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A quality system for you!



One of EFOSA's goals is to promote the orthodontic care provided by orthodontic specialists in Europe. Over the last year EFOSA has been developing a Self Assessment System (ESAS) to help orthodontists realize this objective. The ESAS is an easy to follow quality assessment system which is available to all orthodontists.

Recognition of orthodontic excellence can be achieved through peer review e.g. European Board of Orthodontics, also Continuing Education (CE) is mandatory in many countries so that the orthodontist can be registered as a specialist. However, none of these provide an insight of the orthodontist's daily practice and what factors lead to the best possible service to our patients.

The ESAS is based on the work of the EURO-QUAL project. ESAS is voluntary and has been developed to satisfy our natural curiosity in providing care for our patients by comparing ourselves with our colleagues locally, nationally and internationally. Of course all data will be anonymous.

The ESAS will provide an opportunity to compare and contrast treatment provision with colleagues who achieve similar levels of quality outcome and there may be differences, for example, in treatment duration or levels of decalcification. All this can be achieved using the ESAS database and simple analyses. Achieving recognition in providing high quality care on your routine cases can compliment being a European Board member.

How does it work? First of all you have to enter data related to the treatment provision in a standardized way. There will be several choices in determining treatment outcome.

Indices such as The Peer Assessment Rating (PAR) and the Index of Complexity, Outcome and Need (ICON) have been incorporated in the ESAS.

However, there is much more to treatment than outcome indices. Orthodontics is a continuous process from the initial consultation to the last visit (retention review). It is only by improving the different aspects of the process or orthodontic care that the outcome can be enhanced. The first part of ESAS will determine levels of outcome and the second part focuses on the details of the process that leads to that outcome.

When will it be ready? There is no database yet. This has to be built up by participating orthodontists. We are hoping interested orthodontists from all over Europe will join the ESAS and gain the benefits of this self assessment system. We hope you will visit the ESOSA website and join the ESAS community.

The ESAS is making quality assessment simple and attractive and helping orthodontists across Europe find ways of continuously improving orthodontic care for our patients.

Frank de Winter
Chair of EFOSA's Quality Working Group
(Claude Bourdillat-Mikol, Stephen Richmond, Tor Torbjørnsen).

Major changes in funding orthodontic care in England and Wales

The 1st April, 2006 saw the biggest change in dental provision within the National Health Service for over 50 years. Orthodontists see the end to fee-for-item payments with the introduction of new individualized contracts for the provision of orthodontic care.

The objectives of these changes in the provision of orthodontic care are to:

- Develop an orthodontic service that is more responsive to the patients needs
- Prioritize services on the basis of need and not demand
- Provide a high quality orthodontic service underpinned by clinical governance and audit.
- Provide a more efficient and responsive service to patients and referring dentists.
- To develop a structured and managed orthodontic service and resources

The orthodontists are required to provide care for patients based on a specified number of units of orthodontic activity.

Treatments will be limited to patients who present with an Aesthetic Component greater than 5 and/or Dental Health Component greater than 2 of the Index of Orthodontic Treatment Need (IOTN).

A sample of completed treatments will be monitored using the Peer Assessment Rating (PAR Index). The outcomes will be compared to local and national standards.

Contracts have been negotiated based on historical activity and will be guaranteed for a period of 3 years.

The changes have not been universally accepted by orthodontists and it is likely that last minute modifications and difficulties will take sometime to resolve.

Introduction:

Orthodontists working in hospitals should only provide complex orthodontic treatment¹ to an expected high standard.² The Index of Orthodontic Treatment Need (IOTN) identifies those patients who would most likely benefit from orthodontic treatment³ whilst the Peer Assessment Rating (PAR index) measures treatment outcome.⁴ Although not currently used routinely, the Index of Complexity, Outcome and Need (ICON) index evaluates treatment complexity as well as outcome and need.⁵ In addition to treating new start patients, hospital orthodontists provide continuing orthodontic care for patients who transfer between localities and within the same institution.⁶ The aim of this audit was to measure orthodontic need (IOTN), complexity (ICON) and outcome (PAR) of new start and transfer cases treated by Scottish orthodontists and determine the number of transfer patients in district general and teaching hospitals.

Achievement goals:

1. ≥90% of all cases that commence treatment should have a Dental Health Component (DHC) score of 4 or 5
2. ≥75% of all cases that commence treatment should be classified as difficult or very difficult using ICON
3. ≥75% of non-multidisciplinary cases should exhibit a reduction in PAR score greater than 70%, with 3%, or fewer, cases having a reduction in PAR lower than 30%

Methods:

All 28 Scottish hospital orthodontists submitted pre and post-treatment study models of six consecutively finished cases, debonded after 1st April 2004. The study models had no markings other than an anonymous identification number. Each orthodontist also completed a form detailing transfers, multidisciplinary care, and other important information. For the 336 sets of pre and post-treatment study models, IOTN (DHC), ICON and PAR scores were recorded.

Results:

Thirty percent of all the cases were multidisciplinary (2% cleft lip and/or palate, 5% minor oral surgery, 8% restorative, and 15% orthognathic). Ninety-four percent of all pre-treatment cases were IOTN (DHC) grade 4 or 5

The new start cases were of greater complexity than the transfer cases (Figure 1). New start cases met the ICON standard, whilst the transfer group did not. The non-multidisciplinary new start cases exceeded, whilst the transfer cases almost met the PAR standard of greater than 75% of cases having a PAR score reduction greater than 70% (Figure 2). A greater proportion of new start cases were treated in district general, compared to teaching hospitals (Figure 3).

Discussion:

Nearly one-third (30%) of the cases required multidisciplinary treatment. This is comparable with the value of 27% from the UK consultant orthodontist survey by Russell et al.⁷ The majority of patients (94%) had high orthodontic treatment need as measured using DHC, whilst 6% had borderline treatment need and none had low treatment need.

This exceeded the standard and is identical to that described by McMullan et al.² The complexity of all pre-treatment cases was 9% easy/mild, 19% moderate, and 72% difficult/very difficult. New start cases were more complex compared to those transferred. Overall a quarter of all the cases were transfer cases, which were more likely to be referred onto or within teaching (42%) as opposed to district general hospitals (14%). Patient transfer can affect treatment times, but should not affect the standard of treatment provided.⁶

However; in this study treatment quality was affected. The transfer cases group did not meet the PAR score improvement standard, whereas the new start group exceeded it.

Figure 1: Complexity (ICON)

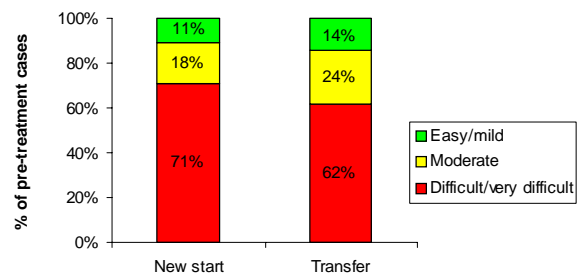


Figure 2: Treatment Outcome (PAR)

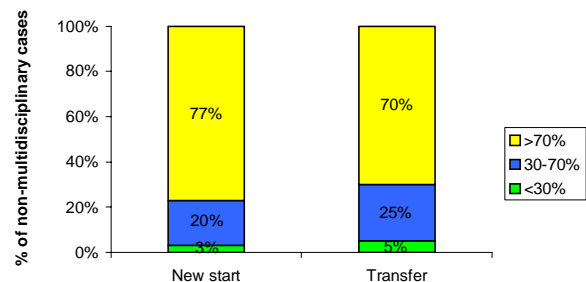
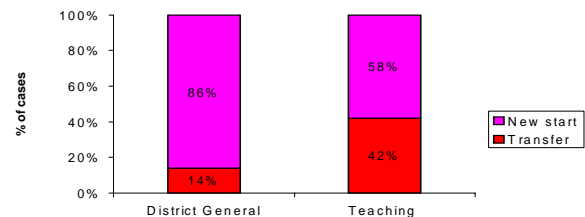


Figure 3: Treated Cases



Conclusions:

The number of multidisciplinary cases treated in Scotland is similar to that in the UK

Patients treated by Scottish orthodontists working in hospitals have a high initial treatment need (Goal 1)

The majority of cases treated by Scottish orthodontists are either difficult or very difficult (Goal 2)

Overall, the quality of orthodontic treatment provided by Scottish consultants is high, although the standard of outcome for transfer cases is inferior to that for new start cases (Goal 3)

A large percentage of patients change operator during orthodontic treatment, and have their treatment completed by teaching hospital consultant orthodontists

References:

1. Robinson PG, Willmot DR, Parkin NA, Hall AC. The Report of the Orthodontic Workforce Survey of the United Kingdom February 2005. Sheffield: The University of Sheffield; 2005.
2. McMullan RE, Doubleday B, Muir JD, Harradine NW, Williams JK. Development of a treatment outcome standard as a result of a clinical audit of the outcome of fixed appliance therapy undertaken by hospital-based consultant orthodontists in the UK. *Br Dent J* 2003;194:81-4.
3. Brook PH, Shaw WC. The development of an index of orthodontic treatment priority. *Eur J Orthod* 1989;11:309-20
4. Richmond S, Shaw WC, O'Brien KD, Buchanan IB, Jones R, Stephens CD et al. The development of the PAR Index (Peer Assessment Rating): reliability and validity. *Eur J Orthod* 1992;14:125-39.
5. Daniels C, Richmond S. The development of the index of complexity, outcome and need (ICON). *J Orthod* 2000;27:149-62.
6. McGuinness NJ, McDonald JP. The influence of operator changes on orthodontic treatment times and results in a postgraduate teaching environment. *Eur J Orthod* 1998;20:159-167.

Improvement in the public orthodontic services in Finland

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Orthodontic treatment of children and adolescents is an important part of today's oral health care in Finland. Orthodontic treatment is given in all 279 municipal health centres and it is free of charge up to the age of 17. However, the extent of the orthodontic services provided, varies considerably between different health centres. Furthermore, the application of treatment methods varies according to the skill and education of dental manpower. Nearly 60% of children and adolescents live in areas where there is at least one orthodontist at the local health centre. Most health centres, particularly the smaller ones, buy limited specialist services from external consultants. Sixty-five of 140 Finnish orthodontists work in health centres, but some of them only part-time, because they work as private practitioners as well.

In 2001, the Deputy Parliamentary Ombudsman issued her opinion on the necessity of new legislation on orthodontic treatment of children and adolescents and proposed that a set of related national recommendations should be drafted to eliminate the disparities in access to orthodontic services. In 2004, when the uniform criteria for access to non-emergency treatment were developed for all public medical and dental care in Finland, also orthodontic criteria were developed by two expert groups; one for orthognathic care given in central hospitals, one for orthodontic care given in municipal health centres. The criteria for the assessment of the orthodontic treatment need in municipal health centres based on the Finnish 10-grade scale.¹ Priority has been given to the most severe malocclusions and those with poor prognosis. The children whose malocclusions do not fulfil the criteria given may seek orthodontic treatment in private sector without any public subsidy.

The aim of the uniform criteria for public health care is to secure access to treatment on equal grounds irrespective of the place of residence. Orthodontists and dentists apply these criteria as guidance when deciding on the treatment of patients. However, in addition to the criteria, orthodontists are encouraged to take into consideration the patient's individual living situation and perceived need for treatment. The criteria will be revised and developed regularly and they are available to all on the internet. The criteria will be implemented by giving courses to the orthodontists, postgraduate students, general dentists and auxiliary personnel.

The variation in the provision of orthodontic care and differences in treatment modalities and treatment priorities have awakened discussions among orthodontists in Finland. In a survey published in 2004, Finnish orthodontists suggested more research on the indications and long-term benefits of orthodontic treatment.

At the moment, several studies on treatment results on the individual and population level are being carried out in Finland. Two longitudinal studies are assessing different treatment modalities. In a large population study, eight health centres are compared according to the timing of treatment, treatment methods, work division, treatment results and costs of treatment.

Reference:

1. Heikinheimo K. Need of orthodontic treatment and prevalence of craniomandibular dysfunction in Finnish children. Väitöskirja, Turun yliopisto 1989.

Cost-effectiveness in orthodontics

Jamie Deans, Cardiff, UK

Cost-effectiveness in orthodontics is all about getting the most out of the orthodontic intervention relative to the resources used. Cost-effectiveness is important from all perspectives whether you are the patient, orthodontist, insurance/tax payer, or funding agency; that is, insuring the best value for the money"

It is important for orthodontists to understand cost-effectiveness. There are basically 4 analyzes;

- Cost minimization – used when the treatment produces identical results.
- Cost effectiveness – comparing relatively monetary costs against relative effectiveness.
- Cost utility – used in medicine and is a summary measure combining survival with quality of life and expressed in quality adjusted life years (QALY).
- Cost benefit – is used to assess the benefit in terms of costs

Although cost utility has been used in assessing orthognathic treatments, it is generally not indicated for routine orthodontic care.¹ Measuring cost-effectiveness in orthodontics has been made possible by the development of occlusal indices. The ICON appears to be the most appropriate with internationally validated cut-off levels for treatment need and acceptability and was used in a study in South Wales where 18 orthodontists were observed over a period of 2 years. There were striking differences between orthodontists in relation to the quality of outcome and cost of treatment. It is possible to rank orthodontist in terms of costs, outcome and combining the two to obtain their relative cost-effectiveness.²

Cost-effective league tables are possible but should be treated with caution and statistical inference techniques should be employed to determine the level of certainty of the order of rankings.

A plausible and exciting role for cost-effectiveness in orthodontics is the assessment of existing and new treatment modalities. Landmark prospective randomized controlled trials exist on the timing of particular therapies and studies show improved efficiency of certain bracket design.³ A cost-effective analysis incorporated into such a study will surely add more weight, for and against the adoption of particular practices. The question that all orthodontic practitioners must ask themselves is simple, is it appropriate for orthodontists to carry on using a significantly less cost-effective treatments in light of robust scientific evidence? To many this question is a rhetorical one and therefore cost-effectiveness is here to stay.

References:

1. Cunningham S, Sculpher M, Sassi M and Manca A. A cost utility analysis of patients undergoing orthognathic treatment for the management of dento-facial disharmony. *British Journal of Oral and Maxillofacial Surgery* 2003; 41: 32-35.
2. Richmond S, Dunstan F, Daniels C, Durning P and Leahy F. Measuring the cost, effectiveness and cost effectiveness of orthodontic care. *World Journal of Orthodontics* 2005; 6: 2: 161-170.
3. Tulloch JFC, Proffit WR and Phillips C. Outcomes in a 2-phase Randomised Clinical Trial of early Class 2 Treatment. *American Journal of Orthodontics and Dentofacial Orthopaedics* 2004; 125: 657-67.

Patient satisfaction questionnaires are integral to finding out what patients think of the services that we are providing for them. Recently people have been using the principal of 360° to obtain a complete picture of perception of patients on the staff, opinions of staff on staff and staff on patients.

Aim:

To assess patient satisfaction with the services.

Achievement goals:

>90% of patients should be satisfied with the care provided

Methods:

A questionnaire was developed that would be generic for use between staff and patients (Table 1).¹ As this was a pilot study the questionnaire was issued to patients as they attended for their appointment. The individuals were asked to answer each question by marking the circles. If they could not answer the question they were asked to mark "Don't know". Each of the 4 categories were numbered from 1 (Strongly agree) to 4 (Strongly disagree).

Results:

The results are shown below for 15 patients. The number of "Don't knows" were different for each member of staff more for the receptionist, than for the nurse or orthodontist. The average scores (based on responses) were as follows Receptionist (1.6), Nurse (1.4) and Orthodontist (1.2).

Discussion:

The questionnaire shows validity in that it is to be expected that the patient would choose more "don't knows" than for the Nurse and orthodontist e.g. questions 13, 14 and 16.

The questionnaire was organized for patients to rate Receptionist, Nurse and Orthodontist in order. There may be an ordered effect and the forms should be randomized. Patients tend to be cautious in what they think about different members of the orthodontic staff, they are less likely to offend the orthodontist! The staff did make judgements on each other and on patients with scores falling into 1-2 categories.

Conclusion:

All patients seemed to be satisfied with the care provided (as tested using the questionnaire). The patients were more satisfied with the orthodontist than nurse followed by the receptionist.

Reference:

- Royal College of Surgeons: National: Methodologies for clinical audit in dentistry 2000.
http://www.rcseng.ac.uk/fds/clinical_guidelines

Table 1 360 Degree Feedback Questionnaire									
Who are you giving feedback to?									
1. Please identify the person you are giving feedback to:							Name		
Who are you?									
2. Please identify your general relationship to the person getting the feedback							a) orthodontist b) receptionist c) chair side assistant d) support staff e) patient f) Supply representative		
							Average score and number of "Don't knows" in (..)		
		Strongly agree (1)	Agree (2)	Disagree (3)	Strongly disagree (4)	Don't know	Receptionist	Nurse	Orthodontist
1	Is approachable and friendly	○	○	○	○	○	1.8	1.4	1.3
2	Keeps me informed of any changes or developments	○	○	○	○	○	1.8	1.5	1.3
3	Is helpful and encouraging	○	○	○	○	○	1.8	1.5	1.3
4	Has my full confidence	○	○	○	○	○	1.6 (1)	1.5	1.4
5	Is caring and pleasant	○	○	○	○	○	1.5 (2)	1.5	1.3
6	Provides me with the information I need	○	○	○	○	○	1.8	1.6	1.3
7	Makes time for me	○	○	○	○	○	1.7 (1)	1.5	1.2 (2)
8	Listens to what I have to say	○	○	○	○	○	1.7	1.5	1.4
9	Treats me with respect	○	○	○	○	○	1.6	1.4	1.0
10	Has a positive attitude	○	○	○	○	○	1.6	1.4	1.2
11	Willing to help	○	○	○	○	○	1.5	1.4	1.2
12	Acts responsibly	○	○	○	○	○	1.6	1.4	1.2
13	Always follows advice	○	○	○	○	○	1.4 (2)	1.5	1.1 (1)
14	Provides useful advice	○	○	○	○	○	1.1 (4)	1.1 (2)	1.2 (1)
15	Communicates well	○	○	○	○	○	1.6	1.6	1.3
16	Gives praise when appropriate	○	○	○	○	○	1.3 (3)	1.3 (2)	1.2
17	Is clear and concise	○	○	○	○	○	1.4 (1)	1.5	1.4
18	Gets on well with people	○	○	○	○	○	1.4 (1)	1.4 (1)	1.3
19	Always on time	○	○	○	○	○	1.5 (2)	1.8	1.5
20	Good at what he/she does	○	○	○	○	○	1.3 (3)	1.2 (2)	1.1(1)
Average							1.6	1.4	1.2

Quality measures of Orthodontic Treatment in France: A controversial perspective. Papa Ibrahima NGOM, Senegal/France

There are approximately 1,700 specialist orthodontists in France with a 3% annual growth rate.

Orthodontic fees represented almost half (47.5%) of the Health Insurance expenditure on dental care in the region Ile de France (Paris and its suburbs) with a total of €33,646,800 (1999). The total amount of reimbursed by the French Social Security reached €244,000,000 accounting for 11.5% of the total expenditure in dental care (2000/2001). With an annual growth rate of 5.2%, this figure rose to €284,000,000 in 2003.

There have been many studies aimed at assessing the quality of orthodontic treatment by the Union des Caisses Régionales d'Assurance Maladie (URCAM- an umbrella body of the public health insurance companies) on behalf of the French Social Security. At least, half of the 22 regions of France (Alsace, Aquitaine, Auvergne, Bourgogne, Centre, Champagne-Ardenne, Franche-Comté, Ile de France, Lorraine, Nord Pas-de-Calais and Pays de Loire) were involved in these quality control studies.¹

Apart from an inter-regional study (Alsace, Bourgogne, Centre, Champagne-Ardenne, Franche-Comté, Lorraine), the quality control studies were carried out independently. Overall, 8,000 children were examined on completion of orthodontic treatment.

The aims of the studies were to investigate;

- the failure rate of orthodontic treatment (Inter-regional and Auvergne)
- the outcome of orthodontic treatment (Nord Pas-de-Calais study)
- the static and dynamic inter-arch relationship (Aquitaine)
- the improvement brought by the treatment (Ile de France)
- the quality of treatment of Angle Class II malocclusions (Pays de Loire)

The criteria used to assess the outcome of the orthodontic treatment provided varied from one study to another. Many studies have used their own outcome criteria and others have used the Norwegian Orthodontic Treatment Index (NOTI) to assess residual treatment need. The results of the studies carried out in 8 regions (Auvergne, Alsace, Bourgogne, Centre, Champagne-Ardenne, Franche-Comté, Lorraine and Pays de Loire) revealed that one third of treatments were poorly finished.

The Ile de France study concluded that 20% to 30% of the adolescents had no benefit from the orthodontic treatment.

The Nord Pas de Calais and the Aquitaine studies are less clear in their conclusion giving a percentage of subjects with at least one residual deviant occlusal trait.

The assessment of orthodontic treatment is important for the French Social Security specifically in a context where there are limited funds available. However, the URCAM studies were misleading in many respects and arguably would not pass the scrutiny of international scientific review. The design and methodologies of the studies could have been improved. The Norwegian index has been used in some studies to assess the need for orthodontic treatment at the start and end of the treatment. However, there was inconsistency in the timing of recording, for instance data was not always collected at bond-up or debond. In addition, the assessment of residual need does not provide information in terms of improvement achieved by orthodontic treatment. Indices such as the Peer Assessment Rating (PAR) index and the Index of Complexity Outcome and Need (ICON) should be used for that purpose. The examinations were carried out by many investigators with no attempt to test for the reliability. Many of the subjects included in these studies completed treatment more than 2 years previously, thus the outcome measured included relapse where there was no retention.

The URCAM studies have been criticized by the orthodontists who were understandably sceptical about the results and some reactions have been published in the Orthodontist Association's newsletters. In particular, they point out the absence of sound scientific methodology to carry out the studies. Many orthodontist wonder why valid and reliable indices designed specifically for quality control in orthodontic treatment were not used.

Well designed studies are needed when appraising the quality of treatment in order to avoid misinterpretation of data and valid measures of treatment need and outcome should be employed to ensure consistency and comparison between orthodontists, regions and countries.

Reference:

1. Union des Caisses Régionales d'Assurance Maladie <http://www.urcam.fr>

EFOSA – European Federation Of Orthodontic Specialists Associations

The aim of the EFOSA is to unite associations or groups of orthodontic specialists or practitioners, who have a comparable education and working conditions as orthodontic specialists with a view to:

- obtaining official recognition of orthodontic specialists in all countries in Europe,
- providing and promoting orthodontic treatment by orthodontic specialists of the highest quality in all countries of Europe according to the concept of quality improvement
- improving the content and quality of education for orthodontic specialists by means of formulating proposals geared toward defining and coordinating the teaching of orthodontics at the university and post-university level
- standardizing European examinations at the end of specialist training programs in orthodontics,
- advising and supporting national associations or groups that aim to obtain recognition for the specialty of orthodontics in their country, establish an official specialist register and form a national society of orthodontic specialists.

For further information visit the EFOSA web site:
http://www.efosa.org/EFOSA_2003/index.php

The use of three-dimensional imaging to evaluate dental arch changes Stephen Richmond, Cardiff, UK

The use of three-dimensional (3-D) imaging for dental casts has become available to the orthodontist in recent years. Many companies are offering to scan dental casts to alleviate the problem of storing them for long periods of time.

The 3-D imaging also provides the opportunity to evaluate change over time. If the images are superimposed, usually on best mathematical fit, the changes in the movement of teeth can be evaluated. The accuracy of fit depends on:

- Good quality impression material which provides excellent surface detail.
- Quality of impression technique with coverage of teeth and soft/hard tissues.
- Minimal distortion resulting from excessive pressure in removing the impression material.
- Adequate attachment of impression material to impression tray.
- Minimal effect of disinfection techniques on surface detail.
- Good storage and transport of impressions to laboratory to reduce distortion due to pressure and water absorption/loss etc.
- Use of the same casting material with similar contraction parameters each time.
- Good mathematical algorithm based on best fit.

Without this attention to detail the assumptions made from the superimpositions will be less reliable.

The images shown on the right are taken from a sequence of treatment provided to an upper model (at baseline, 3 years, 6 years and 7 years – 1mm grid). The upper left 2nd premolar was extracted followed by upper fixed appliances to produce alignment and expansion. Treatment was followed by a removable retainer for 3 years which was then discarded.

The 3-D images have been superimposed on the original start model. At 3 years the upper molars have stayed in the same place but there has been expansion in the premolars and antero-posteriorly. Most of this expansion has been maintained for 6 years. Once the retainer was removed there was a swift relapse with the canines returning close to their original positions.

The image below shows the deviation colour map of the dental cast at 3 years on the baseline. The green (in this image only) represents differences of less than 0.5mm between the two sets of dental casts (see mm scale on left). The 3-D superimposition for this case is excellent.

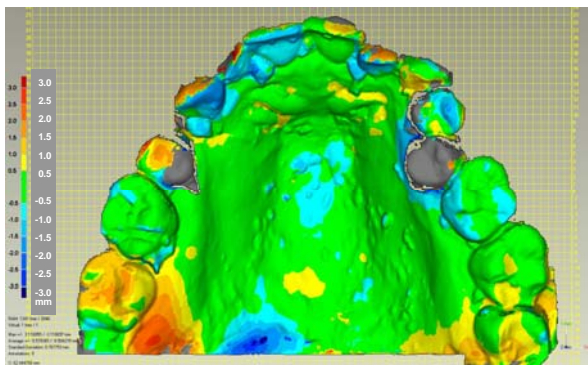


Figure 5 Superimposition of dental cast 3 years on baseline (Figure 2). The “goodness of fit” is indicated by green area (<0.5mm)

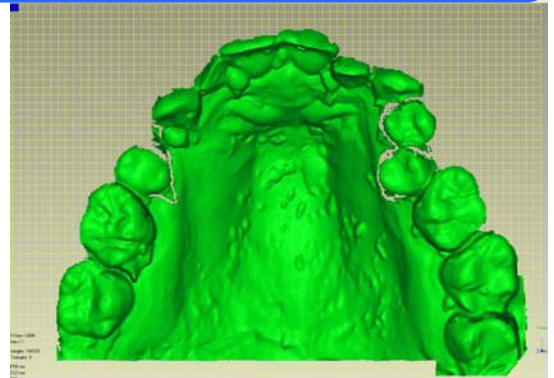


Figure 1 Start model

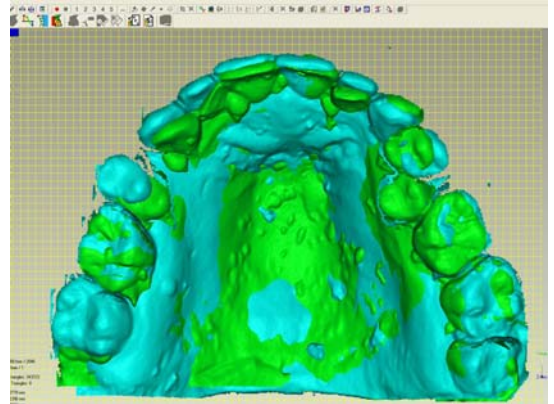


Figure 2 Start model (green) with completed treatment (turquoise) -3 years.

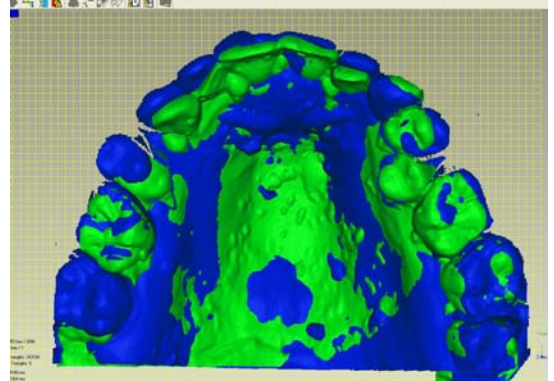


Figure 3 Start model green with retention (blue) – 6 years

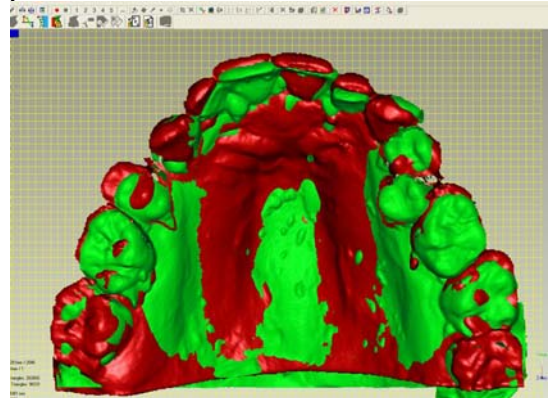


Figure 4 Start model (green) with model one year out of retention (red) – 7 years.

Keeping up with the latest knowledge

It is almost a full-time job keeping up with the latest orthodontic articles and research. Even if orthodontists had time to read all the articles, they are often written in such a way that they are difficult to read and interpret, often requiring expert scrutiny and knowledge in research methodology and statistics.

So what hope is there for the orthodontist who wants to keep up to date with innovations and the latest evidence?

There are numerous resources available on the internet written in numerous languages highlighting the latest evidence. Some of these sites are active and frequently updated.

Systematic reviews

One of the first visits should be to sites that report the outcomes of systematic reviews as the authors usually follow a strict protocol of scientific scrutiny generally sifting through the evidence and making judgements on the quality of the research methodology and findings. Quite often the reviews find that there is insufficient evidence available and this is informative in that we have to be cautious in the claims and associations made on the topic in question. Published systematic reviews can be found by searching the various databases for instance in PubMed,¹ the National Library for Health² and Cochrane Library³

Randomized Controlled Trials (RCT's)

As with systematic reviews a RCT should follow a strict protocol. Systematic reviews often review a series of RCT's, implying that not all RCT's provide the same outcome.

Therefore caution is required when reviewing and reading RCT's. As in many cases there are numerous factors that influence an outcome and all these factors should be recognized, recorded and monitored prior to and when an intervention protocol is being applied. Again RCT's can be searched for using PubMed, the Cochrane Library² and the International Standard Randomized Controlled Trial Number (ISRCTN) web-sites.⁴

Some of the web-sites indicate past, current and abandoned (due to insufficient recruitment) studies. All provide a summary with links to the full articles many of which are free to access.

References:

1. PubMed National Library of Medicine and National Institutes of Health, USA
<http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?DB=pubmed>
2. National Library for Health, NHS
<http://www.library.nhs.uk/oralhealth/SearchResults.aspx?tabID=289&catID=2147>
3. The Cochrane Library
<http://www3.interscience.wiley.com/cgi-bin/mrwhome/106568753/HOME>
4. International Standard Randomized Controlled Trial Number
<http://www.controlled-trials.com/>

Dental Attractiveness – “The Golden Percentage” Egle Ong and Stephen Richmond, Cardiff, UK

In spite of an abundant amount of articles written about aesthetics in the dental press, it is still not possible to answer unequivocally the question of what features make the dental appearance attractive.

There are many factors that may influence the overall dental appearance and these can be classified as:

- single tooth-related (size, colour, shape, etc.)
- adjacent teeth related (proportionality, alignment, overbite)
- periodontium-related (gingival colour, contour and texture)

The area of most aesthetic importance is likely to be the maxillary anterior teeth because of their high visibility but significant disruptions in the lower arch can have an influence in overall dental aesthetics.

The attractiveness of tooth shape or colour may depend on subjective preferences but the aesthetic value of some other features, such as crown proportions or symmetry across the midline, can be objectively assessed by employing specific measures, such as the principle of the Golden Proportion or its modification, namely the Golden Percentage.

The principle of Golden Proportion takes into consideration the relative widths of the upper front teeth and assumes that in an attractive looking dentition the ratio of the apparent widths of the central incisor to the lateral incisor is 1.618:1; similarly, the apparent width of the lateral incisor is in golden proportion to the width of the canine.

The Golden Percentage is a modification of the Golden Proportion rule, and it had been proposed as a simple and objective tool to assess dental aesthetic measures such as anterior dominance, symmetry across the midline and regressive proportion.

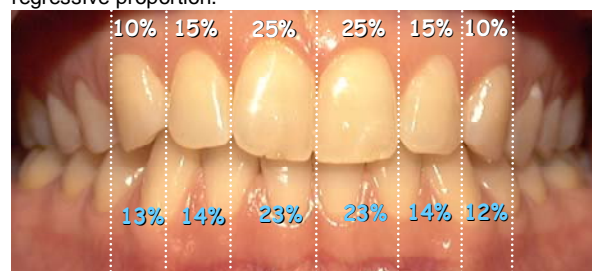


Figure 1 The top percentages represent the ideal Golden Proportion relative to each other. The lower percentages determined from subjective opinion of the most attractive teeth.

In a recent study it was found that the Golden Proportion was not a major influence on the assessment of dental attractiveness in sixty 30 year old individuals as determined by a panel of 12 non-dentists (aged 30/31). Similarly it was found that overall dental attractiveness did not depend on any particular feature of a dentition. A hierarchy of various features was established with the crown shape being ranked the highest while the tooth and gum colour were ranked the lowest. Further research is required to explore the various factors that make up dental attractiveness, in particular tooth shape.

Reference:

Ong, E. Brown, RA., Richmond, S. Peer assessment of dental attractiveness, Am J Orthod Den Fac Orthop. 2006.

Welcome to the first edition of the EFOSA Quality Newsletter!

The purpose of this newsletter is inform the EFOSA community of quality initiatives and activity undertaken, by members of the orthodontic team or groups of orthodontists at the local, national and international levels.

The Editor welcomes articles on quality issues from any member of the orthodontic team that is thought provoking, best practice or likely to improve orthodontic care for the benefit of the orthodontic team and for their patients.

I would like to thank all those authors who have submitted articles for this issue. The articles illustrate activity in assessment of their own orthodontic practice on the individual, local and national levels with various degrees of sophistication in methodologies.

Significant changes in funding levels for orthodontics has been experienced in many countries (e.g. Germany, The Netherlands and England and Wales) and it is clear that projects and reviews related to orthodontic provision have been funded in other countries (e.g. Finland and France). It is important that these evaluations use objective measures to assess treatment need and outcome. In addition, the best possible orthodontic care should be provided to patients by the orthodontic team.

It is often difficult to judge the quality of treatment provided and the EFOSA Self Assessment System (ESAS) provides an opportunity to compare ones own practice with other orthodontists in the EFOSA community. An online facility will enable rapid and comprehensive comparisons with all aspects of the treatment process.

Orthodontists are facing challenging times and it is important that they are able to describe and quantify their levels of orthodontic activity and treatment outcome for anyone who wants to know.

Using comparative methods of assessment there is an opportunity for orthodontists to show how good they are and demonstrate to their colleagues and patients the quality of care they provide on an objective basis. In addition, with the appropriate structures in place there is a philosophy of continuous quality improvement.

Many orthodontists already have quality structures in place and I will be delighted to receive articles from them to be published in this Newsletter.

I look forward to the continuous development of orthodontics and I hope this Newsletter will make a small impact with the help of your contributions.

Stephen Richmond

Editor EFOSA Quality Newsletter

This Newsletter depends on articles written by the profession for the purpose of improving the quality of orthodontic treatment. Submissions will be welcomed from all members of the orthodontic team.

Please send your articles to:

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