

The impact of premature extraction of primary teeth on orthodontic treatment need in a longitudinal birth cohort

Dr Peter Day, Associate Professor and Consultant in Paediatric Dentistry, School of Dentistry, University of Leeds

This study will describe the impact of premature extraction of primary teeth (PEPT) on space loss, other occlusal anomalies and orthodontic need in the mixed dentition. We will recruit at least 1000 children, aged 6-10 years old, participating in the Born in Bradford (BiB) birth cohort. Half the children will have received PEPT. An equal number, who have not had PEPT, will act as the control group.

For each child, orthodontic records will be collected, including extra and intra-oral photographs and study models. Using these records, we will quantify space loss, other occlusal anomalies and orthodontic treatment need using the Index of Orthodontic Treatment Need. For each measure, summary statistics will be calculated for children with and without PEPT. For child identified to be in need of orthodontic treatment, an expert orthodontic panel will judge if this treatment should be undertaken now, in the mixed dentition, or delayed until the early permanent dentition.

This foundation study is essential and will provide the base for future longitudinal data collection. Collecting robust records in the mixed dentition provides the clinical basis to link each stage of the causal chain and enable the impact of PEPT on orthodontic need to be characterised.