ¹

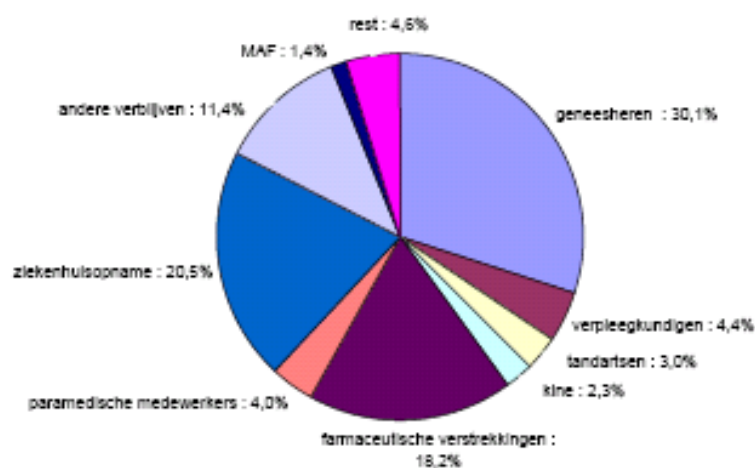


¹ <http://www.riziv.fgov.be/information/nl/statistics/health/2006/pdf/statisticshealth2006all.pdf>; consulted 22 nov 2007

Table 26: Prospective estimate of 2007 RIZIV/INAMI budget with expense posts ^m

	Doel 2007	% 2007
geneesheren	5.907.005	30,1%
verpleegkundigen	864.515	4,4%
tandartsen	589.291	3,0%
kine	460.329	2,3%
farmaceutische verstrekkingen	3.572.653	18,2%
paramedische medewerkers	777.450	4,0%
ziekenhuisopname	4.030.005	20,5%
andere verblijven	2.230.359	11,4%
MAF	275.613	1,4%
rest	911.433	4,6%
TOTAAL	19.618.653	100%

Bron : RIZIV - Dienst voor geneeskundige verzorging - Afdeling actuariële studien



Bron : RIZIV - Dienst voor geneeskundige verzorging - Afdeling actuariële studien

^m <http://www.riziv.fgov.be/information/nl/statistics/health/2006/pdf/statisticshealth2006all.pdf>; consulted 22 nov 2007

Table 27 ⁿ: RIZIV/INAMI expenses for medical health care, for dental health care and for orthodontic health care per capita in the age group of interest for the year 2005

	Recognized per 31 12 2005 (nrs)	Profiles 2005 & nrs	Year exp RIZIV 2005 (X 1 000 EUR) & %
Part I.			
1. Total number of general physicians	18 216	13 761	
2. Total number of specialists and specialists in training	23 960	19 516	
3. Total number of physicians	42 176	33 277	5 240 972 (30%)
4. Total number of dental providers (incl stomatol)*	8 363	7 576	522 990 (3%)
Part II			
	Nr of claimants	RIZIV exp 2005 in EUR	
1. Total nr of claimants entitled for RIZIV reimbursement (6/06)	9 369 424		
2. Total of RIZIV/INAMI expenses in 2005		17 250 196 000	
3. RIZIV-expenses for girls and boys of 0-9 yrs of age		732 665 000	
4. RIZIV-expenses for girls and boys of 10-19 yrs of age		607 101 000	
5. Nr of girls and boys 0-9 yrs entitled for RIZIV-reimb	1 087 062		
6. Nr of girls and boys of 10-19 yrs of age for RIZIV-reimb	1 232 619		
7. Average RIZIV-exp per claimant of 0 to 9 yrs of age		673, 99	
8. Average RIZIV-exp per claimant of 10 to 19 yrs of age		516, 32	
9. Total RIZIV-expenses for orthodontics**		30 873 832,6 (0,18% of II.2)	
		30 873 832,6 (5,9% of I.4)	
10. RIZIV-expenses for orthodontics in 2005 per entitled child if 100% of the 0-19yrs olds are considered**	2 319 681	13,3 (= 2,0% of 7.)	
		13,3 (= 2,6% of 8.)	
11. RIZIV-expenses for orthodontics in 2005 per entitled child if 30% of 0-19yrs olds are considered**	773 227	39,9 (= 5,9% of 7.)	
		39,9 (= 7,7% of 8.)	

***Remark:**

in the statistics of the year reports of RIZIV/INAMI until 2005 the dental health care component includes specialists in stomatology and physician-dentists; this will not be the case from 2006 anymore!

Sources:

1/ 5e Deel - Statistische gegevens- Statistiek van de sociaal verzekerden

2/ <http://www.riziv.fgov.be/information/nl/statistics/health/2006/pdf/statisticshealth2006all.pdf>

3/** Extrapolated data from RIZIV data sets orthodontics 1975-2005 by CAC

The RIZIV/INAMI year reports 2006 and 2007 were consulted to gather these data; this resulted in^o.

ⁿ 5e Deel - Statistische gegevens- Statistiek van de sociaal verzekerden - RIZIV

^o 5e Deel - Statistische gegevens- Statistiek van de sociaal verzekerden - RIZIV and

<http://www.riziv.fgov.be/information/nl/statistics/health/2006/pdf/statisticshealth2006all.pdf>; consulted 22 nov 2007

APPENDIX TO CHAPTER 7

QUESTIONNAIRE FOR PRACTITIONERS - DUTCH

Alle gegevens worden vertrouwelijk en anoniem verwerkt en enkel aangewend voor deze studie

I. Algemene inlichtingen:

I.1. Geslacht	☐ Vrouw ☐ Man
I.2. Bijzondere beroepstitel	☐ Tandarts-specialist in de orthodontie ☐ Tandarts-specialist in de parodontologie ☐ Algemeen tandarts
I.3. Start praktijk	☐ 0-10 jaar geleden ☐ 10-20 jaar geleden ☐ >20 jaar geleden
I.4. Aard van de praktijk(*) (**) (*Meerdere antwoorden mogelijk) (**Gelieve de rest van de enquête in te vullen voor de praktijk waar u het meest werkt.)	☐ Solo-praktijk ☐ Groepspraktijk met: -aantal orthodontisten <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <div style="text-align: right;">- aantal tandartsen</div> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <div style="text-align: right;">- aantal parodontologen</div> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <div style="text-align: right;">- andere disciplines:.....</div> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> ☐ Ziekenhuis met: - aantal orthodontisten <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <div style="text-align: right;">- aantal tandartsen</div> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <div style="text-align: right;">- aantal parodontologen</div> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <div style="text-align: right;">- andere disciplines:.....</div> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> ☐ Andere (specificeer)
I.5. Waar is uw hoofdpraktijk (ie waar u het meest werkzaam bent) gelegen?	☐ Hoofdstedelijk Gewest Brussel ☐ Vlaams-Brabant ☐ Waals-Brabant ☐ Antwerpen ☐ Luik ☐ Limburg ☐ Namen ☐ Oost-Vlaanderen ☐ Henegouwen ☐ West-Vlaanderen ☐ Luxemburg
I.6. Bent u geconventioneerd?	☐ Ja ☐ Neen ☐ Partiëel

II. Informatie naar patiëntencontacten en orthodontische behandelingen

II.1. Hoeveel behandelingen start u gemiddeld per jaar ? (gemiddelde van de laatste 3 jaar). Gelieve in aantal starts of in % te antwoorden.	Aantal starts/jaar	Procentueel aandeel t.o.v al uw behandelingen
- <u>Orthodontische</u> behandelingen bij kinderen en adolescenten tussen 0-15 jaar.	☐ ☐ ☐ ☐ ☐ ☐	☐ 0% ☐ 20-50% ☐ 100% ☐ <20% ☐ >50%
- <u>Orthodontische</u> behandelingen (0-99 jaar).	☐ ☐ ☐ ☐ ☐ ☐	☐ 0% ☐ 20-50% ☐ 100% ☐ <20% ☐ >50%
- <u>Tandheelkundige</u> behandelingen (0-99 jaar) (orthod. behandelingen niet inbegrepen)	☐ ☐ ☐ ☐ ☐ ☐	☐ 0% ☐ 20-50% ☐ <20% ☐ >50%

II.2 Hoeveel uren per week besteedt u aan:

Alle tandheelkundige behandelingen
(incl. orthodontische behandelingen)

☐☐☐☐☐ uur klinisch werk

☐☐☐☐☐ uur administratie, behandelplan, bijscholing,...

Orthodontische behandelingen patiënten 0-15 jaar

☐☐☐☐☐ uur klinisch werk

☐☐☐☐☐ uur administratie, behandelplan, bijscholing,...

II.3. Hoe zijn uw orthodontische behandelingen verdeeld over de volgende types behandelingen

% in totaal aantal
honoraria
orthod. behandelingen

% aandeel in

II.3.1. Voor de leeftijdscategorie 0-15 jaar:

- Interceptieve /eenvoudige behandeling

☐☐☐☐☐☐☐☐ %

- Orthopedische behandeling

☐☐☐☐☐☐☐☐ %

- Niet-complexe behandeling met vaste apparatuur

☐☐☐☐☐☐☐☐ %

- Complexe behandeling met vaste apparatuur

☐☐☐☐☐☐☐☐ %

(i.e. met bijkomende verankering, bvb botankers, of combinatie met sutuurexpansie, extra-orale etc)

☐☐☐☐☐☐☐☐ %

☐☐☐☐☐☐☐☐ %

☐☐☐☐☐☐☐☐ %

II.3.2. Voor de leeftijdscategorie > 15 jaar:

<ul style="list-style-type: none"> - Interceptieve / eenvoudige behandeling - Niet-complexe behandeling met vaste apparatuur - Complexe behandeling met vaste apparatuur 	<div style="text-align: right;">100 %</div> <div>100 %</div> <div> ☐☐☐☐☐☐☐☐ % </div> <div> ☐☐☐☐☐☐☐☐ % </div> <div> ☐☐☐☐☐☐☐☐ % </div> <div> ☐☐☐☐☐☐☐☐ % </div> <div> ☐☐☐☐☐☐☐☐ % </div> <div> ☐☐☐☐☐☐☐☐ % </div> <hr/> <div style="text-align: right;">100 %</div> <div>100 %</div>
II.4. Wat is het door u gehanteerde, totale honorarium voor volgende prestaties? (0-15 jr) <ul style="list-style-type: none"> - Orthodontisch advies - Second opinion - Diagnostische records, inclusief RX (orthopantomogram en teleradiografie) - Opstellen behandelingsplan - Bespreken behandelingsplan 	<div> ☐☐☐☐☐☐☐☐☐☐ € </div> <div> ☐☐☐☐☐☐☐☐☐☐ € </div> <div> ☐☐☐☐☐☐☐☐☐☐ € </div> <div> ☐☐☐☐☐☐☐☐☐☐ € </div> <div> ☐☐☐☐☐☐☐☐☐☐ € </div>
II.5. Duur, leeftijd en honorarium per behandelingstype II.5.1. Interceptieve behandeling <ul style="list-style-type: none"> - Gemiddelde duur - Gemiddelde leeftijd bij de start van de behandeling - Honorarium (inclusief apparatuur en aantal maanden/consultaties zoals door u aangegeven) 	<div> ☐☐☐☐☐ maanden* of </div> <div> ☐☐☐☐☐ consultaties* </div> <div> ☐☐☐☐☐ jaar </div> <div> ☐☐☐☐☐☐☐☐☐☐ € </div> <p>(* Gelieve een keuze te maken voor maanden of consultaties naargelang u aanrekent in maanden of consultaties)</p>
II.5.2. Orthopedische behandeling <ul style="list-style-type: none"> - Gemiddelde duur - Gemiddelde leeftijd bij de start van de behandeling - Honorarium (inclusief apparatuur en consultaties) 	<div> ☐☐☐☐☐ maanden* of </div> <div> ☐☐☐☐☐ consultaties* </div> <div> ☐☐☐☐☐ jaar </div> <div> ☐☐☐☐☐☐☐☐☐☐ € </div>
II.5.3. Niet-complexe behandeling met vaste apparatuur <ul style="list-style-type: none"> - Gemiddelde duur - Gemiddelde leeftijd bij de start van de behandeling 	<div> ☐☐☐☐☐ maanden* of </div> <div> ☐☐☐☐☐ consultaties* </div>

- Honorarium (inclusief apparatuur en consultaties)	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> jaar <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> €																				
II.5.4. Complexe* behandeling met vaste apparatuur - Gemiddelde duur - Gemiddelde leeftijd bij de start van de behandeling - Honorarium (inclusief apparatuur en consultaties) (* i.e. met bijkomende verankering, bvb botankers, of combinatie met sutuurexpansie, extra-orale etc)	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> maanden* of <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> consultaties* <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> jaar <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> €																				
II.6. Retentie Kostprijs retentie-apparaat Gemiddeld aantal retentiecontroles per patiënt Honorarium per retentiecontrole	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> € <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> controles <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> €																				
II.7. Herstelling, verlies en urgenties Hanteert u een extra vergoeding voor urgenties? ☐ ja ☐ neen Vraagt u een vergoeding bij herstelling apparaat? ☐ ja ☐ neen Vraagt u een vergoeding bij verlies apparaat? ☐ ja ☐ neen	Indien ja: <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> € per urgentie Indien ja: <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> € Indien ja: <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> €																				
II.8. Hoe vindt u het door u gehanteerde honorarium voor de orthodontische behandelingen t.o.v. de aangegeven referentiegroep? - T.o.v. de conventietarieven - T.o.v. de tarieven van collega specialisten - T.o.v. de internationaal gehanteerde tarieven - T.o.v. de kosten	<table border="1"> <thead> <tr> <th>Te laag</th> <th>Redelijk</th> <th>Te hoog</th> <th>Geen mening</th> </tr> </thead> <tbody> <tr> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> <tr> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> <tr> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> <tr> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> </tbody> </table>	Te laag	Redelijk	Te hoog	Geen mening	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Te laag	Redelijk	Te hoog	Geen mening																		
☐	☐	☐	☐																		
☐	☐	☐	☐																		
☐	☐	☐	☐																		
☐	☐	☐	☐																		
II.9. Weigering behandeling - Hoeveel patiënten per jaar waar u orthodontisch advies gaf (bespreking van een behandelings-plan), komen niet voor een actieve orthodontische behandeling? (Gemiddelde 2004,2005,2006)	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> ☐ Type apparatuur ☐ Duur																				

- Kan u de hoofdredenen hiervoor aangeven?

behandeling

☐ Kostprijs behandeling

☐ Niet gekend

☐ Andere,

specifieer

II.10 Offertes

- Maakt u gebruik van een geschreven offerte?

☐ Ja ☐ Neen

- Geeft u de patiënt, ouders of begeleiders een geschreven offerte mee?

☐ Ja ☐ Neen

II.11. Gebruikt u orthodontische behandelings-methoden die niet in de enquête voorkomen?

☐ Distractie

☐ Orthodontisch
implant verankering

☐ Orthodontisch
botanker

☐ RPE/RME

☐ Low friction bracket
system

☐ Invisalign

☐

Andere:

.....

.....

.....

II.12. Indices

Kent u het gebruik van orthodontische indices?

- Voor de indicatiestelling

☐ Neen

☐ Ja Zo ja, welke? ☐ IOTN ☐ ICON

☐

Andere:

☐ Neen

☐ Ja Zo ja, welke? ☐ PAR

☐

Andere:

☐ Neen

☐ Ja Zo ja, welke? ☐ IOTN ☐ ICON

☐

Andere:

☐ Neen

☐ Ja Zo ja, welke? ☐ PAR

☐

Andere:

II.13 Behandelt u schisispatiënten in uw praktijk?

- Zo ja, vanaf welke leeftijd?

☐ Ja ☐ Neen

☐☐☐☐☐ Maanden ☐☐☐☐☐ Jaar

☐ Ja ☐ Neen

- Zo ja, werkt u hiervoor samen met een schisisteam?

☐ Ja ☐ Neen

- Behandelt u in ander multidisciplinair teamverband?

.....

- Zo ja, welk?

III. Informatie naar het invullen van deze enquête

Werkt u in uw praktijk met een speciaal computerprogramma voor tandheeldkunde en/of orthodontie?

☐ ja ☐ neen

Indien ja, welk:

- | | |
|--------------------------------------|--|
| ☐ Baltes® | ☐ PCO |
| ☐ Chiron Pro® | ☐ Roots Dentaal® |
| ☐ Superdent® | ☐ Cyberdent® |
| ☐ Dent-Admin® | ☐ Tandem® |
| ☐ Do It® | ☐ Windent® |
| ☐ Winner® | ☐ Karius® |
| | ☐ Software niet in deze lijst |

IV. Apparatuur in uw praktijk

Tandheeldkundige unit(s)/stoel(en)	☐ Ja , Aantal	☐ Neen
Orthopantomogram toestel (niet digitaal)	☐ Ja , Aantal	☐ Neen
Orthopantomogramtoestel (digitaal)	☐ Ja , Aantal	☐ Neen
Teleradiografietoestoel (niet digitaal)	☐ Ja , Aantal	☐ Neen
Teleradiografietoestel (digitaal)	☐ Ja , Aantal	☐ Neen
Toestel voor intra-orale RX (niet digitaal)	☐ Ja , Aantal	☐ Neen
Toestel voor intra-orale RX (digitaal)	☐ Ja , Aantal	☐ Neen
Stralingsbescherming	☐ Ja , Aantal	☐ Neen
Dosimeter	☐ Ja , Aantal	☐ Neen
Automatische RX ontwikkelaar	☐ Ja , Aantal	☐ Neen
Sterilisatietoestel	☐ Ja , Aantal	☐ Neen
Toestel voor vacuumverpakking	☐ Ja , Aantal	☐ Neen
Zandstraalapparaat	☐ Ja , Aantal	☐ Neen
Alginaatmenger	☐ Ja , Aantal	☐ Neen
Polimerisatielamp	☐ Ja , Aantal	☐ Neen
Fototoestel (reflex en film)	☐ Ja , Aantal	☐ Neen
Fototoestel (reflex en digitaal)	☐ Ja , Aantal	☐ Neen
Fototoestel (niet-reflex en film)	☐ Ja , Aantal	☐ Neen
Fototoestel (niet reflex en digitaal)	☐ Ja , Aantal	☐ Neen
PC / Computer	☐ Ja , Aantal	☐ Neen
Digitaal dossier	☐ Ja , Aantal	☐ Neen
Digitale agenda	☐ Ja , Aantal	☐ Neen
Digitale modellen	☐ Ja , Aantal	☐ Neen
Printer	☐ Ja , Aantal	☐ Neen
Faxapparaat	☐ Ja , Aantal	☐ Neen
Kopiëerapparaat	☐ Ja , Aantal	☐ Neen
Apparaat voor elektronisch betaalverkeer (Bancontact/Visa)	☐ Ja , Aantal	☐ Neen

V. Overige kosten

V.1. Wat zijn uw gemiddelde jaarkosten voor orthodontisch verbruiksmateriaal, inclusief labokosten? (jaren 2004, 2005, 2006.)

□ □ □ □ □ □ □ □ □ □ □ □ □ €

V.2. Hoeveel bedragen volgende kosten op jaarbasis?

(gemiddelde over de jaren 2004, 2005)

Verzekeringen:

- verzekering medische aansprakelijkheid

□ □ □ □ □ □ □ □ □ □ □ □ €

- andere verzekeringen (brand-, diefstal-, levens-, gewaarborgd inkomensverzekering)

□ □ □ □ □ □ □ □ □ □ □ □ €

Taksen

(Billijke vergoeding, Sabam, Reprobel, drijfkrachtheffing, provincietaks opp, Fanc)

□ □ □ □ □ □ □ □ □ □ □ □ €

Onderhoud:

- onderhoud apparatuur

□ □ □ □ □ □ □ □ □ □ □ □ €

- onderhoud gebouwen

□ □ □ □ □ □ □ □ □ □ □ □ €

Gas –

Elektriciteit: □ □ □ □ □ □ □ □ □ □ □ □ €

Water: □ □ □ □ □ □ □ □ □ □ □ □ €

Verwarming(*):

□ □ □ □ □ □ □ □ □ □ □ □ €

(*) alleen in te vullen indien u niet verwarmt met gas of elektriciteit

Schoonmaak:

□ □ □ □ □ □ □ □ □ □ □ □ €

VI. Praktijkruimte

VI.1. Bent u eigenaar van de praktijkruimte?

☐ Ja ☐ Neen

Zo ja : Aankoopprijs

□ □ □ □ □ □ □ □ □ □ □ □ □ □

€

Jaar van aankoop

□ □ □ □ □ □ □ □

VI.2. Bent u huurder van de praktijkruimte?

☐ Ja ☐ Neen

Zo ja, Jaarlijkse huurprijs

□ □ □ □ □ □ □ □ □ □ □ □ □ €

VI.3. Grootte praktijkruimte (inclusief RX lokaal, onthaal, secretariaat, bureau, personeelslokaal, WC enz...)

Aantal m² □ □ □ □ □ □ □ □ □ □

QUESTIONNAIRE FOR PRACTITIONERS - FRENCH

Toutes les données seront traitées de manière confidentielle et anonyme et leur usage sera purement limité à cette étude

I. Informations générales:

I.1. Sexe	☐ Féminin ☐ Masculin
I.2. Titre professionnel particulier	☐ Dentiste spécialiste en orthodontie ☐ Dentiste spécialiste en parodontologie ☐ Dentiste généraliste
I.3. Année de début de votre activité professionnelle	☐ Il y a 0-10 ans ☐ Il y a 10-20 ans ☐ Il y a >20 ans
I.4. Type d'exercice professionnel (*) (**) (* Plusieurs réponses possibles) (** Veuillez compléter la suite de l'enquête en vous basant sur le lieu de votre activité professionnelle principale)	☐ Cabinet solo ☐ Cabinet de groupe avec – nombre d'orthodontistes <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> – nombre de dentistes <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> – nombre de parodontologues <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> – autres disciplines:..... <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> ☐ Hôpital avec – nombre d'orthodontistes <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> – nombre de dentistes <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> – nombre de parodontologues <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> – autres disciplines:..... <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> ☐ Autres (à spécifier)
I.5. Où exercez-vous ? (*) (*) Veuillez renseigner le lieu de votre activité professionnelle principale	<div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;"> ☐ Bruxelles ☐ Brabant Flamand ☐ Anvers ☐ Limbourg ☐ Flandre Orientale ☐ Flandre Occidentale Luxembourg </div> <div style="width: 50%;"> ☐ Brabant Wallon ☐ Liège ☐ Namur ☐ Hainaut ☐ </div> </div>
I.6. Etes-vous conventionné ?	☐ Oui ☐ Non ☐ Partiellement

[illegible][illegible][illegible][illegible]

Trop bas	Correct	Trop haut	Sans avis
☐	☐	☐	☐
☐	☐	☐	☐
☐	☐	☐	☐
☐	☐	☐	☐

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<p>actif ? (moyenne des années 2004,2005 et 2006)</p> <p>- Quelles en sont les raisons?</p>	<div style="display: flex; justify-content: space-between;"> <div> ☐ Type d'appareil traitement ☐ Coût du traitement inconnue ☐ Autre (à spécifier) </div> <div> ☐ Durée du traitement ☐ Raison </div> </div>
<p>II.10 Devis</p> <p>- Utilisez-vous des devis ?</p> <p>- Remettez-vous au patient et/ou aux parents ou accompagnateurs du patient un devis écrit</p>	<div style="display: flex; justify-content: space-between;"> <div> ☐ Oui ☐ Non </div> <div> ☐ Oui ☐ Non </div> </div>
<p>II.11. Utilisez-vous des moyens thérapeutiques orthodontiques non repris dans l'enquête</p>	<div style="display: flex; justify-content: space-between;"> <div> ☐ Distraction ☐ Ancrage par implant orthodontique ☐ RPE/RME </div> <div> ☐ Low friction bracket system ☐ Invisalign ☐ Autre(s): </div> </div>
<p>II.12.Indices</p> <p><u>Connaissez-vous l'utilisation des indices orthodontiques?</u></p> <p>- Pour <u>l'indication</u> thérapeutique</p> <p>- Pour <u>l'évaluation</u> du résultat thérapeutique</p> <p><u>Utilisez-vous l'un de ces indices orthodontiques ?</u></p> <p>- Pour <u>l'indication</u> thérapeutique</p> <p>- Pour <u>l'évaluation</u> du résultat thérapeutique</p>	<div style="display: flex; justify-content: space-between;"> <div> ☐ Non ☐ Oui Si oui, lequel? ☐ IOTN ☐ ICON ☐ Autre(s): ☐ Non ☐ Oui Si oui, lequel? ☐ PAR ☐ Autre(s): ☐ Non ☐ Oui Si oui, lequel? ☐ IOTN ☐ ICON ☐ Autre(s): ☐ Non ☐ Oui Si oui, lequel? ☐ PAR ☐ Autre(s): </div> <div> ☐ Non ☐ Oui Si oui, lequel? ☐ IOTN ☐ ICON ☐ Autre(s): ☐ Non ☐ Oui Si oui, lequel? ☐ PAR ☐ Autre(s): </div> </div>
<p>II.13 Traitez-vous des patients présentant une fente labio- palatine?</p> <p>- Si oui, à partir de quel âge ?</p> <p>- Si oui, travaillez-vous avec une équipe spécialisée dans les fentes labio-palatines?</p> <p>- Travaillez-vous avec une équipe spécialisée en d'autres thérapeutiques multidisciplinaires ?</p> <p>- Si oui, laquelle?</p>	<div style="display: flex; justify-content: space-between;"> <div> ☐ Oui ☐ Non ☐ ☐ ☐ ☐ ☐ Mois ☐ ☐ ☐ ☐ ☐ Ans ☐ Oui ☐ Non ☐ Oui ☐ Non </div> <div> ☐ Oui ☐ Non ☐ Oui ☐ Non </div> </div>

III. Informations relatives à cette enquête

Utilisez-vous un programme informatisé spécifique pour la dentisterie et/ou l'orthodontie?	☐ Oui	☐ Non
	Si oui, lequel:	
	☐ Baltes®	☐ PCO
	☐ Chiron Pro®	☐ Roots Dentaal®
	☐ Superdent®	☐ Cyberdent®
	☐ Dent-Admin®	☐ Tandem®
	☐ Do It®	☐ Windent®
	☐ Winner®	☐ Karius®
		☐ Autre

IV. Appareillage

Fauteuil / « unit » de dentiste	☐ Oui, Nbre ☐ ☐ ☐ ☐ ☐ ☐	☐ Non
Appareil OPT (non digital)	☐ Oui, Nbre ☐ ☐ ☐ ☐ ☐ ☐	☐ Non
Appareil OPT (digital)	☐ Oui, Nbre ☐ ☐ ☐ ☐ ☐ ☐	☐ Non
Appareil de téléradiographie (non digital)	☐ Oui, Nbre ☐ ☐ ☐ ☐ ☐ ☐	☐ Non
Appareil de téléradiographie (digital)	☐ Oui, Nbre ☐ ☐ ☐ ☐ ☐ ☐	☐ Non
Appareil de radiographie intra-orale (non digital)	☐ Oui, Nbre ☐ ☐ ☐ ☐ ☐ ☐	☐ Non
Appareil de radiographie intra-orale (digital)	☐ Oui, Nbre ☐ ☐ ☐ ☐ ☐ ☐	☐ Non
Protection des rayonnements ionisants	☐ Oui, Nbre ☐ ☐ ☐ ☐ ☐ ☐	☐ Non
Dosimètre	☐ Oui, Nbre ☐ ☐ ☐ ☐ ☐ ☐	☐ Non
Appareil de développement automatique des radiographies	☐ Oui, Nbre ☐ ☐ ☐ ☐ ☐ ☐	☐ Non
Appareil de stérilisation	☐ Oui, Nbre ☐ ☐ ☐ ☐ ☐ ☐	☐ Non
Appareil pour emballer sous vide	☐ Oui, Nbre ☐ ☐ ☐ ☐ ☐ ☐	☐ Non
Sableuse	☐ Oui, Nbre ☐ ☐ ☐ ☐ ☐ ☐	☐ Non
Langueur d'alginate	☐ Oui, Nbre ☐ ☐ ☐ ☐ ☐ ☐	☐ Non
Lampe à polymériser	☐ Oui, Nbre ☐ ☐ ☐ ☐ ☐ ☐	☐ Non
Appareil photo (reflex et film)	☐ Oui, Nbre ☐ ☐ ☐ ☐ ☐ ☐	☐ Non
Appareil photo (reflex et digital)	☐ Oui, Nbre ☐ ☐ ☐ ☐ ☐ ☐	☐ Non
Appareil photo (non reflex et film)	☐ Oui, Nbre ☐ ☐ ☐ ☐ ☐ ☐	☐ Non
Appareil photo (non reflex et digital)	☐ Oui, Nbre ☐ ☐ ☐ ☐ ☐ ☐	☐ Non
PC/ Ordinateur	☐ Oui, Nbre ☐ ☐ ☐ ☐ ☐ ☐	☐ Non
Dossier informatisé	☐ Oui, Nbre ☐ ☐ ☐ ☐ ☐ ☐	☐ Non
Agenda informatisé	☐ Oui, Nbre ☐ ☐ ☐ ☐ ☐ ☐	☐ Non
Modèles digitalisés	☐ Oui, Nbre ☐ ☐ ☐ ☐ ☐ ☐	☐ Non
Imprimante	☐ Oui, Nbre ☐ ☐ ☐ ☐ ☐ ☐	☐ Non
Fax	☐ Oui, Nbre ☐ ☐ ☐ ☐ ☐ ☐	☐ Non
Photocopieuse	☐ Oui, Nbre ☐ ☐ ☐ ☐ ☐ ☐	☐ Non
Appareil pour paiement électronique (Bancontact / VISA, ...)	☐ Oui, Nbre ☐ ☐ ☐ ☐ ☐ ☐	☐ Non

V. Autres coûts

V.1. Quel est le coût annuel moyen du matériel orthodontique utilisé (en ce inclus les frais de laboratoire)? (moyenne de 2004, 2005 et 2006).

□ □ □ □ □ □ □ □ □ □ □ □ □ □ €

V.2. A combien s'élèvent annuellement les frais suivants? (moyenne de 2004, 2005 et 2006)

Assurances:

- Assurance responsabilité médicale

□ □ □ □ □ □ □ □ □ □ □ □ €

- autres assurances (incendie, vol, vie, revenus garantis)

□ □ □ □ □ □ □ □ □ □ □ □ €

Taxes

(SABAM, REPROBEL, AFCN, provinciales, etc)

□ □ □ □ □ □ □ □ □ □ □ □ €

Entretien:

- entretien appareillage

□ □ □ □ □ □ □ □ □ □ □ □ €

- entretien batiments

□ □ □ □ □ □ □ □ □ □ □ □ €

Gaz –

Electricité: □ □ □ □ □ □ □ □ □ □ □ □ €

Eau: □ □ □ □ □ □ □ □ □ □ □ □ €

Chauffage(*):

□ □ □ □ □ □ □ □ □ □ □ □ €

(*) à ne compléter que si vous ne chauffez ni au gaz ni à l'électricité

Nettoyage:

□ □ □ □ □ □ □ □ □ □ □ □ €

VI. Locaux professionnels

VI.1. Etes-vous propriétaire des locaux?

☐ Oui ☐ Non

Si oui : Prix d'achat

□ □ □ □ □ □ □ □ □ □ □ □ □ □

€

Année d'acquisition

□ □ □ □ □ □ □ □

VI.2. Etes-vous locataire des locaux?

☐ Oui ☐ Non

Si oui, coût annuel de location:

□ □ □ □ □ □ □ □ □ □ □ □ □ €

VI.3. Nombre de m²: locaux professionnels (y compris le local radiologique, l'accueil, le secrétariat, les bureaux, les locaux personnels, les toilettes,...).

Nombre de m² □ □ □ □ □ □ □ □

QUESTIONNAIRE RESULTS

Table 28: General information

Variable	Statistic	Orthodontic specialist	Orthodontic non-specialist care giver
Number of respondents	N	79	95
Gender			
Female	n/N (%)	48/78 (61.54%)	41/94 (43.62%)
Male	n/N (%)	30/78 (38.46%)	53/94 (56.38%)
Job title			
Orthodontic specialist	n/N (%)	79/79 (100.00%)	0/95 (0.00%)
Periodontic specialist	n/N (%)	0/79 (0.00%)	2/95 (2.11%)
General dentist	n/N (%)	0/79 (0.00%)	93/95 (97.89%)
Start practice			
0%	n/N (%)	14/76 (18.42%)	8/93 (8.60%)
<20%	n/N (%)	26/76 (34.21%)	16/93 (17.20%)
20-50%	n/N (%)	36/76 (47.37%)	69/93 (74.19%)
Province			
Brussels	n/N (%)	11/76 (14.47%)	4/95 (4.21%)
Flemish Brabant	n/N (%)	13/76 (17.11%)	10/95 (10.53%)
Antwerp	n/N (%)	11/76 (14.47%)	12/95 (12.63%)
Limburg	n/N (%)	10/76 (13.16%)	8/95 (8.42%)
East Flanders	n/N (%)	3/76 (3.95%)	21/95 (22.11%)
West Flanders	n/N (%)	7/76 (9.21%)	14/95 (14.74%)
Walloon Brabant	n/N (%)	6/76 (7.89%)	2/95 (2.11%)
Liège	n/N (%)	8/76 (10.53%)	12/95 (12.63%)
Namur	n/N (%)	1/76 (1.32%)	4/95 (4.21%)
Hainaut	n/N (%)	4/76 (5.26%)	7/95 (7.37%)
Luxembourg	n/N (%)	2/76 (2.63%)	1/95 (1.05%)
Conventioned			
No	n/N (%)	62/74 (83.78%)	38/94 (40.43%)
Yes	n/N (%)	6/74 (8.11%)	17/94 (18.09%)
Partly	n/N (%)	6/74 (8.11%)	39/94 (41.49%)

Table 29: Type of Practice

Variable	Statistic	Total
Number of respondents	N	184
Single practice		
No	n/N (%)	42/181 (23.20%)
Yes	n/N (%)	139/181 (76.80%)
Solo practice		
No	n/N (%)	88/181 (48.62%)
Yes	n/N (%)	93/181 (51.38%)
Group practice		
No	n/N (%)	86/181 (47.51%)
Yes	n/N (%)	95/181 (52.49%)
Group practice: number of orthodontists		
0	n/N (%)	26/87 (29.89%)
1	n/N (%)	35/87 (40.23%)
2	n/N (%)	21/87 (24.14%)
3	n/N (%)	3/87 (3.45%)
4	n/N (%)	1/87 (1.15%)
10	n/N (%)	1/87 (1.15%)
Group practice: number of dentists		
0	n/N (%)	20/90 (22.22%)
1	n/N (%)	23/90 (25.56%)
2	n/N (%)	22/90 (24.44%)
3	n/N (%)	9/90 (10.00%)

Variable	Statistic	Total
4	n/N (%)	7/90 (7.78%)
5	n/N (%)	2/90 (2.22%)
6	n/N (%)	1/90 (1.11%)
7	n/N (%)	3/90 (3.33%)
8	n/N (%)	1/90 (1.11%)
10	n/N (%)	2/90 (2.22%)
Group practice: number of parodontologists		
0	n/N (%)	76/87 (87.36%)
1	n/N (%)	11/87 (12.64%)
Group practice: number of other disciplines		
0	n/N (%)	69/87 (79.31%)
1	n/N (%)	14/87 (16.09%)
2	n/N (%)	3/87 (3.45%)
3	n/N (%)	1/87 (1.15%)
Hospital practice		
No	n/N (%)	149/181 (82.32%)
Yes	n/N (%)	32/181 (17.68%)
Hospital: number of orthodontists		
0	n/N (%)	2/32 (6.25%)
1	n/N (%)	14/32 (43.75%)
2	n/N (%)	5/32 (15.63%)
3	n/N (%)	2/32 (6.25%)
4	n/N (%)	1/32 (3.13%)
5	n/N (%)	2/32 (6.25%)
6	n/N (%)	2/32 (6.25%)
9	n/N (%)	1/32 (3.13%)
10	n/N (%)	2/32 (6.25%)
12	n/N (%)	1/32 (3.13%)
Hospital: number of dentists		
0	n/N (%)	5/32 (15.63%)
1	n/N (%)	3/32 (9.38%)
2	n/N (%)	1/32 (3.13%)
3	n/N (%)	1/32 (3.13%)
4	n/N (%)	5/32 (15.63%)
5	n/N (%)	3/32 (9.38%)
6	n/N (%)	1/32 (3.13%)
7	n/N (%)	4/32 (12.50%)
8	n/N (%)	2/32 (6.25%)
10	n/N (%)	1/32 (3.13%)
12	n/N (%)	1/32 (3.13%)
14	n/N (%)	1/32 (3.13%)
16	n/N (%)	1/32 (3.13%)
30	n/N (%)	1/32 (3.13%)
38	n/N (%)	1/32 (3.13%)
46	n/N (%)	1/32 (3.13%)
Hospital: number of parodontologists		
0	n/N (%)	22/31 (70.97%)
1	n/N (%)	3/31 (9.68%)
2	n/N (%)	3/31 (9.68%)
6	n/N (%)	1/31 (3.23%)
9	n/N (%)	1/31 (3.23%)
11	n/N (%)	1/31 (3.23%)
Hospital: number of other disciplines		
0	n/N (%)	15/31 (48.39%)
1	n/N (%)	6/31 (19.35%)
2	n/N (%)	5/31 (16.13%)
3	n/N (%)	2/31 (6.45%)
4	n/N (%)	1/31 (3.23%)

Variable	Statistic	Total
5	n/N (%)	2/31 (6.45%)
Other practice		
No	n/N (%)	174/181 (96.13%)
Yes	n/N (%)	7/181 (3.87%)

Table 30: Information on patient visits

Variable	Statistic	Orthodontic specialist	Orthodontic non-specialist care giver	Total
Number of respondents	N	79	95	184
Number of starts orthodontic treatment for 0-15y olds	N	42	54	99
	Median	97.5	50.0	70.0
	IQR	(65.0; 180.0)	(25.0; 80.0)	(30.0; 125.0)
	Range	(20.0; 321.0)	(15.0; 400.0)	(15.0; 400.0)
Percentage of starts orthodontic treatment for 0-15y olds				
<20%	n/N (%)	1/49 (2.04%)	20/69 (28.99%)	21/120 (17.50%)
20-50%	n/N (%)	1/49 (2.04%)	24/69 (34.78%)	25/120 (20.83%)
>50%	n/N (%)	37/49 (75.51%)	22/69 (31.88%)	61/120 (50.83%)
100%	n/N (%)	10/49 (20.41%)	3/69 (4.35%)	13/120 (10.83%)
Number of starts orthodontic treatment for all ages	N	48	55	107
	Median	101.0	50.0	70.0
	IQR	(59.0; 200.0)	(10.0; 85.0)	(25.0; 125.0)
	Range	(2.0; 382.0)	(0.0; 450.0)	(0.0; 450.0)
Percentage of starts orthodontic treatment for all ages				
0%	n/N (%)	0/51 (0.00%)	2/64 (3.13%)	2/117 (1.71%)
<20%	n/N (%)	8/51 (15.69%)	28/64 (43.75%)	36/117 (30.77%)
20-50%	n/N (%)	5/51 (9.80%)	15/64 (23.44%)	20/117 (17.09%)
>50%	n/N (%)	1/51 (1.96%)	5/64 (7.81%)	8/117 (6.84%)
100%	n/N (%)	37/51 (72.55%)	14/64 (21.88%)	51/117 (43.59%)
Number of starts dental treatment for all ages	N	65	33	99
	Median	0.0	0.0	0.0
	IQR	(0.0; 0.0)	(0.0; 250.0)	(0.0; 0.0)
	Range	(0.0; 37.0)	(0.0; 999.0)	(0.0; 999.0)
Percentage of starts dental treatment for all ages				
0%	n/N (%)	63/63 (100.00%)	18/75 (24.00%)	81/140 (57.86%)
<20%	n/N (%)	0/63 (0.00%)	2/75 (2.67%)	3/140 (2.14%)
20-50%	n/N (%)	0/63 (0.00%)	12/75 (16.00%)	13/140 (9.29%)
>50%	n/N (%)	0/63 (0.00%)	43/75 (57.33%)	43/140 (30.71%)

Table 31: Hours per Week

Variable	Statistic	Orthodontic specialist	Orthodontic non-specialist care giver	Total
Number of respondents	N	79	95	184
Hours dental clinical work	N	68	90	162
	Median	31.0	45.0	40.0
	IQR	(23.5; 40.0)	(35.0; 50.0)	(30.0; 50.0)
	Range	(0.0; 60.0)	(0.0; 163.0)	(0.0; 163.0)
Hours dental administration, planning, education	N	65	89	159
	Median	8.0	6.0	7.0
	IQR	(5.0; 10.0)	(5.0; 10.0)	(5.0; 10.0)
	Range	(0.0; 40.0)	(0.0; 49.0)	(0.0; 75.0)
Hours orthodontic clinical work for 0-15y olds	N	65	90	160
	Median	30.0	17.0	25.0
	IQR	(25.0; 40.0)	(10.0; 25.0)	(12.5; 33.5)
	Range	(8.0; 60.0)	(2.0; 50.0)	(2.0; 60.0)
Hours orthodontic administration, planning, education for 0-15y olds	N	64	87	156
	Median	8.0	3.0	5.0
	IQR	(5.0; 10.0)	(2.0; 6.0)	(2.0; 9.0)
	Range	(2.0; 36.0)	(1.0; 15.0)	(1.0; 75.0)

Table 32: Orthodontic Treatment, 0-15 years

Variable	Statistic	Orthodontic specialist	Orthodontic non-specialist care giver	Total
Number of respondents	N	79	95	184
Percentage interceptive/simple treatment for 0-15y olds	N	67	88	159
	Median	10.0	10.0	10.0
	IQR	(5.0; 20.0)	(5.0; 20.0)	(5.0; 20.0)
	Range	(0.0; 60.0)	(0.0; 100.0)	(0.0; 100.0)
Percentage orthopedic treatment for 0-15y olds	N	65	87	156
	Median	15.0	10.0	10.0
	IQR	(10.0; 25.0)	(5.0; 20.0)	(5.0; 20.0)
	Range	(0.0; 85.0)	(0.0; 80.0)	(0.0; 85.0)
Percentage non-complex treatment for 0-15y olds	N	66	88	158
	Median	32.5	59.5	50.0
	IQR	(20.0; 55.0)	(45.0; 75.0)	(30.0; 70.0)
	Range	(0.0; 90.0)	(0.0; 100.0)	(0.0; 100.0)
Percentage complex treatment for 0-15y olds	N	66	88	158
	Median	25.0	5.0	10.0
	IQR	(10.0; 50.0)	(1.0; 15.0)	(5.0; 30.0)
	Range	(0.0; 95.0)	(0.0; 80.0)	(0.0; 95.0)
Percentage honoria interceptive/simple treatment for 0-15y olds	N	34	49	84
	Median	10.0	10.0	10.0
	IQR	(5.0; 15.0)	(5.0; 20.0)	(5.0; 15.0)
	Range	(0.0; 40.0)	(0.0; 100.0)	(0.0; 100.0)
Percentage honoria orthopedic treatment for 0-15y olds	N	33	48	82
	Median	10.0	10.0	10.0
	IQR	(3.0; 25.0)	(5.0; 20.0)	(5.0; 25.0)

Variable	Statistic	Orthodontic specialist	Orthodontic non-specialist care giver	Total
	Range	(0.0; 50.0)	(0.0; 80.0)	(0.0; 80.0)
Percentage honoria non-complex treatment for 0-15y olds	N	33	48	82
	Median	35.0	65.0	50.0
	IQR	(25.0; 55.0)	(45.0; 75.0)	(30.0; 75.0)
	Range	(5.0; 81.0)	(0.0; 100.0)	(0.0; 100.0)
Percentage honoria complex treatment for 0-15y olds	N	35	49	85
	Median	20.0	5.0	10.0
	IQR	(10.0; 40.0)	(0.0; 15.0)	(5.0; 31.0)
	Range	(0.0; 98.0)	(0.0; 80.0)	(0.0; 98.0)

Table 33: Orthodontic Treatment, >15 years

Variable	Statistic	Orthodontic specialist	Orthodontic non-specialist care giver	Total
Number of respondents	N	79	95	184
Percentage interceptive/simple treatment for >15y olds	N	61	79	144
	Median	0.0	1.0	0.0
	IQR	(0.0; 5.0)	(0.0; 20.0)	(0.0; 10.0)
	Range	(0.0; 80.0)	(0.0; 100.0)	(0.0; 100.0)
Percentage non-complex treatment for >15y olds	N	62	81	147
	Median	50.0	65.0	50.0
	IQR	(20.0; 60.0)	(20.0; 88.0)	(20.0; 80.0)
	Range	(0.0; 100.0)	(0.0; 100.0)	(0.0; 100.0)
Percentage complex treatment for >15y olds	N	61	78	143
	Median	50.0	10.0	20.0
	IQR	(20.0; 70.0)	(0.0; 20.0)	(0.0; 50.0)
	Range	(0.0; 100.0)	(0.0; 100.0)	(0.0; 100.0)
Percentage honoria interceptive/simple treatment for >15y olds	N	34	48	83
	Median	0.0	0.0	0.0
	IQR	(0.0; 2.0)	(0.0; 17.5)	(0.0; 10.0)
	Range	(0.0; 80.0)	(0.0; 100.0)	(0.0; 100.0)
Percentage honoria non-complex treatment for >15y olds	N	34	50	85
	Median	49.5	60.0	50.0
	IQR	(20.0; 60.0)	(10.0; 85.0)	(13.0; 80.0)
	Range	(0.0; 100.0)	(0.0; 100.0)	(0.0; 100.0)
Percentage honoria complex treatment for >15y olds	N	33	48	82
	Median	49.0	10.0	10.0
	IQR	(10.0; 60.0)	(0.0; 20.0)	(0.0; 49.0)
	Range	(0.0; 100.0)	(0.0; 100.0)	(0.0; 100.0)

Table 34: Fees for different acts

Variable	Statistic	Orthodontic specialist	Orthodontic non-specialist care giver	Total
Number of respondents	N	79	95	184
Fee orthodontic advice for 0-15y olds	N	64	77	144

Variable	Statistic	Orthodontic specialist	Orthodontic non-specialist care giver	Total
	Median	28.5	27.0	28.0
	IQR	(25.0; 30.0)	(20.0; 30.0)	(21.5; 30.0)
Fee second opinion for 0-15y olds	Range	(0.0; 95.0)	(0.0; 120.0)	(0.0; 120.0)
	N	63	75	141
	Median	28.0	20.0	25.0
	IQR	(25.0; 30.0)	(14.0; 30.0)	(19.0; 30.0)
	Range	(0.0; 60.0)	(0.0; 225.0)	(0.0; 225.0)
Fee diagnostic records (incl RX) for 0-15y olds	N	62	71	136
	Median	100.0	86.0	96.0
	IQR	(80.0; 160.0)	(68.0; 110.0)	(70.0; 120.0)
	Range	(0.0; 300.0)	(0.0; 300.0)	(0.0; 300.0)
	N	58	72	133
Fee setup treatment plan for 0-15y olds	Median	52.5	50.0	50.0
	IQR	(0.0; 80.0)	(0.0; 70.0)	(0.0; 75.0)
	Range	(0.0; 120.0)	(0.0; 180.0)	(0.0; 180.0)
	N	52	65	120
	Median	25.0	0.0	0.0
Fee discussion treatment plan for 0-15y olds	IQR	(0.0; 69.0)	(0.0; 25.0)	(0.0; 37.5)
	Range	(0.0; 113.0)	(0.0; 130.0)	(0.0; 130.0)

Table 35: Duration, age and honorarium - Interceptive treatment

Variable	Statistic	Orthodontic specialist	Orthodontic non-specialist care giver	Total
Number of respondents	N	79	95	184
Interceptive treatment: duration (months)	N	50	61	115
	Median	6.5	12.0	9.0
	IQR	(6.0; 12.0)	(6.0; 12.0)	(6.0; 12.0)
	Range	(3.0; 24.0)	(2.0; 36.0)	(2.0; 36.0)
Interceptive treatment: duration (consults)	N	47	39	89
	Median	6.0	8.0	6.0
	IQR	(5.0; 10.0)	(6.0; 12.0)	(6.0; 10.0)
	Range	(2.0; 15.0)	(3.0; 30.0)	(2.0; 30.0)
Interceptive treatment: average age at start (year)	N	64	78	146
	Median	8.0	8.0	8.0
	IQR	(7.5; 9.0)	(7.0; 9.0)	(7.0; 9.0)
	Range	(5.0; 10.0)	(4.0; 12.0)	(4.0; 12.0)
Interceptive treatment: honorarium (euro)	N	59	66	128
	Median	450.0	450.0	450.0
	IQR	(320.0; 650.0)	(300.0; 600.0)	(300.0; 645.0)
	Range	(57.0; 1900.0)	(100.0; 1500.0)	(57.0; 2100.0)

Table 36: Duration, age and honorarium - orthopedic treatment

Variable	Statistic	Orthodontic specialist	Orthodontic non-specialist care giver	Total
Number of respondents	N	79	95	184
Orthopedic treatment: duration (months)	N	46	57	106
	Median	12.0	12.0	12.0
	IQR	(12.0; 18.0)	(12.0; 24.0)	(12.0; 24.0)
	Range	(5.0; 60.0)	(0.0; 36.0)	(0.0; 60.0)
Orthopedic treatment: duration (consults)	N	39	28	69
	Median	12.0	12.0	12.0
	IQR	(8.0; 18.0)	(9.5; 24.0)	(9.0; 20.0)
	Range	(4.0; 36.0)	(0.0; 36.0)	(0.0; 36.0)
Orthopedic treatment: average age at start (year)	N	61	72	136
	Median	10.0	10.0	10.0
	IQR	(9.0; 11.0)	(9.0; 11.5)	(9.0; 11.0)
	Range	(1.0; 13.0)	(0.0; 14.0)	(0.0; 14.0)
Orthopedic treatment: honorarium (euro)	N	53	60	115
	Median	700.0	750.0	750.0
	IQR	(550.0; 1000.0)	(540.0; 1000.0)	(550.0; 1002.0)
	Range	(200.0; 2552.0)	(0.0; 2250.0)	(0.0; 2552.0)

Table 37: Duration, age and honorarium - Non-complex treatment

Variable	Statistic	Orthodontic specialist	Orthodontic non-specialist care giver	Total
Number of respondents	N	79	95	184
Non-complex treatment: duration (months)	N	49	71	124
	Median	18.0	20.0	18.0
	IQR	(18.0; 21.0)	(18.0; 24.0)	(18.0; 24.0)
	Range	(12.0; 30.0)	(4.0; 36.0)	(4.0; 36.0)
Non-complex treatment: duration (consults)	N	42	34	79
	Median	18.0	20.0	18.0
	IQR	(14.0; 20.0)	(16.0; 24.0)	(14.0; 24.0)
	Range	(6.0; 30.0)	(4.0; 36.0)	(4.0; 36.0)
Non-complex treatment: average age at start (year)	N	62	85	151
	Median	12.0	12.0	12.0
	IQR	(12.0; 13.0)	(12.0; 13.0)	(12.0; 13.0)
	Range	(10.0; 14.0)	(1.0; 35.0)	(1.0; 35.0)
Non-complex treatment: honorarium (euro)	N	59	76	138
	Median	1800.0	1600.0	1700.0
	IQR	(1550.0; 2000.0)	(1395.0; 1800.0)	(1500.0; 2000.0)
	Range	(760.0; 2850.0)	(450.0; 3500.0)	(450.0; 3500.0)

Table 38: Duration, age and honorarium - Complex treatment

Variable	Statistic	Orthodontic specialist	Orthodontic non-specialist care giver	Total
Number of respondents	N	79	95	184
Complex treatment: duration (months)	N	44	53	101
	Median	24.0	24.0	24.0
	IQR	(21.0; 27.0)	(24.0; 36.0)	(24.0; 30.0)
	Range	(12.0; 36.0)	(10.0; 48.0)	(10.0; 50.0)
Complex treatment: duration (consults)	N	40	25	68
	Median	24.0	30.0	24.0
	IQR	(18.0; 27.0)	(24.0; 36.0)	(20.0; 32.0)
	Range	(12.0; 36.0)	(18.0; 48.0)	(12.0; 48.0)
Complex treatment: average age at start (year)	N	57	62	123
	Median	12.0	12.0	12.0
	IQR	(12.0; 13.0)	(12.0; 14.0)	(12.0; 14.0)
	Range	(10.0; 25.0)	(10.0; 35.0)	(9.0; 35.0)
Complex treatment: honorarium (euro)	N	58	58	118
	Median	2200.0	2000.0	2000.0
	IQR	(2000.0; 2500.0)	(1700.0; 2200.0)	(1800.0; 2500.0)
	Range	(1230.0; 3850.0)	(200.0; 5000.0)	(200.0; 5000.0)

Table 39: Retention

Variable	Statistic	Orthodontic specialist	Orthodontic non-specialist care giver	Total
Number of respondents	N	79	95	184
Retention: equipment cost (euro)	N	67	83	154
	Median	150.0	120.0	130.0
	IQR	(0.0; 200.0)	(70.0; 200.0)	(70.0; 200.0)
	Range	(0.0; 400.0)	(0.0; 400.0)	(0.0; 400.0)
Retention: average controls per patients (controls)	N	69	84	157
	Median	5.0	4.0	4.0
	IQR	(4.0; 6.0)	(3.0; 6.0)	(4.0; 6.0)
	Range	(0.0; 12.0)	(0.0; 30.0)	(0.0; 30.0)
Retention: honorarium per controle (euro)	N	67	80	151
	Median	20.0	20.0	20.0
	IQR	(15.0; 23.0)	(15.0; 20.5)	(15.0; 22.0)
	Range	(0.0; 40.0)	(0.0; 200.0)	(0.0; 200.0)

Table 40: : Fees for urgencies, repairs and loss

Variable	Statistic	Orthodontic specialist	Orthodontic non-specialist care giver	Total
Number of respondents	N	79	95	184
Fee applied for urgencies				
No	n/N (%)	70/75 (93.33%)	88/92 (95.65%)	161/170 (94.71%)
Yes	n/N (%)	5/75 (6.67%)	4/92 (4.35%)	9/170 (5.29%)
Fee per urgency (euro)	N	5	3	8
	Median	25.0	25.0	25.0
	IQR	(13.0; 25.0)	(10.0; 35.0)	(11.5; 27.5)
	Range	(10.0; 30.0)	(10.0; 35.0)	(10.0; 35.0)
Fee applied for repairs				
No	n/N (%)	37/76 (48.68%)	37/92 (40.22%)	74/171 (43.27%)
Yes	n/N (%)	39/76 (51.32%)	55/92 (59.78%)	97/171 (56.73%)
Fee for repair (euro)	N	16	31	49

Variable	Statistic	Orthodontic specialist	Orthodontic non-specialist care giver	Total
	Median	31.0	50.0	50.0
	IQR	(20.0; 50.0)	(40.0; 62.0)	(25.0; 50.0)
	Range	(5.0; 120.0)	(10.0; 125.0)	(5.0; 125.0)
Fee applied for loss				
No	n/N (%)	11/77 (14.29%)	6/91 (6.59%)	17/171 (9.94%)
Yes	n/N (%)	66/77 (85.71%)	85/91 (93.41%)	154/171 (90.06%)
Fee for loss (euro)	N	29	40	70
	Median	135.0	150.0	150.0
	IQR	(100.0; 180.0)	(85.0; 250.0)	(90.0; 200.0)
	Range	(50.0; 400.0)	(20.0; 450.0)	(20.0; 450.0)

Table 41: Comparison of honorarium versus reference groups

Variable	Statistic	Orthodontic specialist	Orthodontic non-specialist care giver	Total
Number of respondents	N	79	95	184
Honorarium compared to convention rates				
Too low	n/N (%)	14/69 (20.29%)	30/90 (33.33%)	44/163 (26.99%)
Fair	n/N (%)	29/69 (42.03%)	42/90 (46.67%)	75/163 (46.01%)
Too high	n/N (%)	11/69 (15.94%)	8/90 (8.89%)	19/163 (11.66%)
No opinion	n/N (%)	15/69 (21.74%)	10/90 (11.11%)	25/163 (15.34%)
Honorarium compared to other specialists				
Too low	n/N (%)	29/75 (38.67%)	32/89 (35.96%)	62/168 (36.90%)
Fair	n/N (%)	29/75 (38.67%)	40/89 (44.94%)	71/168 (42.26%)
Too high	n/N (%)	2/75 (2.67%)	1/89 (1.12%)	4/168 (2.38%)
No opinion	n/N (%)	15/75 (20.00%)	16/89 (17.98%)	31/168 (18.45%)
Honorarium compared to international rates				
Too low	n/N (%)	54/74 (72.97%)	54/86 (62.79%)	111/163 (68.10%)
Fair	n/N (%)	11/74 (14.86%)	12/86 (13.95%)	23/163 (14.11%)
Too high	n/N (%)	1/74 (1.35%)	0/86 (0.00%)	1/163 (0.61%)
No opinion	n/N (%)	8/74 (10.81%)	20/86 (23.26%)	28/163 (17.18%)
Honorarium compared to costs				
Too low	n/N (%)	21/73 (28.77%)	29/87 (33.33%)	50/164 (30.49%)
Fair	n/N (%)	40/73 (54.79%)	50/87 (57.47%)	93/164 (56.71%)
Too high	n/N (%)	8/73 (10.96%)	4/87 (4.60%)	13/164 (7.93%)
No opinion	n/N (%)	4/73 (5.48%)	4/87 (4.60%)	8/164 (4.88%)

Table 42: Refusal of treatment

Variable	Statistic	Orthodontic specialist	Orthodontic non-specialist care giver	Total
Number of respondents	N	79	95	184
Average number of refusals	N	60	81	145
	Median	10.0	5.0	6.0
	IQR	(5.0; 20.0)	(3.0; 10.0)	(4.0; 12.0)
	Range	(0.0; 150.0)	(0.0; 100.0)	(0.0; 150.0)
Refusal reason: type of equipment				
No	n/N (%)	53/71 (74.65%)	73/87 (83.91%)	129/162 (79.63%)
Yes	n/N (%)	18/71 (25.35%)	14/87 (16.09%)	33/162 (20.37%)
Refusal reason: duration treatment				
No	n/N (%)	62/71 (87.32%)	76/87 (87.36%)	141/162 (87.04%)
Yes	n/N (%)	9/71 (12.68%)	11/87 (12.64%)	21/162 (12.96%)
Refusal reason: cost treatment				
No	n/N (%)	37/71 (52.11%)	41/87 (47.13%)	78/162 (48.15%)

Variable	Statistic	Orthodontic specialist	Orthodontic non-specialist care giver	Total
Yes	n/N (%)	34/71 (47.89%)	46/87 (52.87%)	84/162 (51.85%)
Refusal reason: unknown				
No	n/N (%)	46/71 (64.79%)	43/87 (49.43%)	93/162 (57.41%)
Yes	n/N (%)	25/71 (35.21%)	44/87 (50.57%)	69/162 (42.59%)
Refusal reason: other				
No	n/N (%)	54/71 (76.06%)	73/87 (83.91%)	129/162 (79.63%)
Yes	n/N (%)	17/71 (23.94%)	14/87 (16.09%)	33/162 (20.37%)

Table 43: Costings

Variable	Statistic	Orthodontic specialist	Orthodontic non-specialist care giver	Total
Number of respondents	N	79	95	184
Use of costing				
No	n/N (%)	10/75 (13.33%)	13/89 (14.61%)	23/168 (13.69%)
Yes	n/N (%)	65/75 (86.67%)	76/89 (85.39%)	145/168 (86.31%)
Written costing provided to parents				
No	n/N (%)	11/73 (15.07%)	16/88 (18.18%)	27/165 (16.36%)
Yes	n/N (%)	62/73 (84.93%)	72/88 (81.82%)	138/165 (83.64%)

Table 44: Other orthodontic treatment methods

Variable	Statistic	Orthodontic specialist	Orthodontic non-specialist care giver	Total
Number of respondents	N	79	95	184
Other methods: distraction				
No	n/N (%)	41/77 (53.25%)	68/88 (77.27%)	112/169 (66.27%)
Yes	n/N (%)	36/77 (46.75%)	20/88 (22.73%)	57/169 (33.73%)
Other methods: orthodontic implant				
No	n/N (%)	46/77 (59.74%)	70/88 (79.55%)	118/169 (69.82%)
Yes	n/N (%)	31/77 (40.26%)	18/88 (20.45%)	51/169 (30.18%)
Other methods: orthodontic bone anchor				
No	n/N (%)	42/77 (54.55%)	73/88 (82.95%)	117/169 (69.23%)
Yes	n/N (%)	35/77 (45.45%)	15/88 (17.05%)	52/169 (30.77%)
Other methods: RPE/RME				
No	n/N (%)	29/77 (37.66%)	51/88 (57.95%)	83/169 (49.11%)
Yes	n/N (%)	48/77 (62.34%)	37/88 (42.05%)	86/169 (50.89%)
Other methods: low friction bracket system				
No	n/N (%)	48/77 (62.34%)	72/87 (82.76%)	121/168 (72.02%)
Yes	n/N (%)	29/77 (37.66%)	15/87 (17.24%)	47/168 (27.98%)
Other methods: invisalign				
No	n/N (%)	67/77 (87.01%)	77/87 (88.51%)	147/168 (87.50%)
Yes	n/N (%)	10/77 (12.99%)	10/87 (11.49%)	21/168 (12.50%)
Other methods: other				
No	n/N (%)	64/76 (84.21%)	75/86 (87.21%)	142/166 (85.54%)
Yes	n/N (%)	12/76 (15.79%)	11/86 (12.79%)	24/166 (14.46%)

Table 45: Indices

Variable	Statistic	Orthodontic specialist	Orthodontic non-specialist care giver	Total
Number of respondents	N	79	95	184
Know indices for indication				
No	n/N (%)	14/78 (17.95%)	13/93 (13.98%)	27/175 (15.43%)
Yes	n/N (%)	64/78 (82.05%)	80/93 (86.02%)	148/175 (84.57%)
Know IOTN				
No	n/N (%)	2/65 (3.08%)	6/83 (7.23%)	8/152 (5.26%)
Yes	n/N (%)	63/65 (96.92%)	77/83 (92.77%)	144/152 (94.74%)
Know ICON				
No	n/N (%)	55/65 (84.62%)	83/83 (100.00%)	142/152 (93.42%)
Yes	n/N (%)	10/65 (15.38%)	0/83 (0.00%)	10/152 (6.58%)
Know other index for indication				
No	n/N (%)	63/65 (96.92%)	82/83 (98.80%)	149/152 (98.03%)
Yes	n/N (%)	2/65 (3.08%)	1/83 (1.20%)	3/152 (1.97%)
Know indices for result				
No	n/N (%)	39/77 (50.65%)	65/91 (71.43%)	106/172 (61.63%)
Yes	n/N (%)	38/77 (49.35%)	26/91 (28.57%)	66/172 (38.37%)
Know PAR				
No	n/N (%)	11/46 (23.91%)	16/39 (41.03%)	27/87 (31.03%)
Yes	n/N (%)	35/46 (76.09%)	23/39 (58.97%)	60/87 (68.97%)
Know other index for result				
No	n/N (%)	44/46 (95.65%)	38/39 (97.44%)	84/87 (96.55%)
Yes	n/N (%)	2/46 (4.35%)	1/39 (2.56%)	3/87 (3.45%)
Use indices for indication				
No	n/N (%)	59/78 (75.64%)	52/92 (56.52%)	113/174 (64.94%)
Yes	n/N (%)	19/78 (24.36%)	40/92 (43.48%)	61/174 (35.06%)
Use IOTN				
No	n/N (%)	12/30 (40.00%)	12/52 (23.08%)	25/85 (29.41%)
Yes	n/N (%)	18/30 (60.00%)	40/52 (76.92%)	60/85 (70.59%)
Use ICON				
No	n/N (%)	30/30 (100.00%)	52/52 (100.00%)	85/85 (100.00%)
Use other index for indication				
No	n/N (%)	30/30 (100.00%)	52/52 (100.00%)	85/85 (100.00%)
Use indices for result				
No	n/N (%)	72/76 (94.74%)	81/90 (90.00%)	157/170 (92.35%)
Yes	n/N (%)	4/76 (5.26%)	9/90 (10.00%)	13/170 (7.65%)
Use PAR				
No	n/N (%)	16/19 (84.21%)	18/24 (75.00%)	35/44 (79.55%)
Yes	n/N (%)	3/19 (15.79%)	6/24 (25.00%)	9/44 (20.45%)
Use other index for result				
No	n/N (%)	18/19 (94.74%)	23/24 (95.83%)	42/44 (95.45%)
Yes	n/N (%)	1/19 (5.26%)	1/24 (4.17%)	2/44 (4.55%)

Table 46: Cleft Lip patients

Variable	Statistic	Orthodontic specialist	Orthodontic non-specialist care giver	Total
Number of respondents	N	79	95	184
Treat Cleft lip patients				
No	n/N (%)	54/78 (69.23%)	78/93 (83.87%)	133/175 (76.00%)
Yes	n/N (%)	24/78 (30.77%)	15/93 (16.13%)	42/175 (24.00%)
Start treatment cleft lip patients (months)	N	11	3	14
	Median	0.0	0.0	0.0
	IQR	(0.0; 0.0)	(0.0; 12.0)	(0.0; 0.0)
	Range	(0.0; 6.0)	(0.0; 12.0)	(0.0; 12.0)
Start treatment cleft lip patients (years)	N	16	10	27
	Median	7.5	7.0	8.0
	IQR	(5.0; 8.5)	(5.0; 11.0)	(5.0; 9.0)
	Range	(1.0; 12.0)	(0.0; 12.0)	(0.0; 12.0)
Cooperate with cleft lip team				
No	n/N (%)	6/22 (27.27%)	5/13 (38.46%)	12/38 (31.58%)
Yes	n/N (%)	16/22 (72.73%)	8/13 (61.54%)	26/38 (68.42%)
Cooperate with multidisciplinary team				
No	n/N (%)	6/24 (25.00%)	3/12 (25.00%)	9/37 (24.32%)
Yes	n/N (%)	18/24 (75.00%)	9/12 (75.00%)	28/37 (75.68%)

Table 47: Dental computer program

Variable	Statistic	Orthodontic specialist	Orthodontic non-specialist care giver	Total
Number of respondents	N	79	95	184
Use specific dental program				
No	n/N (%)	40/78 (51.28%)	30/95 (31.58%)	71/177 (40.11%)
Yes	n/N (%)	38/78 (48.72%)	65/95 (68.42%)	106/177 (59.89%)
Program: Baltes				
No	n/N (%)	33/38 (86.84%)	46/65 (70.77%)	82/106 (77.36%)
Yes	n/N (%)	5/38 (13.16%)	19/65 (29.23%)	24/106 (22.64%)
Program: Chiron Pro				
No	n/N (%)	34/38 (89.47%)	62/65 (95.38%)	99/106 (93.40%)
Yes	n/N (%)	4/38 (10.53%)	3/65 (4.62%)	7/106 (6.60%)
Program: Superdent				
No	n/N (%)	33/38 (86.84%)	41/65 (63.08%)	76/106 (71.70%)
Yes	n/N (%)	5/38 (13.16%)	24/65 (36.92%)	30/106 (28.30%)
Program: Dent-Admin				
No	n/N (%)	36/38 (94.74%)	63/65 (96.92%)	102/106 (96.23%)
Yes	n/N (%)	2/38 (5.26%)	2/65 (3.08%)	4/106 (3.77%)
Program: Do It				
No	n/N (%)	36/38 (94.74%)	62/65 (95.38%)	101/106 (95.28%)
Yes	n/N (%)	2/38 (5.26%)	3/65 (4.62%)	5/106 (4.72%)
Program: Winner				
No	n/N (%)	38/38 (100.00%)	63/65 (96.92%)	104/106 (98.11%)
Yes	n/N (%)	0/38 (0.00%)	2/65 (3.08%)	2/106 (1.89%)
Program: PCO				
No	n/N (%)	37/38 (97.37%)	65/65 (100.00%)	105/106 (99.06%)
Yes	n/N (%)	1/38 (2.63%)	0/65 (0.00%)	1/106 (0.94%)
Program: Roots Dentaal				
No	n/N (%)	37/38 (97.37%)	65/65 (100.00%)	105/106 (99.06%)
Yes	n/N (%)	1/38 (2.63%)	0/65 (0.00%)	1/106 (0.94%)
Program: Cyberdent				
No	n/N (%)	38/38 (100.00%)	65/65 (100.00%)	106/106 (100.00%)
Program: Tandem				

Variable	Statistic	Orthodontic specialist	Orthodontic non-specialist care giver	Total
No	n/N (%)	38/38 (100.00%)	64/65 (98.46%)	105/106 (99.06%)
Yes	n/N (%)	0/38 (0.00%)	1/65 (1.54%)	1/106 (0.94%)
Program: Windent				
No	n/N (%)	38/38 (100.00%)	64/65 (98.46%)	105/106 (99.06%)
Yes	n/N (%)	0/38 (0.00%)	1/65 (1.54%)	1/106 (0.94%)
Program: Karius				
No	n/N (%)	36/38 (94.74%)	63/65 (96.92%)	102/106 (96.23%)
Yes	n/N (%)	2/38 (5.26%)	2/65 (3.08%)	4/106 (3.77%)
Program: Other				
No	n/N (%)	16/38 (42.11%)	47/65 (72.31%)	64/106 (60.38%)
Yes	n/N (%)	22/38 (57.89%)	18/65 (27.69%)	42/106 (39.62%)

Table 48: Equipment used in practice

Variable	Statistic	Orthodontic specialist	Orthodontic non-specialist care giver	Total
Number of respondents	N	79	95	184
Chair				
No	n/N (%)	0/76 (0.00%)	2/95 (2.11%)	2/175 (1.14%)
Yes	n/N (%)	76/76 (100.00%)	93/95 (97.89%)	173/175 (98.86%)
Chair count				
1	n/N (%)	24/76 (31.58%)	36/89 (40.45%)	60/168 (35.71%)
2	n/N (%)	31/76 (40.79%)	32/89 (35.96%)	64/168 (38.10%)
3	n/N (%)	10/76 (13.16%)	13/89 (14.61%)	25/168 (14.88%)
4	n/N (%)	6/76 (7.89%)	6/89 (6.74%)	12/168 (7.14%)
5	n/N (%)	3/76 (3.95%)	0/89 (0.00%)	3/168 (1.79%)
6	n/N (%)	0/76 (0.00%)	2/89 (2.25%)	2/168 (1.19%)
10	n/N (%)	1/76 (1.32%)	0/89 (0.00%)	1/168 (0.60%)
40	n/N (%)	1/76 (1.32%)	0/89 (0.00%)	1/168 (0.60%)
Non-digital orthopantogram				
No	n/N (%)	36/77 (46.75%)	46/92 (50.00%)	83/173 (47.98%)
Yes	n/N (%)	41/77 (53.25%)	46/92 (50.00%)	90/173 (52.02%)
Non-digital orthopantogram count				
0	n/N (%)	0/39 (0.00%)	1/43 (2.33%)	1/84 (1.19%)
1	n/N (%)	38/39 (97.44%)	38/43 (88.37%)	78/84 (92.86%)
2	n/N (%)	1/39 (2.56%)	3/43 (6.98%)	4/84 (4.76%)
3	n/N (%)	0/39 (0.00%)	1/43 (2.33%)	1/84 (1.19%)
Digital orthopantogram				
No	n/N (%)	47/77 (61.04%)	53/91 (58.24%)	103/172 (59.88%)
Yes	n/N (%)	30/77 (38.96%)	38/91 (41.76%)	69/172 (40.12%)
Digital orthopantogram count				
1	n/N (%)	28/29 (96.55%)	35/36 (97.22%)	63/65 (96.92%)
2	n/N (%)	1/29 (3.45%)	1/36 (2.78%)	2/65 (3.08%)
Non-digital teleradiography				
No	n/N (%)	38/77 (49.35%)	51/91 (56.04%)	89/172 (51.74%)
Yes	n/N (%)	39/77 (50.65%)	40/91 (43.96%)	83/172 (48.26%)
Non-digital teleradiography count				
1	n/N (%)	36/37 (97.30%)	36/37 (97.30%)	75/77 (97.40%)
2	n/N (%)	1/37 (2.70%)	1/37 (2.70%)	2/77 (2.60%)
Digital teleradiography				
No	n/N (%)	46/77 (59.74%)	60/92 (65.22%)	109/173 (63.01%)
Yes	n/N (%)	31/77 (40.26%)	32/92 (34.78%)	64/173 (36.99%)
Digital teleradiography count				
1	n/N (%)	29/29 (100.00%)	27/28 (96.43%)	56/57 (98.25%)
2	n/N (%)	0/29 (0.00%)	1/28 (3.57%)	1/57 (1.75%)
Non-digital intra-oral RX				

Variable	Statistic	Orthodontic specialist	Orthodontic non-specialist care giver	Total
No	n/N (%)	40/77 (51.95%)	50/90 (55.56%)	90/171 (52.63%)
Yes	n/N (%)	37/77 (48.05%)	40/90 (44.44%)	81/171 (47.37%)
Non-digital intra-oral RX count				
1	n/N (%)	31/35 (88.57%)	22/35 (62.86%)	56/73 (76.71%)
2	n/N (%)	2/35 (5.71%)	9/35 (25.71%)	11/73 (15.07%)
3	n/N (%)	2/35 (5.71%)	2/35 (5.71%)	4/73 (5.48%)
4	n/N (%)	0/35 (0.00%)	1/35 (2.86%)	1/73 (1.37%)
6	n/N (%)	0/35 (0.00%)	1/35 (2.86%)	1/73 (1.37%)
Digital intra-oral RX				
No	n/N (%)	63/74 (85.14%)	41/92 (44.57%)	106/170 (62.35%)
Yes	n/N (%)	11/74 (14.86%)	51/92 (55.43%)	64/170 (37.65%)
Digital intra-oral RX count				
1	n/N (%)	7/10 (70.00%)	29/44 (65.91%)	37/55 (67.27%)
2	n/N (%)	2/10 (20.00%)	9/44 (20.45%)	11/55 (20.00%)
3	n/N (%)	1/10 (10.00%)	5/44 (11.36%)	6/55 (10.91%)
4	n/N (%)	0/10 (0.00%)	1/44 (2.27%)	1/55 (1.82%)
Radiation protection				
No	n/N (%)	12/74 (16.22%)	11/93 (11.83%)	24/171 (14.04%)
Yes	n/N (%)	62/74 (83.78%)	82/93 (88.17%)	147/171 (85.96%)
Radiation protection count				
1	n/N (%)	30/44 (68.18%)	48/63 (76.19%)	79/109 (72.48%)
2	n/N (%)	12/44 (27.27%)	9/63 (14.29%)	21/109 (19.27%)
3	n/N (%)	1/44 (2.27%)	5/63 (7.94%)	7/109 (6.42%)
4	n/N (%)	1/44 (2.27%)	0/63 (0.00%)	1/109 (0.92%)
9	n/N (%)	0/44 (0.00%)	1/63 (1.59%)	1/109 (0.92%)
Dosimeter				
No	n/N (%)	37/74 (50.00%)	65/94 (69.15%)	105/172 (61.05%)
Yes	n/N (%)	37/74 (50.00%)	29/94 (30.85%)	67/172 (38.95%)
Dosimeter count				
1	n/N (%)	14/27 (51.85%)	9/20 (45.00%)	23/48 (47.92%)
2	n/N (%)	7/27 (25.93%)	3/20 (15.00%)	10/48 (20.83%)
3	n/N (%)	4/27 (14.81%)	3/20 (15.00%)	8/48 (16.67%)
4	n/N (%)	1/27 (3.70%)	1/20 (5.00%)	2/48 (4.17%)
5	n/N (%)	0/27 (0.00%)	2/20 (10.00%)	2/48 (4.17%)
6	n/N (%)	0/27 (0.00%)	1/20 (5.00%)	1/48 (2.08%)
8	n/N (%)	0/27 (0.00%)	1/20 (5.00%)	1/48 (2.08%)
40	n/N (%)	1/27 (3.70%)	0/20 (0.00%)	1/48 (2.08%)
Automatic RX developer				
No	n/N (%)	42/73 (57.53%)	52/88 (59.09%)	95/165 (57.58%)
Yes	n/N (%)	31/73 (42.47%)	36/88 (40.91%)	70/165 (42.42%)
Automatic RX developer count				
1	n/N (%)	25/28 (89.29%)	19/20 (95.00%)	46/50 (92.00%)
2	n/N (%)	3/28 (10.71%)	1/20 (5.00%)	4/50 (8.00%)
Sterilization device				
No	n/N (%)	1/76 (1.32%)	2/94 (2.13%)	3/174 (1.72%)
Yes	n/N (%)	75/76 (98.68%)	92/94 (97.87%)	171/174 (98.28%)
Sterilization device count				
0	n/N (%)	0/61 (0.00%)	1/71 (1.41%)	1/135 (0.74%)
1	n/N (%)	50/61 (81.97%)	45/71 (63.38%)	98/135 (72.59%)
2	n/N (%)	9/61 (14.75%)	17/71 (23.94%)	26/135 (19.26%)
3	n/N (%)	2/61 (3.28%)	3/71 (4.23%)	5/135 (3.70%)
4	n/N (%)	0/61 (0.00%)	4/71 (5.63%)	4/135 (2.96%)
9	n/N (%)	0/61 (0.00%)	1/71 (1.41%)	1/135 (0.74%)
Vacuum packaging device				
No	n/N (%)	64/75 (85.33%)	62/93 (66.67%)	128/172 (74.42%)
Yes	n/N (%)	11/75 (14.67%)	31/93 (33.33%)	44/172 (25.58%)

Variable	Statistic	Orthodontic specialist	Orthodontic non-specialist care giver	Total
Vacuum packaging device count				
1	n/N (%)	8/8 (100.00%)	23/24 (95.83%)	32/33 (96.97%)
2	n/N (%)	0/8 (0.00%)	1/24 (4.17%)	1/33 (3.03%)
Sandblast				
No	n/N (%)	39/75 (52.00%)	44/94 (46.81%)	85/173 (49.13%)
Yes	n/N (%)	36/75 (48.00%)	50/94 (53.19%)	88/173 (50.87%)
Sandblast count				
1	n/N (%)	22/32 (68.75%)	32/40 (80.00%)	55/73 (75.34%)
2	n/N (%)	9/32 (28.13%)	7/40 (17.50%)	16/73 (21.92%)
3	n/N (%)	1/32 (3.13%)	1/40 (2.50%)	2/73 (2.74%)
Alginate mixer				
No	n/N (%)	43/75 (57.33%)	61/95 (64.21%)	106/174 (60.92%)
Yes	n/N (%)	32/75 (42.67%)	34/95 (35.79%)	68/174 (39.08%)
Alginate mixer count				
1	n/N (%)	17/28 (60.71%)	23/26 (88.46%)	41/55 (74.55%)
2	n/N (%)	11/28 (39.29%)	2/26 (7.69%)	13/55 (23.64%)
3	n/N (%)	0/28 (0.00%)	1/26 (3.85%)	1/55 (1.82%)
polymerization lamp				
No	n/N (%)	4/77 (5.19%)	2/94 (2.13%)	6/175 (3.43%)
Yes	n/N (%)	73/77 (94.81%)	92/94 (97.87%)	169/175 (96.57%)
Polymerization lamp count				
1	n/N (%)	22/65 (33.85%)	18/77 (23.38%)	41/145 (28.28%)
2	n/N (%)	20/65 (30.77%)	25/77 (32.47%)	46/145 (31.72%)
3	n/N (%)	14/65 (21.54%)	20/77 (25.97%)	35/145 (24.14%)
4	n/N (%)	3/65 (4.62%)	9/77 (11.69%)	12/145 (8.28%)
5	n/N (%)	2/65 (3.08%)	0/77 (0.00%)	2/145 (1.38%)
6	n/N (%)	2/65 (3.08%)	2/77 (2.60%)	4/145 (2.76%)
8	n/N (%)	0/65 (0.00%)	1/77 (1.30%)	1/145 (0.69%)
9	n/N (%)	0/65 (0.00%)	1/77 (1.30%)	1/145 (0.69%)
10	n/N (%)	2/65 (3.08%)	0/77 (0.00%)	2/145 (1.38%)
12	n/N (%)	0/65 (0.00%)	1/77 (1.30%)	1/145 (0.69%)
Non-digital reflex camera				
No	n/N (%)	64/76 (84.21%)	68/88 (77.27%)	136/168 (80.95%)
Yes	n/N (%)	12/76 (15.79%)	20/88 (22.73%)	32/168 (19.05%)
Non-digital reflex camera count				
1	n/N (%)	8/8 (100.00%)	19/19 (100.00%)	27/27 (100.00%)
Digital reflex camera				
No	n/N (%)	28/77 (36.36%)	45/87 (51.72%)	74/168 (44.05%)
Yes	n/N (%)	49/77 (63.64%)	42/87 (48.28%)	94/168 (55.95%)
Digital reflex camera count				
1	n/N (%)	41/44 (93.18%)	28/35 (80.00%)	71/81 (87.65%)
2	n/N (%)	3/44 (6.82%)	7/35 (20.00%)	10/81 (12.35%)
Non-digital compact camera				
No	n/N (%)	71/74 (95.95%)	86/87 (98.85%)	160/165 (96.97%)
Yes	n/N (%)	3/74 (4.05%)	1/87 (1.15%)	5/165 (3.03%)
Non-digital compact camera count				
1	n/N (%)	2/2 (100.00%)	1/1 (100.00%)	4/4 (100.00%)
Digital compact camera				
No	n/N (%)	58/73 (79.45%)	48/90 (53.33%)	108/167 (64.67%)
Yes	n/N (%)	15/73 (20.55%)	42/90 (46.67%)	59/167 (35.33%)
Digital compact camera count				
1	n/N (%)	12/12 (100.00%)	35/37 (94.59%)	49/51 (96.08%)
2	n/N (%)	0/12 (0.00%)	2/37 (5.41%)	2/51 (3.92%)
PC				
No	n/N (%)	6/75 (8.00%)	7/95 (7.37%)	13/174 (7.47%)
Yes	n/N (%)	69/75 (92.00%)	88/95 (92.63%)	161/174 (92.53%)

Variable	Statistic	Orthodontic specialist	Orthodontic non-specialist care giver	Total
PC count				
1	n/N (%)	25/61 (40.98%)	24/75 (32.00%)	50/138 (36.23%)
2	n/N (%)	13/61 (21.31%)	24/75 (32.00%)	37/138 (26.81%)
3	n/N (%)	7/61 (11.48%)	14/75 (18.67%)	21/138 (15.22%)
4	n/N (%)	5/61 (8.20%)	5/75 (6.67%)	10/138 (7.25%)
5	n/N (%)	3/61 (4.92%)	2/75 (2.67%)	5/138 (3.62%)
6	n/N (%)	0/61 (0.00%)	2/75 (2.67%)	3/138 (2.17%)
7	n/N (%)	1/61 (1.64%)	0/75 (0.00%)	1/138 (0.72%)
8	n/N (%)	3/61 (4.92%)	1/75 (1.33%)	4/138 (2.90%)
9	n/N (%)	1/61 (1.64%)	2/75 (2.67%)	3/138 (2.17%)
10	n/N (%)	1/61 (1.64%)	1/75 (1.33%)	2/138 (1.45%)
11	n/N (%)	1/61 (1.64%)	0/75 (0.00%)	1/138 (0.72%)
15	n/N (%)	1/61 (1.64%)	0/75 (0.00%)	1/138 (0.72%)
Digital file				
No	n/N (%)	35/73 (47.95%)	30/95 (31.58%)	67/172 (38.95%)
Yes	n/N (%)	38/73 (52.05%)	65/95 (68.42%)	105/172 (61.05%)
Digital file count				
1	n/N (%)	11/14 (78.57%)	18/22 (81.82%)	29/36 (80.56%)
2	n/N (%)	1/14 (7.14%)	2/22 (9.09%)	3/36 (8.33%)
3	n/N (%)	1/14 (7.14%)	2/22 (9.09%)	3/36 (8.33%)
10	n/N (%)	1/14 (7.14%)	0/22 (0.00%)	1/36 (2.78%)
Digital agenda				
No	n/N (%)	44/74 (59.46%)	56/94 (59.57%)	102/172 (59.30%)
Yes	n/N (%)	30/74 (40.54%)	38/94 (40.43%)	70/172 (40.70%)
Digital agenda count				
1	n/N (%)	9/13 (69.23%)	13/16 (81.25%)	22/29 (75.86%)
2	n/N (%)	3/13 (23.08%)	1/16 (6.25%)	4/29 (13.79%)
3	n/N (%)	0/13 (0.00%)	2/16 (12.50%)	2/29 (6.90%)
4	n/N (%)	1/13 (7.69%)	0/16 (0.00%)	1/29 (3.45%)
Digital models				
No	n/N (%)	67/76 (88.16%)	86/89 (96.63%)	156/169 (92.31%)
Yes	n/N (%)	9/76 (11.84%)	3/89 (3.37%)	13/169 (7.69%)
Digital models count				
1	n/N (%)	2/2 (100.00%)	1/1 (100.00%)	3/3 (100.00%)
Printer				
No	n/N (%)	7/77 (9.09%)	11/95 (11.58%)	19/176 (10.80%)
Yes	n/N (%)	70/77 (90.91%)	84/95 (88.42%)	157/176 (89.20%)
Printer count				
1	n/N (%)	31/55 (56.36%)	29/61 (47.54%)	61/118 (51.69%)
2	n/N (%)	11/55 (20.00%)	20/61 (32.79%)	31/118 (26.27%)
3	n/N (%)	6/55 (10.91%)	8/61 (13.11%)	14/118 (11.86%)
4	n/N (%)	3/55 (5.45%)	3/61 (4.92%)	6/118 (5.08%)
5	n/N (%)	1/55 (1.82%)	0/61 (0.00%)	1/118 (0.85%)
6	n/N (%)	2/55 (3.64%)	0/61 (0.00%)	3/118 (2.54%)
7	n/N (%)	1/55 (1.82%)	0/61 (0.00%)	1/118 (0.85%)
8	n/N (%)	0/55 (0.00%)	1/61 (1.64%)	1/118 (0.85%)
Fax				
No	n/N (%)	15/77 (19.48%)	37/91 (40.66%)	53/172 (30.81%)
Yes	n/N (%)	62/77 (80.52%)	54/91 (59.34%)	119/172 (69.19%)
Fax count				
1	n/N (%)	46/49 (93.88%)	41/42 (97.62%)	89/93 (95.70%)
2	n/N (%)	3/49 (6.12%)	0/42 (0.00%)	3/93 (3.23%)
3	n/N (%)	0/49 (0.00%)	1/42 (2.38%)	1/93 (1.08%)
Photocopier				
No	n/N (%)	16/77 (20.78%)	28/93 (30.11%)	45/174 (25.86%)
Yes	n/N (%)	61/77 (79.22%)	65/93 (69.89%)	129/174 (74.14%)

Variable	Statistic	Orthodontic specialist	Orthodontic non-specialist care giver	Total
Ptotoocopier count				
1	n/N (%)	42/47 (89.36%)	44/47 (93.62%)	87/96 (90.63%)
2	n/N (%)	4/47 (8.51%)	3/47 (6.38%)	8/96 (8.33%)
3	n/N (%)	1/47 (2.13%)	0/47 (0.00%)	1/96 (1.04%)
Electronic payment device				
No	n/N (%)	52/76 (68.42%)	62/93 (66.67%)	117/173 (67.63%)
Yes	n/N (%)	24/76 (31.58%)	31/93 (33.33%)	56/173 (32.37%)
Electronic payment device count				
1	n/N (%)	19/20 (95.00%)	23/23 (100.00%)	42/43 (97.67%)
2	n/N (%)	1/20 (5.00%)	0/23 (0.00%)	1/43 (2.33%)

Table 49: Other Costs

Variable	Statistic	Orthodontic specialist	Orthodontic non-specialist care giver	Total
Number of respondents	N	79	95	184
Total cost orthodontic material incl. lab costs (euro)	N	28	38	67
	Median	30000.0	7045.0	13390.0
	IQR	(15695.0; 39500.0)	(5740.0; 17651.0)	(6000.0; 30000.0)
	Range	(1000.0; 150000)	(800.0; 70251.0)	(800.0; 150000)
Insurance cost medical liability (euro)	N	33	44	79
	Median	200.0	193.5	200.0
	IQR	(148.0; 380.0)	(150.0; 337.0)	(150.0; 380.0)
	Range	(0.0; 12678.0)	(100.0; 2460.0)	(0.0; 12678.0)
Insurance cost other (euro)	N	29	39	69
	Median	2000.0	2500.0	2400.0
	IQR	(700.0; 4300.0)	(1000.0; 5179.0)	(880.0; 5000.0)
	Range	(0.0; 19700.0)	(24.0; 20000.0)	(0.0; 20000.0)
Taxes (euro)	N	29	36	67
	Median	304.0	586.0	470.0
	IQR	(200.0; 669.0)	(325.0; 997.5)	(276.0; 750.0)
	Range	(0.0; 1831.0)	(0.0; 5422.0)	(0.0; 5422.0)
Cost maintenance equipment (euro)	N	28	37	67
	Median	1000.0	1200.0	1038.0
	IQR	(566.5; 2018.5)	(500.0; 2800.0)	(533.0; 2500.0)
	Range	(0.0; 10000.0)	(0.0; 12445.0)	(0.0; 12445.0)
Cost maintenance buildings (euro)	N	20	34	56
	Median	2000.0	2000.0	2000.0
	IQR	(469.0; 3250.0)	(600.0; 4000.0)	(550.0; 3740.5)
	Range	(0.0; 10101.0)	(0.0; 11060.0)	(0.0; 11060.0)
Cost gas/electricity (euro)	N	28	36	66
	Median	1500.0	2290.0	2000.0
	IQR	(840.0; 2802.0)	(1000.0; 4850.0)	(1000.0; 3956.0)
	Range	(0.0; 7147.0)	(0.0; 10000.0)	(0.0; 10000.0)
Cost water (euro)	N	22	34	58
	Median	200.0	370.0	300.0
	IQR	(110.0; 360.0)	(200.0; 631.0)	(125.0; 553.0)
	Range	(0.0; 1000.0)	(0.0; 1500.0)	(0.0; 1500.0)
Cost heating (euro)	N	8	14	23
	Median	1000.0	1000.0	1000.0
	IQR	(850.0; 1234.5)	(600.0; 2000.0)	(800.0; 2000.0)
	Range	(0.0; 2318.0)	(0.0; 6000.0)	(0.0; 6000.0)
Cost cleaning (euro)	N	20	33	55
	Median	1200.0	1300.0	1300.0

Variable	Statistic	Orthodontic specialist	Orthodontic non-specialist care giver	Total
	IQR	(450.0; 2518.0)	(150.0; 2500.0)	(400.0; 2500.0)
	Range	(0.0; 7500.0)	(0.0; 60000.0)	(0.0; 60000.0)

Table 50: Details about the office

Variable	Statistic	Orthodontic specialist	Orthodontic non-specialist care giver	Total
Number of respondents	N	79	95	184
Owner practice				
No	n/N (%)	19/73 (26.03%)	21/94 (22.34%)	42/171 (24.56%)
Yes	n/N (%)	54/73 (73.97%)	73/94 (77.66%)	129/171 (75.44%)
Purchase price practice (euro)	N	23	33	57
	Median	155000	100000	127000
	IQR	(100000; 400000)	(75000 ; 200000)	(80000 ; 250000)
	Range	(13750 ; 2000000)	(5000 ; 550000)	(5000 ; 2000000)
Year of purchase practice	N	32	49	82
	Median	1998	1992	1995
	IQR	(1988.5; 2003)	(1987 ; 1998)	(1988 ; 2001)
	Range	(1973 ; 2007)	(1970 ; 2006)	(1970 ; 2007)
Rent practice				
No	n/N (%)	59/73 (80.82%)	77/91 (84.62%)	139/168 (82.74%)
Yes	n/N (%)	14/73 (19.18%)	14/91 (15.38%)	29/168 (17.26%)
Rent price practice (euro)	N	11	9	21
	Median	8000.0	6000.0	6000.0
	IQR	(5000.0; 10000.0)	(4200.0; 6000.0)	(5000.0; 10000.0)
	Range	(750.0; 18000.0)	(600.0; 87494.0)	(600.0; 87494.0)
Size practice (m^2)	N	57	79	139
	Median	100.0	90.0	98.0
	IQR	(80.0; 150.0)	(65.0; 150.0)	(70.0; 150.0)
	Range	(25.0; 300.0)	(20.0; 620.0)	(20.0; 620.0)

Table 51: Information concerning staff

Variable	Statistic	Orthodontic specialist	Orthodontic non-specialist care giver	Total
Number of respondents	N	79	95	184
FTE secretary				
0.0	n/N (%)	25/38 (65.79%)	43/49 (87.76%)	70/90 (77.78%)
0.1	n/N (%)	1/38 (2.63%)	0/49 (0.00%)	1/90 (1.11%)
0.4	n/N (%)	1/38 (2.63%)	0/49 (0.00%)	1/90 (1.11%)
0.5	n/N (%)	3/38 (7.89%)	2/49 (4.08%)	5/90 (5.56%)
0.7	n/N (%)	1/38 (2.63%)	0/49 (0.00%)	1/90 (1.11%)
0.8	n/N (%)	2/38 (5.26%)	0/49 (0.00%)	2/90 (2.22%)
1.0	n/N (%)	5/38 (13.16%)	4/49 (8.16%)	10/90 (11.11%)
Cost secretary	N	10	2	12
	Median	11010.0	5400.0	10010.0
	IQR	(3740.0; 20000.0)	(800.0; 10000.0)	(2270.0; 18947.0)
	Range	(0.0; 38777.0)	(800.0; 10000.0)	(0.0; 38777.0)
FTE dental assistants				
0.0	n/N (%)	29/38 (76.32%)	43/50 (86.00%)	74/91 (81.32%)
0.5	n/N (%)	1/38 (2.63%)	2/50 (4.00%)	4/91 (4.40%)
0.8	n/N (%)	1/38 (2.63%)	0/50 (0.00%)	1/91 (1.10%)
1.0	n/N (%)	3/38 (7.89%)	2/50 (4.00%)	5/91 (5.49%)
1.5	n/N (%)	1/38 (2.63%)	0/50 (0.00%)	1/91 (1.10%)
2.0	n/N (%)	2/38 (5.26%)	0/50 (0.00%)	2/91 (2.20%)
3.0	n/N (%)	1/38 (2.63%)	0/50 (0.00%)	1/91 (1.10%)

Variable	Statistic	Orthodontic specialist	Orthodontic non-specialist care giver	Total
4.0	n/N (%)	0/38 (0.00%)	2/50 (4.00%)	2/91 (2.20%)
40.0	n/N (%)	0/38 (0.00%)	1/50 (2.00%)	1/91 (1.10%)
Cost dental assistant	N	6	4	10
	Median	33261.0	6650.0	19900.5
	IQR	(21360.0; 48721.0)	(400.0; 15470.5)	(800.0; 34000.0)
	Range	(0.0; 60000.0)	(0.0; 18441.0)	(0.0; 60000.0)
FTE combination secretary/dental assistant				
0.0	n/N (%)	22/38 (57.89%)	30/46 (65.22%)	53/86 (61.63%)
0.4	n/N (%)	1/38 (2.63%)	0/46 (0.00%)	1/86 (1.16%)
0.5	n/N (%)	1/38 (2.63%)	1/46 (2.17%)	2/86 (2.33%)
0.7	n/N (%)	1/38 (2.63%)	0/46 (0.00%)	1/86 (1.16%)
0.8	n/N (%)	1/38 (2.63%)	0/46 (0.00%)	1/86 (1.16%)
0.9	n/N (%)	1/38 (2.63%)	0/46 (0.00%)	1/86 (1.16%)
1.0	n/N (%)	5/38 (13.16%)	8/46 (17.39%)	13/86 (15.12%)
1.2	n/N (%)	1/38 (2.63%)	0/46 (0.00%)	1/86 (1.16%)
1.5	n/N (%)	2/38 (5.26%)	1/46 (2.17%)	3/86 (3.49%)
2.0	n/N (%)	3/38 (7.89%)	2/46 (4.35%)	6/86 (6.98%)
2.5	n/N (%)	0/38 (0.00%)	1/46 (2.17%)	1/86 (1.16%)
3.0	n/N (%)	0/38 (0.00%)	1/46 (2.17%)	1/86 (1.16%)
4.5	n/N (%)	0/38 (0.00%)	1/46 (2.17%)	1/86 (1.16%)
32.0	n/N (%)	0/38 (0.00%)	1/46 (2.17%)	1/86 (1.16%)
Cost combination secretary/dental assistant	N	11	10	22
	Median	22500.0	21611.0	21710.0
	IQR	(16000.0; 25000.0)	(20139.0; 29000.0)	(16000.0; 25000.0)
	Range	(0.0; 68637.0)	(1600.0; 99999.0)	(0.0; 99999.0)
FTE dental technician				
0.0	n/N (%)	30/33 (90.91%)	31/37 (83.78%)	62/71 (87.32%)
0.5	n/N (%)	0/33 (0.00%)	1/37 (2.70%)	1/71 (1.41%)
1.0	n/N (%)	2/33 (6.06%)	3/37 (8.11%)	5/71 (7.04%)
3.0	n/N (%)	1/33 (3.03%)	2/37 (5.41%)	3/71 (4.23%)
Cost dental technician	N	5	7	12
	Median	8000.0	27545.0	10250.0
	IQR	(7500.0; 8000.0)	(4000.0; 28750.0)	(5750.0; 28147.5)
Cost dental technician	Range	(0.0; 37203.0)	(3000.0; 50000.0)	(0.0; 50000.0)
FTE working husband/wife				
0.0	n/N (%)	30/36 (83.33%)	35/43 (81.40%)	68/82 (82.93%)
0.1	n/N (%)	0/36 (0.00%)	1/43 (2.33%)	1/82 (1.22%)
0.5	n/N (%)	1/36 (2.78%)	1/43 (2.33%)	2/82 (2.44%)
0.6	n/N (%)	0/36 (0.00%)	1/43 (2.33%)	1/82 (1.22%)
0.7	n/N (%)	1/36 (2.78%)	0/43 (0.00%)	1/82 (1.22%)
1.0	n/N (%)	4/36 (11.11%)	4/43 (9.30%)	8/82 (9.76%)
10.0	n/N (%)	0/36 (0.00%)	1/43 (2.33%)	1/82 (1.22%)
Cost working husband/wife	N	1	7	8
	Median	0.0	12312.0	8374.5
	IQR	(0.0; 0.0)	(0.0; 22539.0)	(0.0; 18712.5)
	Range	(0.0; 0.0)	(0.0; 28000.0)	(0.0; 28000.0)

FURTHER IMA-AIM STATISTICS ON DURATION OF TREATMENT

Statistics on the total treatment duration (in 'real' months) of the first phase of treatment from the start of treatment (30563 I RIZIV-act) until the last 305616 RIZIV act; with the mean and median treatment duration (with std), the first and third quartile of treatment duration as well as the range of treatment duration (also if only I phase of treatment) .

FREQ	mean_duur	median_duur	std_duur	q1_duur	q3_duur	min_duur	max_duur
1256	25,12276809	23,72131148	13,58459253	14,86885246	34,04918033	0,032786885	57,90163934

Source: Data from Permanent Sample of the InterMutualistic Agency (IMA/AIM), February 2008

The median total treatment duration expressed in real months for this sample was 23,7 months and an IQR of 14,9 and 34,1 months. The same minimum of 0 (zero) months applies to 53 patients having started with their treatment in 2002.

Statistics on the treatment duration of the second phase of treatment (in 'real' months) after treatment interruption until the last 305616 RIZIV act; with the mean and median treatment duration (with std), the first and third quartile of second phase treatment duration as well as its range

FREQ	mean_duur	median_duur	std_duur	q1_duur	q3_duur	min_duur	max_duur
182	21,25761124	16,85245902	16,49217435	5,803278689	37,90163934	0,295081967	50,85245902

Source: Data from Permanent Sample of the InterMutualistic Agency (IMA/AIM), February 2008

In 15% of the patients, the active treatment was probably "interrupted" either with a "true" interruption (305653 act) or with a start of retention (305852), which in fact is the end of an active treatment. This differentiation could however not be made with these data. The median number of real months for these second "interrupted" treatments is 16,9 months that is almost as large as the treatment duration itself. The IQR is from 5,9 months to 37,9 months; with a minimum duration of 0,3 (zero point 3) months and 50,9 months respectively.

Statistics on the treatment duration of a third phase of treatment (in 'real' months) after a second interruption until the last 305616 RIZIV act; with the mean (and std) and median treatment duration, the first and third quartile of treatment duration as well as the range of treatment duration

FREQ	mean_duur	median_duur	std_duur	q1_duur	q3_duur	min_duur	max_duur
12	10,3989071	6,573770492	9,605217867	3,163934426	17,40983607	1,180327869	29,90163934

Source: Data from Permanent Sample of the InterMutualistic Agency (IMA/AIM), February 2008

It is clear that less than 1% of the present sample has restarted treatment (305616 acts) after an earlier interruption (305653 or 305852act) of the second phase of treatment. The median of the total treatment months so far was 6,6 months, but with a std (9,6 months) larger than the actual median value of treatment duration.

Statistic on the treatment duration (in 'treatment' months, or 305616 RIZIV acts) of the first phase of treatment (from start of treatment until last 305616 RIZIV act) with the mean (with std), and median treatment duration the first and third quartile and the first phase treatment duration range (minimum and maximum duration). A remark is made that not in every phase, 305616 were prescribed.

FREQ	mean_episode_1_305616	median_episode_1_305616	std_episode_1_305616	q1_episode_1_305616	q3_episode_1_305616	min_episode_1_305616	max_episode_1_305616
1256	16,81546135	17	9,045228949	10	23	1	41

Source: Data from Permanent Sample of the InterMutualistic Agency (IMA/AIM), February 2008

The median first treatment phase (number of 305616 until 305653, or 305652 acts) takes 17 treatment months and IQR of 10 to 23 months; the full range between 1 and 41 treatment months. As the difference between the total versus the interrupted treatments is so small (difference of 1 treatment month!), it can be concluded that either very few two-phase treatments are carried out, or that - if a two phase

treatment was planned in the patients having started treatment in 2002 - the second treatment phase to date was not yet finished (or even not yet started).

Statistic on the treatment duration (in 'treatment' months, or 305616 RIZIV acts) per phase of the second phase of treatment (restart after interruption of treatment until last 305616 RIZIV act) with the mean (with std), and median treatment duration, the first and third quartile and the second phase of treatment duration range (minimum and maximum duration). A remark is made that in 30 patients not a single 305616 was prescribed.

FREQ	mean_episode_2_305616	median_episode_2_305616	std_episode_2_305616	q1_episode_2_305616	q3_episode_2_305616	min_episode_2_305616	max_episode_2_305616
1256	11,79464286	10	7,475049661	5,5	18	1	32

The median number of treatment months (number of 305616 until 305653, or 305652 acts) in a second phase of treatment is calculated to be 10 months and IQR is 5,5 to 18 treatment months; the full range is between 1 and 32 treatment months.

Here the information was added by IMA/AIM that in 30 patients (or 2,4 % of the sample) no 305616 acts were prescribed at all although they received first part of orthodontic treatment.

Statistic on the treatment duration (in 'treatment' months, or 305616 RIZIV acts) of a third phase of treatment (restart after second interruption of treatment until last 305616 RIZIV act) with the mean (with std), and median treatment duration the first and third quartile and the second phase of treatment duration range (minimum and maximum duration). A remark is made that not in every phase, 305616 were prescribed.

FREQ	mean_episode_3_305616	median_episode_3_305616	std_episode_3_305616	q1_episode_3_305616	q3_episode_3_305616	min_episode_3_305616	max_episode_3_305616
1256	8	7	4,472135955	5	11	3	14

Source: Data from Permanent Sample of the InterMutualistic Agency (IMA/AIM), February 2008

The IMA/AIM calculated the duration of a third phase (episode) of treatment, and as it contains 305616 acts, this should be the phase after a second interruption; this is possible but expected not to be very common. The median duration of the presumed retention phase is 7 months, and an IQR of 5 to 11 treatment months.

Statistics on the treatment duration (in 'treatment' months, or 305616 RIZIV acts) of a fourth phase of treatment (restart after third interruption of treatment until last 305616 RIZIV act) with the mean (with std), and median treatment duration the first and third quartile and the range of the fourth phase treatment duration (minimum and maximum duration).

FREQ	mean_episode_4_305616	median_episode_4_305616	std_episode_4_305616	q1_episode_4_305616	q3_episode_4_305616	min_episode_4_305616	max_episode_4_305616
1256	7	7		7	7	7	7

Source: Data from Permanent Sample of the InterMutualistic Agency (IMA/AIM), February 2008

The IMA/AIM calculated the duration of a fourth phase (episode) of treatment, and as it contains 305616 acts, this should be the phase after a third interruption. The median duration of the presumed retention phase is 7 treatment months.

SOME EXTRA CM/MC DATA

Figure: Percentage number of 305616-prestations (in monthly activation visits) from the start of treatment (305631 in 2000) until the last monthly activation visit (last 305616)

tel305616	Frequency	Percent	Cumulative Frequency	Cumulative Percent
1	8	0,65	8	0,65
2	12	0,98	20	1,63
3	11	0,9	31	2,53
4	29	2,37	60	4,89
5	34	2,77	94	7,67
6	57	4,65	151	12,32
7	26	2,12	177	14,44
8	37	3,02	214	17,46
9	32	2,61	246	20,07
10	29	2,37	275	22,43
11	53	4,32	328	26,75
12	87	7,1	415	33,85
13	34	2,77	449	36,62
14	25	2,04	474	38,66
15	36	2,94	510	41,6
16	39	3,18	549	44,78
17	52	4,24	601	49,02
18	115	9,38	716	58,4
19	32	2,61	748	61,01
20	38	3,1	786	64,11
21	37	3,02	823	67,13
22	40	3,26	863	70,39
23	42	3,43	905	73,82
24	77	6,28	982	80,1
25	24	1,96	1006	82,06
26	19	1,55	1025	83,61
27	17	1,39	1042	84,99
28	18	1,47	1060	86,46
29	20	1,63	1080	88,09
30	42	3,43	1122	91,52
31	8	0,65	1130	92,17
32	11	0,9	1141	93,07
33	18	1,47	1159	94,54
34	14	1,14	1173	95,68
35	10	0,82	1183	96,49
36	40	3,26	1223	99,76
37	2	0,16	1225	99,92
41	1	0,08	1226	100

Source: InterMutualistic Agency (IMA), February 2008

Table 52: Duration of treatment according to CM/MC data: number of actual months and number of 305616 codes ("treatment months")

LFTD	% tov ledental			Interval in Maand			Gem aantal 305616		
	M	V	M+V	M	V	M+V	M	V	M+V
3	0,01%	0,01%	0,01%	48,33	31,00	41,40	17,33	10,50	14,60
4	0,04%	0,05%	0,04%	21,00	8,83	14,36	11,70	5,67	8,41
5	0,07%	0,13%	0,10%	34,42	44,06	40,47	14,79	16,59	15,92
6	0,20%	0,38%	0,29%	38,57	45,34	42,89	17,22	18,48	18,03
7	0,92%	1,61%	1,26%	42,32	45,37	44,23	18,60	21,24	20,26
8	2,38%	3,22%	2,79%	43,13	45,59	44,52	20,58	21,90	21,33
9	2,82%	3,94%	3,37%	41,41	39,93	40,57	21,49	23,13	22,42
10	3,73%	5,91%	4,79%	34,88	32,59	33,50	22,65	22,12	22,33
11	6,39%	9,93%	8,11%	28,90	27,65	28,16	21,50	21,34	21,41
12	9,97%	12,36%	11,13%	26,42	25,40	25,87	21,02	20,46	20,71
13	10,68%	10,75%	10,72%	24,70	24,03	24,37	20,12	19,63	19,88
14	5,53%	4,56%	5,05%	24,02	23,19	23,66	19,43	18,71	19,11
15	0,85%	0,73%	0,79%	24,37	22,26	23,42	18,66	17,73	18,24
16	0,23%	0,15%	0,19%	23,38	23,38	23,38	20,11	18,28	19,40
17	0,07%	0,05%	0,06%	24,40	18,92	22,24	18,05	16,85	17,58
18	0,01%	0,03%	0,02%	20,50	23,57	22,89	20,00	21,00	20,78
TOT	2,77%	3,39%	3,07%	29,09	29,24	29,17	20,69	20,74	20,71

LFTD	% tov ledental			Interval in Maand			Gem aantal 305616		
	M	V	M+V	M	V	M+V	M	V	M+V
11+12+13	9,00%	11,01%	9,97%	26,34	25,64	25,97	20,78	20,46	20,61

Source: CM/MC, January 2008. Note that « Interval in Months » are actual months »

APPENDIX TO CHAPTER 8

TABLE OF THE DIFFERENT IOTN GRADES^P

Below, the original description as formulated by Brook and Shaw (1989) in Table I : "Index of orthodontic treatment need dental health component: for use on patients" on p 311 of their first article in EJO^Q was used.

Grade 5 – Very great

Defects of cleft lip and/or palate.

Increased overjet greater than 9 mm.

Reverse overjet greater than 3.5 mm with reported masticatory or speech difficulties.

Impeded eruption of teeth (with exception of third molars) due to crowding displacement, the presence of supernumerary teeth, retained deciduous teeth and any other pathological cause.

Extensive hypodontia with restorative implications (more than one tooth missing in any quadrant) requiring pre-restorative orthodontics.

Grade 4 – Great

Increased overjet greater than 6 mm but less than or equal to 9 mm.

Reverse overjet greater than 3.5 mm with no reported masticatory or speech difficulties.

Reverse overjet greater than 1 mm but less than or equal to 3.5 mm with reported masticatory or speech difficulties.

Anterior or posterior crossbites with greater than 2 mm displacement between retruded contact position and intercuspal position.

Posterior lingual crossbites with no occlusal in one or both segments.

Severe displacement of teeth greater than 4 mm.

Extreme lateral or anterior open bite greater than 4 mm.

Increased and complete overbite causing notable indentations on the palate or labial gingivae.

Patient referred by colleague for collaborative care e.g. periodontal, restorative or TMJ considerations.

Less extensive hypodontia requiring pre-restorative orthodontics or orthodontic space closure to obviate the need for a prosthesis (not more than 1 missing in any quadrant).

Grade 3 – Moderate

Increased overjet greater than 3.5 mm but less than or equal to 6 mm with incompetent lips at rest.

Reverse overjet greater than 1 mm but less than or equal to 3.5 mm.

Increased and complete overbite with gingival contact but without indentations of signs of trauma.

Anterior or posterior crossbite with less than or equal to 2 mm but greater than 1 mm displacement between retruded contact position and intercuspal position.

^P Brook P.H. and Shaw W.C. (1989). The development of an index of orthodontic treatment priority. European Journal of Orthodontics; 11:309-320

^Q Brook P.H. and Shaw W.C. (1989). The development of an index of orthodontic treatment priority. European Journal of Orthodontics; 11:309-320

Moderate lateral or anterior open bite greater than 2 mm but less than or equal to 4 mm.

Moderate displacement of teeth greater than 2 mm but less than or equal to 4 mm.

Grade 2 – Little

Increased overjet greater than 3.5 mm but less than or equal to 6 mm with lips competent at rest.

Reverse overjet greater than 0 mm but less than or equal to 1 mm.

Increased overbite greater than 3.5 mm with no gingival contact.

Anterior or posterior crossbite with less than or equal to 1 mm displacement between retruded contact position and intercuspation position.

Small lateral of anterior open bites greater than 1 mm but less than or equal to 2 mm.

Pre-normal or post-normal occlusions with no other anomalies.

Mild displacement of teeth greater than 1 mm but less than or equal to 2 mm.

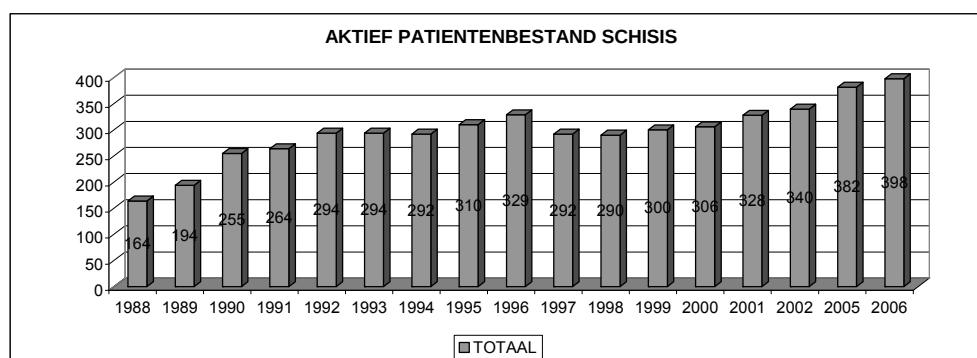
Grade 1 – None

Other variations in occlusion including displacement less than or equal to 1 mm.

In Graph.XX the total number of active orthodontic patients in the Leuven Cleft Lip and Palate team is represented. In 18 years of time, the active patient load seems to be increased dramatically from 164 in 1988 to 398 in 2006. This was not a reflection of the problem mentioned.

DATA FROM CLEFT LIP AND PALATE TEAM OF LEUVEN

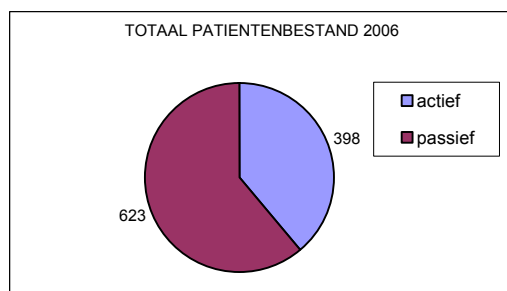
Figure 9: Data from the health care program for Cleft Lip and Palate team of Leuven from 1988 to 2006.



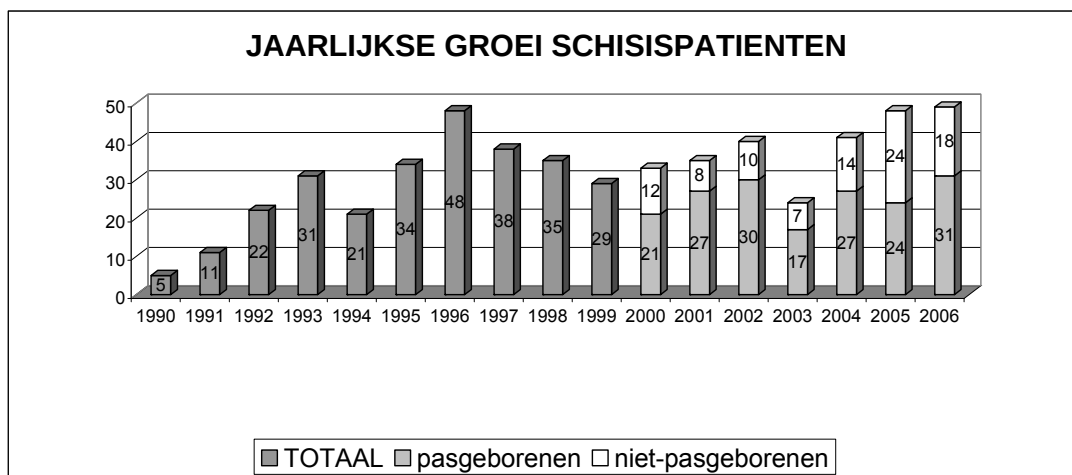
Source: The Leuven Cleft Lip and Palate Team

ZORGPROGRAMMA "AANGEBOREN AFWIJKINGEN VAN LIP, KAAK EN VERHEMELTE" UZ-KU LEUVEN

Totaal patiëntenbestand 1971 - 2006 = 1021



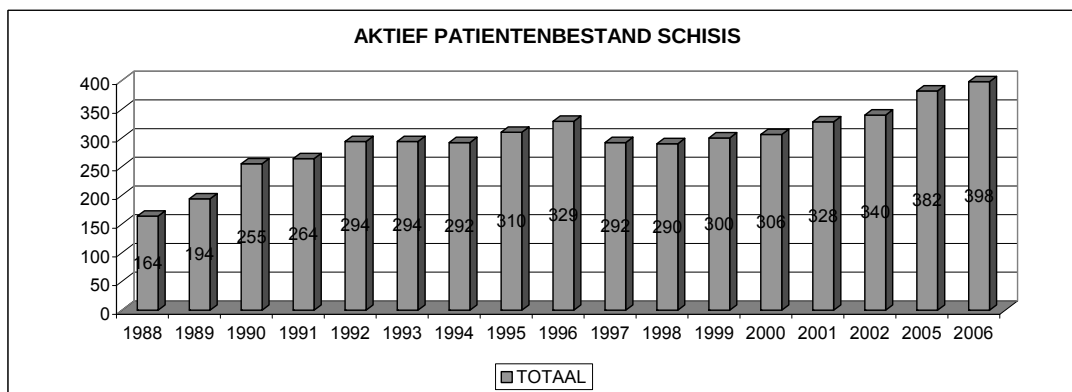
	1971 - 2006	2006
TOTAAL	1021	
actief	398	
passief	623	
begeleiding beëindigd		10
zelf contact opnemen		7



The Leuven Cleft Lip and Palate Team

In Graph... the total number of active patients in the Leuven Cleft Lip and Palate team is represented. In 18 years of time, the active patient load seems to be increased dramatically from 164 in 1988 to 398 in 2006. This was not a reflection of the problem mentioned.

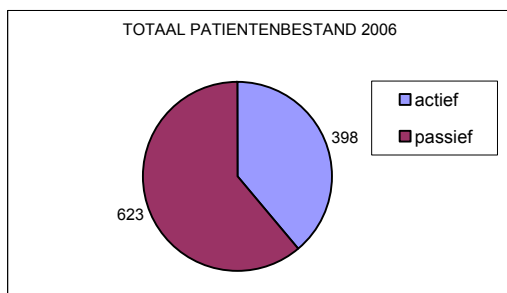
Figure 10: Data from the health care program for Cleft Lip and Palate team of Leuven from 1988 to 2006.



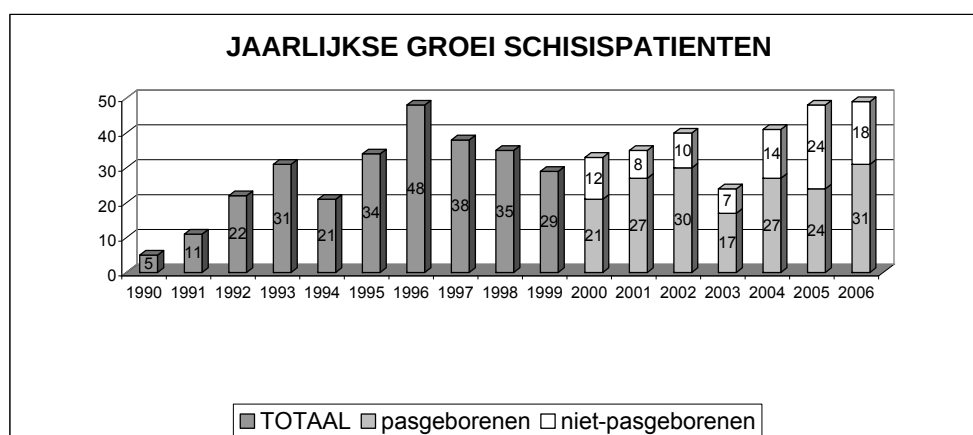
Source: The Leuven Cleft Lip and Palate Team

ZORGPROGRAMMA "AANGEBOREN AFWIJKINGEN VAN LIP, KAAK EN VERHEMELTE" UZ-KU LEUVEN

Totaal patiëntenbestand 1971 - 2006 = 1021



	1971 - 2006	2006
TOTAAL	1021	
actief	398	
passief	623	
begeleiding beëindigd		10
zelf contact opnemen		7



The Leuven Cleft Lip and Palate Team

ORTHODONTIC CONSUMPTION BY 3 TO 18 YEAR OLDS IN BELGIUM (CM/MC DATA)

Table 53: General orthodontic consumption of prestation 305631 (start of orthodontic treatment) and 305616 (monthly activation visits) by a sample of 3 to 18 year olds who started their orthodontic treatment in the year 2000 (representative sample from 4,3 million CM/MC-members)

LFTD	% tov ledental			Interval in Maand			Gem aantal 305616		
	M	V	M+V	M	V	M+V	M	V	M+V
3	0,01%	0,01%	0,01%	48,33	31,00	41,40	17,33	10,50	14,60
4	0,04%	0,05%	0,04%	21,00	8,83	14,36	11,70	5,67	8,41
5	0,07%	0,13%	0,10%	34,42	44,06	40,47	14,79	16,59	15,92
6	0,20%	0,38%	0,29%	38,57	45,34	42,89	17,22	18,48	18,03
7	0,92%	1,61%	1,26%	42,32	45,37	44,23	18,60	21,24	20,26
8	2,38%	3,22%	2,79%	43,13	45,59	44,52	20,58	21,90	21,33
9	2,82%	3,94%	3,37%	41,41	39,93	40,57	21,49	23,13	22,42
10	3,73%	5,91%	4,79%	34,88	32,59	33,50	22,65	22,12	22,33
11	6,39%	9,93%	8,11%	28,90	27,65	28,16	21,50	21,34	21,41
12	9,97%	12,36%	11,13%	26,42	25,40	25,87	21,02	20,46	20,71
13	10,68%	10,75%	10,72%	24,70	24,03	24,37	20,12	19,63	19,88
14	5,53%	4,56%	5,05%	24,02	23,19	23,66	19,43	18,71	19,11
15	0,85%	0,73%	0,79%	24,37	22,26	23,42	18,66	17,73	18,24
16	0,23%	0,15%	0,19%	23,38	23,38	23,38	20,11	18,28	19,40
17	0,07%	0,05%	0,06%	24,40	18,92	22,24	18,05	16,85	17,58
18	0,01%	0,03%	0,02%	20,50	23,57	22,89	20,00	21,00	20,78
TOT	2,77%	3,39%	3,07%	29,09	29,24	29,17	20,69	20,74	20,71

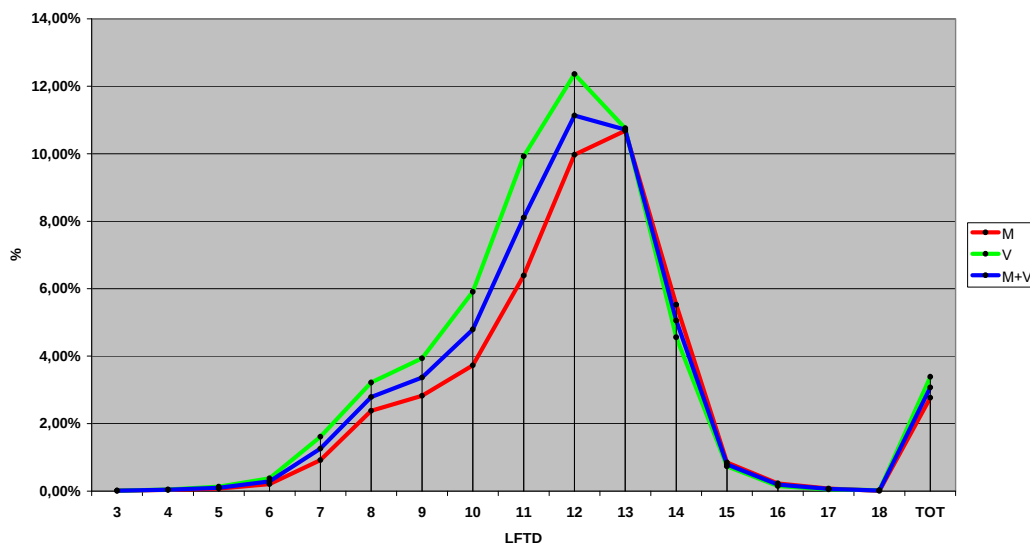
LFTD	% tov ledental			Interval in Maand			Gem aantal 305616		
	M	V	M+V	M	V	M+V	M	V	M+V
11+12+13	9,00%	11,01%	9,97%	26,34	25,64	25,97	20,78	20,46	20,61

Source: CM/MC, January 2008

In the year 2000, 3,07% of all CM members between 3 and 18 years (i.e. 132.010 members) started an orthodontic treatment (OT). For all age groups, females were represented more in the OT sample than males (on average 3,39% of the female members were represented, while 2,77% of the male members).

For the age group from 3 tot 13 years more treatments in females were started than in males, while the reverse is the case (but with a small majority) from 14 to 17 yrs of age. Not only less treatment seems to be undertaken in boys, but if boys do, they seem to start later with their OT than girls. Postponed treatment (like for presurgical orthodontics) then again is consumed more in female than in male patients as at age 18, again more females than males started with an orthodontic treatment.

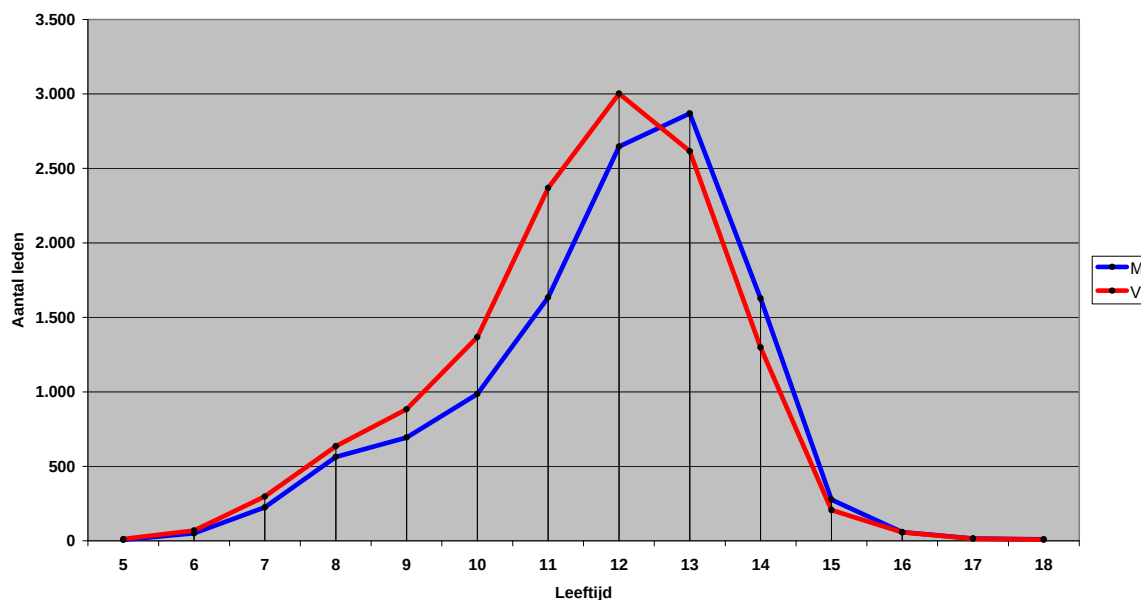
Figure 11: Consumption of RIZIV-prestation 305631 (start of treatment) in 2000 by male (M), female (V) and male +female (M+V) CM/MC-members from 3 to 18 yrs of age



Source: CM/MC, January 2008

The highest representation is in the age group of 11 to 13 years of age, with 9% of the 11-13yr old male and 11% of the 11-13yr old female CM/MC members started an OT in 2000.

Figure 12: Numbers of male (M) and female (V) CM/MC-members born in 1988 who received 305631 (start of orthodontic treatment) at different ages between 5 and 18 years of age.



Source: MC/CM, January 2008

Table 54: Geographical distribution of 30563 I prestations (start of treatment) in female (V) and male (M) CM/MC members born in 1988, over the different counties ('arrondissementen'), as % of CM/MC members born in 1988

ARROND	M	V	M+V
ONBEKEND	7,43%	6,10%	6,78%
ANTWERPEN	44,16%	50,40%	47,20%
MECHELEN	45,82%	56,13%	50,83%
TURNHOUT	47,72%	56,42%	51,86%
BRUSSEL	29,68%	32,68%	31,15%
HALLE-VILVOORDE	48,31%	54,15%	51,20%
LEUVEN	46,59%	54,18%	50,31%
NIVELLES	42,77%	46,66%	44,71%
BRUGGE	49,89%	57,66%	53,75%
DIKSMUIDE	41,70%	48,46%	45,02%
IEPER	49,31%	50,57%	49,94%
KORTRIJK	51,03%	62,56%	56,79%
OOSTENDE	41,16%	46,97%	44,11%
ROESELARE	55,61%	64,00%	59,47%
TIELT	55,40%	60,40%	57,82%
VEURNE	37,33%	51,02%	43,83%
AALST	43,63%	51,87%	47,75%
DENDERMONDE	45,40%	49,91%	47,50%
EEKLO	43,01%	55,79%	49,39%
GENT	46,01%	54,25%	50,10%
OUDENAARDE	45,88%	48,26%	47,03%
SINT-NIKLAAS	45,60%	54,34%	49,85%
ATH	32,11%	37,50%	34,74%
CHARLEROI	36,74%	37,13%	36,93%
MONS	30,84%	35,38%	32,94%
MOUSCRON	29,73%	36,27%	33,07%
SOIGNIES	29,49%	38,19%	33,67%
THUIN	30,59%	35,04%	32,70%
TOURNAI	31,67%	45,79%	38,93%
HUY	36,36%	42,01%	39,04%
LIEGE	36,13%	41,87%	38,82%
VERVIERS	38,20%	43,20%	40,55%
WAREMME	42,42%	50,91%	46,28%
HASSELT	51,08%	57,12%	53,95%
MAASEIK	50,97%	60,02%	55,53%
TONGEREN	45,42%	54,09%	49,46%
ARLON	32,37%	30,30%	31,48%
BASTOGNE	33,12%	43,70%	38,06%
MARCHE-EN-FAMENNE	42,59%	40,98%	41,74%
NEUFCHATEAU	34,94%	36,00%	35,48%
VIRTON	26,83%	38,46%	32,95%
DINANT	36,23%	43,57%	40,00%
NAMUR	39,23%	45,68%	42,38%
PHILPPEVILLE	39,20%	47,46%	43,21%
LCM	43,82%	50,77%	47,20%

Source: MC/CM, January 2008

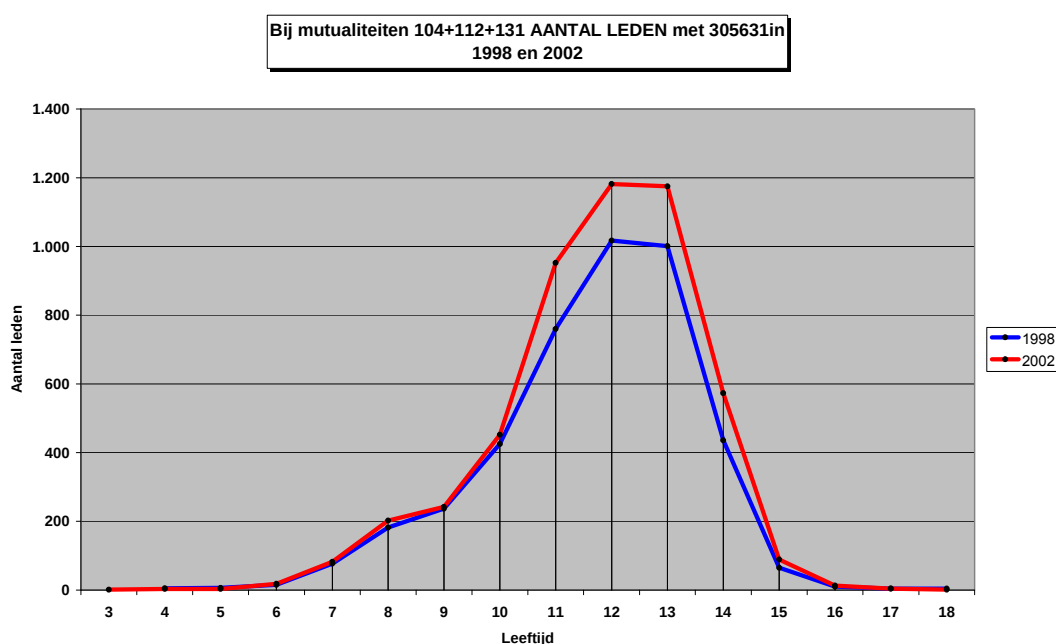
The highest percentage of orthodontically treated CM/MC-members born in 1988 were reported for the CM sickness funds of Roeselare, Kortrijk, Tielt and Maaseik where respectively 59,47%, 56,79%, 57,82% and 55,53% of the 1988 born members (male and female) were treated to date (December 2007). The same trend for female predilection for orthodontic treatment is present in the whole sample and this applies also to the CM sickness funds of Roeselare, Kortrijk, Tielt and Maaseik where respectively 64,00%, 62,56%, 60,40% and 60,02% of the female CM/MC-members born in 1988 were treated.

The lowest percentage of orthodontically treated CM/MC members born in 1988 were reported from the Sickness funds of Arlon (31,48%) and Brussels (31,15%), followed by Virton, Thuin and Mons.

Table 55 and Figure 13: Number of CM/MC-members per age in the sickness funds 104+112+131 who received 305631 in 1998 compared to 2002, respectively before and after the introduction of the IOTN system.

LFTD	1998	2002
3		1
4	5	3
5	6	3
6	15	18
7	77	82
8	182	202
9	237	242
10	425	452
11	760	952
12	1.017	1.182
13	1.001	1.175
14	436	573
15	65	89
16	10	13
17	4	4
18	4	1
	4.244	4.992

Source: CM/MC, January 2008

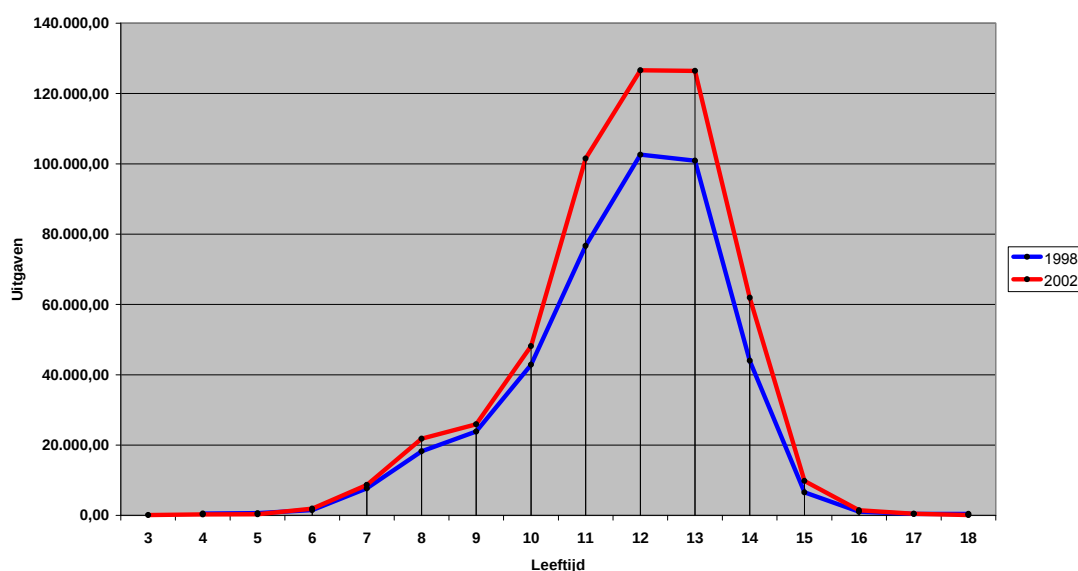


Source: CM/MC, January 2008

Table 56 with Figure 14: Total orthodontic costs of CM/MC as reimbursed to its members per age category and in total in three Flemish and three Walloon sickness funds in 1998 compared to 2002, respectively before and after the introduction of the complementary insurance premium ("aanvullende verzekering") in case of IOTN 4 - 5

LFTD	1998	2002
3		104,47
4	500,35	282,88
5	600,42	319,29
6	1.501,05	1.903,98
7	7.705,39	8.684,14
8	18.246,09	21.819,71
9	23.849,99	25.897,00
10	42.849,96	48.179,58
11	76.653,52	101.509,59
12	102.590,71	126.599,13
13	100.869,45	126.427,92
14	43.997,32	61.901,66
15	6.537,90	9.815,59
16	1.034,05	1.447,35
17	400,28	461,52
18	400,28	104,47
	427.736,76	535.458,28

Mut 104+112+131 UITGAVEN orthodontie art 5 in
1998 en 2002



Source: CM/MC, January 2008

The total costs (reimbursement) for orthodontic treatment in a combination of 3 Flemish and 3 Walloon CM/MC - Sickness funds increased with 25%, since the installation of the complementary insurance. Also in the RIZIV/INAMI expenses (cfr Chapter 6) an steady increase in the total expenses on orthodontic treatment can be seen.

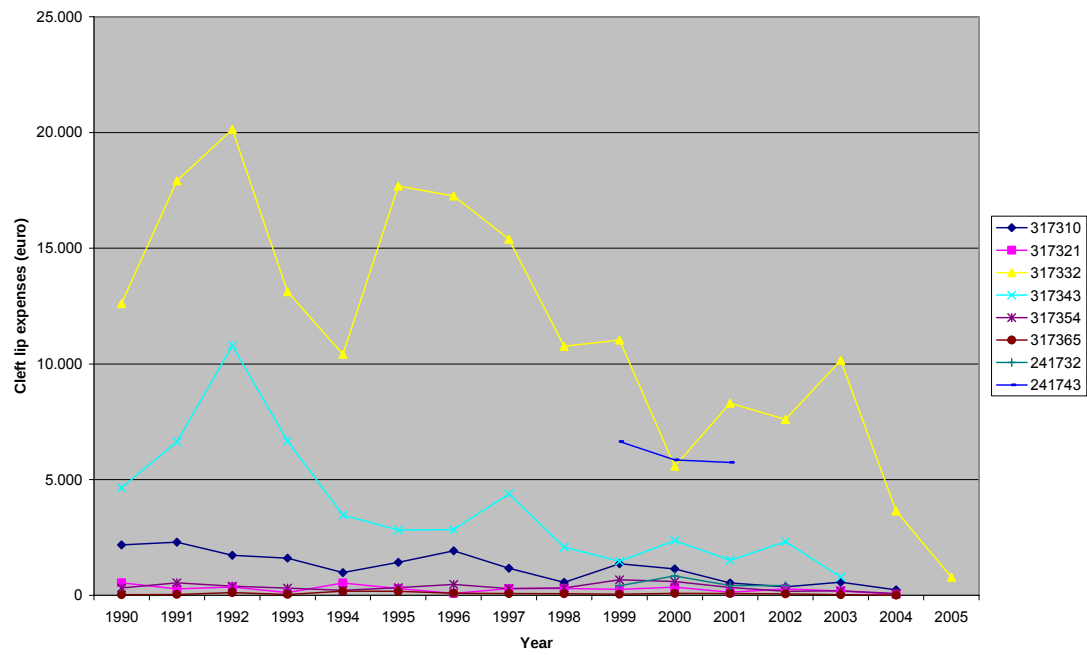
Due to the extra-premium in case of IOTN 4-5 of the CM/MC members, part of the increased costs could be recovered by the CM/MC on these extra-patients' contributions.

Table 57: Number of cases for the neonatal treatment of CLP-babies between 1985 and 2004

Boekjaar	317310	317321	317332	317343	317354	317365	241732	241743
1990	55	14	19	7	35	4		
1991	58	7	27	10	55	5		
1992	43	9	30	16	39	12		
1993	40	3	20	11	31	4		
1994	25	13	16	5	21	18		
1995	34	7	26	4	32	17		
1996	45	2	24	4	44	9		
1997	28	7	22	8	28	9		
1998	13	7	15	4	30	7		
1999	31	6	15	2	61	4	1	16
2000	26	8	7	3	54	8	2	14
2001	12	3	11	2	30	7	1	14
2002	8	6	10	3	15	6	1	
2003	12	4	13	1	17	4		
2004	5	1	4		7	1		
2005			1					

Table 58 and Figure 15: costs neonatal treatment of CLP-babies

Boekjaar	317310	317321	317332	317343	317354	317365	241732	241743
1990	2176	540,7	12608,14	4645,11	323,36	29,5		
1991	2294,7	276,95	17916,83	6635,87	542,91	39,59		
1992	1726,01	360,75	20133,18	10786,57	391,82	120,59		
1993	1609,32	120,7	13119,93	6664,31	311,99	40,26		
1994	989,87	533,91	10413,96	3471,95	216,54	179,86		
1995	1430,33	295,06	17686,18	2825,07	334,97	173,63		
1996	1924,69	85,33	17258,12	2842,42	470,3	95,96		
1997	1169,96	294,1	15391,66	4385,64	292,48	78,44		
1998	561,63	302,92	10760,43	2079,4	321,44	70,43		
1999	1363,92	262,38	11034,48	1466,81	670,32	43,52	415,4	6646,33
2000	1144,96	354,7	5579,11	2369,14	598,76	88,64	838,77	5855,37
2001	539,69	135,72	8299,21	1517,26	336,23	78,26	425,81	5741,71
2002	369,54	272,71	7596,27	2318,69	170,55	62,69	425,79	
2003	565,12	187,44	10160,09	791,73	199,26	35,4		
2004	236,7	47,21	3644,74		82,43	11,8		
2005			780,03					



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