

# Index Of Treatment Need (IOTN)



When assessed on the IOTN scale, a patient is first graded as 1, 2, 3, 4 or 5 on the **Dental Health Component**. Grade 1 does not need treatment, whereas grade 5 is in great need of treatment.

If assessed as grade 3, the patient is further allocated to a grade somewhere between 3.1 and 3.10 by application of the **Aesthetic Component**. **To be eligible for free NHS treatment, the overall score must be 3.6 or higher.**

Complex - but it seems to work and genuinely (in the opinion of most users) seems to provide a fair and reproducible indication of whether, or not, a patient really **needs** (as opposed to **wants**) a brace.

## Introduction

From 1st April 2006, the use of the Index Of Treatment Need (IOTN) is compulsory in government (NHS) funded Orthodontics in the UK.

The index is used to determine those cases that most need treatment with braces, so that limited resources can be targeted at those patients in greatest need, avoiding the provision of expensive (and scarce) treatment to mild cases.

This must be seen against a background of ever increasing expenditure on UK Orthodontics, that threatened to spiral out of control, as braces become ever more popular.

## Detailed Application

When a patient presents for assessment, a standard procedure is used. Because orthodontic treatment needs to be justified on either dental health or aesthetic needs, there are two components to this index:-

- The Dental Health Component (DHC)
- The Aesthetic Component (AC) - used only when the patient is assessed in DHC group 3 - this splits "group 3" up into 10 subcategories.

The Dental Health Component of the IOTN has five categories ranging from 1 (no need for treatment) to 5 (great need).

The most severe occlusal trait is identified for any particular patient and the patient is then categorised according to this most severe trait.

**The Dental Health Component** uses an acronym - MOCDO - to guide the observer to the single worst feature of the malocclusion.

MOCDO represents:- Missing teeth; Overjets; Crossbites; Displacement of contact points; Overbites.

Patients in Grade 5 would include those with Cleft Lip and Palate, multiple missing teeth or a destructive malocclusion.

Thus a patient who has an impacted upper incisor is immediately categorised as falling into the highest group - IOTN 5 - and no further assessment of the DH Component is required. Where there are no anomalies of tooth number or position, a ruler is useful to measure the overjet (positive or negative), to see where this will place the patient.

For example, an increased overjet in the range 6-9mm is IOTN 4.

## Grade 1 - No treatment required

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

## Grade 2 - Little

- 2.a Increased Overjet > 3.5 mm but <= 6 mm (with competent lips)
- 2.b Reverse overjet greater than 0 mm but <= 1mm
- 2.c Anterior or posterior crossbite with <= 1mm discrepancy between retruded contact position and intercuspal position
- 2.d Displacement of teeth > 1mm but <= 2mm
- 2.e Anterior or posterior open bite > 1mm but <= 2mm
- 2.f Increased overbite >= 3.5mm (without gingival contact)
- 2.g Pre normal or post normal occlusions with no other anomalies. Includes up to half a unit discrepancy

## Grade 3 - Borderline need

- 3.a Increased overjet > 3.5 mm but <= 6 mm (incompetent lips)
- 3.b Reverse overjet greater than 1 mm but <= 3.5mm
- 3.c Anterior or posterior crossbites with >1mm but <= 2mm discrepancy between the retruded contact position and intercuspal position
- 3.d Displacement of teeth >2mm but <=4mm
- 3.e Lateral or anterior open bite > 2mm but <= 4mm
- 3.f Increased and incomplete overbite without gingival or palatal trauma

## Grade 4 - Treatment required

- 4.a Increased overjet > 6mm 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
- 4.e Extreme lateral or anterior open bites > 4 mm
- 4.f Increased and complete overbite with gingival or palatal trauma
- 4.g Less extensive hypodontia requiring pre-restorative orthodontics or orthodontic space closure to obviate the need for a prosthesis
- 4.h Posterior lingual crossbite with no functional occlusal contact in one or more buccal segments
- 4.i Reverse overjet > 1 mm but < 3.5 mm with recorded masticatory and speech difficulties
- 4.j Partially erupted teeth, tipped and impacted against adjacent teeth
- 4.k Existing supernumerary teeth

## Grade 5 - Treatment required

- 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 (apart from 3rd molars) due to crowding, displacement, the presence of supernumerary teeth, retained deciduous teeth, and any pathological cause
- 5.m Reverse overjet > 3.5 mm with reported masticatory and speech difficulties
- 5.p Defects of cleft lip and palate
- 5.s Submerged deciduous teeth

**The Aesthetic Component** of the IOTN consists of a ten-point scale illustrated by a series of photographs which were rated for attractiveness by a lay panel and selected as being equidistantly spaced through the range of grades. A rating is allocated for overall dental attractiveness rather than specific similarities to the photographs. The final value reflects the treatment need on the grounds of aesthetic impairment and by implication the sociopsychological need for orthodontic treatment. Both parents and patients find this easy to apply and there is a high level of agreement between the scores obtained by dentists, parents and children. There seems to be a general agreement that a DHC of less than 4 and an AC score of below 7 do not justify treatment.

The pictures below are used to assess the Aesthetic Component.

## Grade 1-4 = Little or no treatment required

