Orthodontic Treatments in Children aged under 18 years

Orthodontic treatments in children **WILL ONLY BE** funded where the patient has disruption to their dentition or problems with bite or jaw development sufficient to be classified as Grade 4 or Grade 5 on the orthodontic Index of Treatment Need (IOTN).

Within the IOTN, dentition meeting the criteria for Grade 4 or 5 is defined as requiring treatment for health reasons.

Full details of the IOTN Grade 4 and 5 criteria are set out in the HSE Orthodontic Eligibility Guidelines 2007, available online at: [http://www.hse.ie/eng/services/list/1/schemes/cbd/HSE%20ORTHODONTIC%20ELIGIBILITY%20GUIDELINES.pdf](http://www.hse.ie/eng/services/list/1/schemes/cbd/HSE%20ORTHODONTIC%20ELIGIBILITY%20GUIDELINES.pdf)

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**Comments**

There is a lack of good quality evidence for impact of abnormal dentition on health outcomes and the clinical and cost effectiveness of orthodontic treatment.

There is a lack of high quality evidence to causally link abnormalities in the dentition to functional (ability to speak or eat) quality of life indicators. There is some evidence from observational studies that anterior malocclusions (i.e. those in what is known as the ‘aesthetic zone’ of the mouth) are associated with reduced scores on emotional and social wellbeing within oral health related quality of life scores. However, the studies demonstrating this were largely undertaken in Brazil and similar studies on British Isles or European populations are lacking.

The paper reviewing these studies (Dimberg et al) did not attempt to quantify the level of impact or whether this was reflected in activities of daily life. The paper did not provide any correlation of quality of life impact with degree of malocclusion (IOTN). We found no evidence to indicate that the aesthetic impact of malocclusions causes significantly greater or different negative impact on quality of life indicators than any other aesthetic issue (e.g. bat ears, prominent nose) for which DHSC funded intervention would also not be offered.
Clinical Effectiveness

We were unable to find high quality evidence indicating that correction of orthodontic defects was causally linked to significant improvements in functional or other significant health related quality of life outcomes.

A recent systematic review of studies in this area concluded: Orthodontic treatment during childhood or adolescence leads to moderate improvements in the emotional and social well-being dimensions of OHRQoL, although the evidence is of low and moderate quality. More high quality, longitudinal, prospective studies are needed. (Javidi et al). The significance of these possible moderate improvements in terms of ability to function in daily life is not known.

There is, however, professional consensus that dentition falling within IOTN grades 4 and 5 is sufficiently disrupted to justify orthodontic treatment on health grounds.

Interventions intended to improve cosmetic appearance cannot be a priority for DHSC funding. We did not find any evidence to indicate that children have significantly different outcomes from treatments designed to improve appearance to justify a different policy for orthodontics in children compared to adults. This policy seeks to limit funding for orthodontic treatments to patients who are likely achieve significant functional benefit as a result of treatment.

The evidence base for the effectiveness of many orthodontic techniques in achieving long term improvement in dentition is weak [see, for example, Papadopoulos and Gkiaouris, A critical evaluation of meta-analyses in orthodontics, American Journal of Orthodontic and Dentofacial Orthopaedics, 2007, 131(5), 589-599]

We found a number of papers exploring methods for comparing costs and outcomes from orthodontic services. These studies found variations in costs depending on model of provision [see, for example, Richmond et al, Measuring the cost, effectiveness and cost-effectiveness of orthodontic care, World Journal of Orthodontics, 2005 6(2), 161-170]. We found no robust cost effectiveness studies.

Public health systems set different thresholds for accessing publicly funded treatment. HSE Ireland funds orthodontic treatment in children whose dentition falls within grades 4 or 5 of the Index of Treatment Need. No additional allowance is made for the aesthetic component of the IOTN. NHS England funds orthodontic treatment for children provided they meet a minimum threshold of grade 3 on the functional component and 6 on the aesthetic component of the IOTN.
Summary of evidence

British Orthodontic Society, Index of Orthodontic Treatment Need
http://www.bos.org.uk/Public-Patients/Orthodontics-for-children-teens/Fact-File-FAQ/What-is-

Ireland, HSE Orthodontic Eligibility Guidelines, 2007
http://www.hse.ie/eng/services/list/1/schemes/cbd/HSE%20ORTHODONTIC%20ELIGIBILITY%20GUIDELINES.pdf


https://doi.org/10.1093/ejo/cju046

Javidi et al, Does orthodontic treatment before the age of 18 years improve oral health?
American Journal of Orthodontics and Dentofacial Orthopedics, 2017, 151 (4); 644-655
http://www.ajodo.org/article/S0889-5406(16)30892-7/fulltext


Richmond et al, Measuring the cost, effectiveness and cost-effectiveness of orthodontic care
World Journal of Orthodontics, 2005 6(2), 161-170

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3260524/

Reason for requesting policy review:

Committee: Low Priorities Policies: Orthodontic Thresholds (unnumbered policy, 2008).
Reviewed as part of the Effective Use of Resources Project: Replaces Clinical Recommendations Committee, Low Priorities Policies: Orthodontic Thresholds (unnumbered policy, 2008).
Where a patient is considered to have exceptional need for and capacity to benefit from a treatment that is not routinely funded, a request for individual funding may be made to the Individual Funding Requests Panel. The patient must be made aware that the Panel may not support the request and must not be given any expectation that they will be able to have the treatment until a decision to fund has been received in writing from the Panel.

For further information contact:

Tel: +44 (0)1624 642646
Email: clinicalcommissioning.dhsc@gov.im
Website: www.gov.im/dhscclinicalcommissioning

Also refer to Appendix overleaf: Consultation Responses
APPENDIX

Consultation Responses

1. Response received from Andre Vogelzang, Registered Dental Practitioner, Regent Dental Care:

   In consultation with a number of orthodontists, they are all from the opinion that there are very few real 3.6 and above that fall in the bracket from 3.6 - 4. Most cases that require treatment are realistic 4’s and above anyway and a lot that are borderline are always because of aesthetics and not functional problems.

   The opinion is that the IOTN 4 -5 be treated and that will create less problems with referrals from dentists as well, because it takes that grey area of diagnosis out of the equation immediately. You will then have a clear and accurate cut-off point for treatment.

   Hope this helps.

   Regards

   Andre

2. Response received from Tracey Bell, Registered Dental Practitioner, Tracey Bell Dental and Aesthetic Medical Clinic:

   Thank you for the opportunity to comment in regard to the Clinical Commissionary document for Orthodontics. I believe that the following points need to be considered:

   I agree that the IOTN should be utilised however it is evident that practitioners do not know how to use this guide correctly. In my mind I believe there are a number of reasons why.

   A - They do not understand how it works or its implications a strict guide should be introduced to direct the practitioner as to what is suitable. The one presently used by the department is not suitable. As x-rays and photos cannot be sent or attached; even if they could be, I am not sure they would actually get to the orthodontist.

   B - External referral is not covered correctly under the UDA system. The referral process needs to have strict guidelines for instance it needs to state; please include the following with all referrals: The dentist is not paid for referral or assessment.

   1 - OPG
   2 - Photographs
   3 - Clinical chart
   4 - Caries/Hygiene reg

   This would immediately make the practitioner accountable, whilst making the job easier for the practitioner.

   I would look at spend of IUOA in the past - how many children have been sent that do not qualify. In terms of IOTN incorrect, age - again, you take the claims for IUOA and make a system which is beneficial and accountable for all parties.
If a child is not registered or has no dentist do you think an NHS dentist will orthodontically assess, write a letter, fill in forms, and pay postage for an associate wage of £10.00 per case.

2 - Exceptional circumstances - this needs to be specific and include examples

The department does not want to be inundated with “maybes” taking up valuable time of staff, practitioners and committees.

3 – Evidence:

No matter what anyone says the evidence if any methodology sample needs to be relevant to its population.

You have got to include or request in the orthodontic contract at present, clinical presentation - outcome.

This again will provide you data about what is actually happening on island.

For example - genetics and jaw relationships may be prevalent relating long term to surgical intervention. This is known as no baseline epidemiology exists.

Create a system that collects data within the contract

The audit of the orthodontic contract needs to include the following such as:

1 - photos
2 - skeletal relationships
3 - missing teeth

You don’t have to pay anymore but you get data especially if the audit was included in the contract conditions. Make a condition that if they don’t do it you can remove the contract.

GDPS - In the forms use for collection of payment, include skeletal relationships, x-rays within the data collected.

I have lots of ideas on how to collect real information. The evidence provided in this document is old, out dated and not directly evident to the population of the Isle of Man.

Hope that helps and happy to discuss as always.

3. Response from Kevin Young:

Thank you for asking me to have a look at the document albeit at this late stage. I do appreciate that you’ve been tasked with this at this late stage also. It is clear to me that a policy decision has already been taken by DHSC management such that from now on only IOTN 4 and 5 will only be treated within the IOM NHS. [Reviewer note: I am not clear why KY refers to ‘this late stage’ or states that ‘a policy decision has already been taken by DHSC’ – this is not, to my knowledge the case.]

This is a political decision based upon what the DHSC want to pay for and not a clinical one that I agree with. It’s privatisation by the back door and will result in treatment not being available to a proportion of cases who previously would have been considered for treatment.
FYI, I actually noticed this change of policy earlier this week from looking at Mr Vogelzang’s website which advises that only IOTN 4 & 5 are to be treated within the IOM NHS! I was of course disappointed to have found out such an important policy changes this way and so much for the document/policy being a “draft”. The document may be draft but the decision and motivation are clear. It certainly ranks no better to me the way I found out that Mr Vogelzang was awarded the NHS contract. I found this out from the receptionist on the blood clinic who heard it on Energy FM! Communication is clearly not the DHSC’s strong point.

You may wish to have look http://regentdental.im/orthodontics-2/ [Reviewer note: this link takes you to a page which includes the following text: We are commissioned by the NHS to treat patients under the age of 18 with a certain severity of orthodontic need. The level of severity is judged by an “Index of Treatment Need” (IOTN), with a score of 3.6 or higher necessary to be eligible for free NHS treatment, however, due to high demand priority will be given to IOTN scores of 4 and higher.]

Every year when I attend the British Orthodontic Conference, the orthodontic representative from NHS England (Brian Kelly) advises that approximately 6% of treated cases are IOTN 3.6-3.10 and he always says that he feels removing these from UK NHS orthodontic provision (such that only 4s and 5s only are treated) would be harsh on clinical grounds and that UK have no intention of changing to IOTN 4 and 5 only. Accordingly, the IOM DHSC’s decision to withdraw treatment from this category is political and not what UK clinicians agree with. [Reviewer note: Brian Kelly is not the NHS England ‘orthodontic representative’. He is Senior Orthodontic Advisor to the NHS Business Services Authority where his role is: The Clinical Advisers are working with health bodies to develop effective risk-based processes which are integrated with other NHS Dental Services monitoring information. They act as the first point of contact for health bodies about clinical issues and are the hub for the co-ordination of risk-based information generated by NHS Dental Services activities and can assist health bodies with specific issues of concern. This may include targeted record card checks, patient examinations and practice inspections, to investigate contractual and legal compliance with regulations. (See https://www.nhsbsa.nhs.uk/clinical-services/clinical-advisers). According to the British Orthodontic Society website, Brian Kelly also works three days per week in salaried and independent practice in Coventry (https://www.bos.org.uk/Portals/0/Public/docs/OSG/Brian%20Kelly.pdf). It is not clear on what basis the opinion of one individual can be said to be representative of all ‘UK clinicians’.]

Clearly the DHSC are trying to save money as is ultimately their choice and not one I approve of. The system in Republic of Ireland is mature in that tax breaks are given to parents who fund their children’s private orthodontic treatment for those who are not treated within the Public system.

I was also concerned at some of the broad statements given in the “Strength of Evidence” sections about malocclusion and orthodontic treatment in the document.

“There is a lack of good quality evidence for impact of abnormal dentition on health outcomes and the clinical and cost effectiveness of orthodontic treatment”. On the contrary, recent systematic reviews have found evidence to suggest that malocclusion impacts negatively on OHR-QoL. Supporting references (1) Liu Z, McGrath C, Hagg U. The impact of malocclusion/orthodontic treatment need on the quality of life. A systematic review. Angle Orthod 2009; 79: 585-91 [Reviewer note: this is the paper we identified and have listed in the references above. The
authors’ conclusion is:

Findings of this review suggest that there is an association (albeit modest) between malocclusion/orthodontic treatment need and QoL. There is a need for further studies of their relationship, particularly studies that employ standardized assessment methods so that outcomes are uniform and thus amenable to meta-analysis.

Note that this review looks at the association between malocclusion/treatment need and quality of life. It does not look at whether treating that need is associated with any impact on QoL.

And (2) Dimberg L, Amrup K, Bondemark L. The impact of malocclusion on the quality of life among children and adolescents: A systematic review of quantitative studies. Eur J Orthod 2015; 37: 238-47. [Reviewer note: we did not previously identify this review. This paper identified four cross-sectional observational studies of impact of malocclusion on QoL. Without access to the full papers (this and the 2009 one above) we cannot tell whether these papers were included in the earlier review (but not judged by those authors as high quality) or whether they are newer papers not in the earlier review. The Dimberg paper found an association between malocclusion and QoL only for anterior malocclusion and the IOTN grades are not reported – see: https://academic.oup.com/ejo/article/37/3. From the abstract it is not possible to appraise the quality of this review or the included studies. However, given that the studies are all described as observational, it is difficult to see how they provide a firm basis for conclusions. The abstract concludes that malocclusion has negative effects on oral health related quality of life but does not attempt to quantify the size or significance of these effects. The review was not designed to look for evidence on whether treatment improves QoL. I have added a reference to this paper in the evidence section on the draft.]

“We were unable to find evidence indicating that correction of orthodontic defects was causally linked to significant improvements in functional or other health related quality of life outcomes”. On the contrary, another separate systematic review from a highly respected research team at the University of Sheffield found that “orthodontic treatment during childhood or adolescence leads to moderate improvements in the emotional and social well-being dimensions of OHRQoL, although the evidence is of low and moderate quality. (1) Javidi H, Vettore M and Benson P.E. Does orthodontic treatment before the age of 18 years improve oral health-related quality of life? A systematic review and meta-analysis. American Journal of Orthodontics and Dentofacial Orthopaedics, 2017; 151: 644-655. [Reviewer note: the authors’ conclusion in this paper is: ‘Orthodontic treatment during childhood or adolescence leads to moderate improvements in the emotional and social well-being dimensions of OHRQoL, although the evidence is of low and moderate quality. More high quality, longitudinal, prospective studies are needed.’ As with the other studies observing impacts on QoL scores, it is not possible to tell the size or significance of these changes, e.g. in impact on how people function in everyday life. Again, the quality of the studies is noted as low/moderate, limiting the conclusions that can be drawn. I have added this reference and brief summary to the evidence sections above.]

In relation to the hospital service the removal of IOTN 3.6 - 3.10 would have negligible effect on the cohort of patients we usually treat as the majority of the difficult orthodontic cases come from IOTN 4 and 5 categories. However IOTN score and complexity of treatment are not related.

I do appreciate you taking time to ask for my clinical opinion. I’ve enclosed the latest Sheffield
Systematic Review for you which supports scientifically what all orthodontic clinicians who treat patients know which is that orthodontic treatment improves emotional and social well-being of our patients.

Regards

Kevin