

## Does Orthodontics Improve Oral Health-Related Quality of Life? A Cohort Study.

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### **Aims of the project**

To investigate any changes in the OHQoL of young people before and after orthodontic treatment. In addition, the relationship between OHQoL and other factors concerning the individual and their environment will be explored using a theoretical model of health.

### **Design**

A multi-centre, longitudinal, prospective, clinical cohort study.

### **Setting**

The orthodontically treated cohort will be recruited from five centres including a district general hospital, dental teaching hospitals and a specialist orthodontic practice. The waiting list cohort will be recruited from specialist orthodontic practices with a minimum waiting list of twelve months.

### **Inclusion criteria**

- Aged 11 to 16 years (inclusive) at the start of treatment in the treatment group, and on placement onto a waiting list in the control group.
- A measurable need for orthodontic treatment based on the Dental Health Component of the Index of Orthodontic Treatment Need (IOTN) (grades 3 [AC 6], 4 or 5).
- About to commence any orthodontic intervention, including extraction and observation or active treatment, using any type of appliance or auxiliary.
- Dentally fit to commence orthodontic treatment.

### **Exclusion criteria**

- Cleft of the lip and/or palate or other facial deformity or craniofacial syndromes that require surgical correction;
- Medical condition that might prevent comprehensive orthodontic treatment;
- Cognitive impairment and inability to complete questionnaires.

### **Methods of recruitment**

Following an orthodontic examination, young people suitable for inclusion and their parent(s) will receive a verbal explanation about the study. Written information will be provided to reinforce this and they will be allowed at least one week to consider whether or not to take part. If they agree then written consent will be obtained at a follow up appointment.

### **Planned interventions**

Participants will receive their orthodontic intervention using the clinician's preferred method.

### **Comparison cohort**

An untreated comparison group is important to help determine if any improvement in OHQoL is due to the orthodontic treatment or would have happened as a result of maturation anyway. To overcome this, specialist orthodontic practices known to have a minimum twelve-month waiting list will be used to recruit patients that can provide longitudinal data representative of an untreated comparison group.

### **Proposed outcomes**

Primary outcome: OHQoL will be assessed using one generic and one condition-specific measure:

*Generic:* The short form Child Oral Health Impact Profile questionnaire (COHIP-SF 19) (Broder et al., 2007, Broder et al., 2012);

□ *Condition-specific:* The Malocclusion Impact Questionnaire (MIQ) (Patel et al., 2016; Benson et al., 2016,).

Secondary outcomes: The relationship between malocclusion and OHQoL is frequently affected by other factors associated with the individual and their environment (Baker et al., 2010).