

reMOte DEntal tReatment planniNg study- MODERN study

Submission date 09/06/2026	Recruitment status Recruiting	☐ Prospectively registered ☒ Protocol
Registration date 12/06/2026	Overall study status Ongoing	☐ Statistical analysis plan ☐ Results
Last Edited 11/06/2026	Condition category Oral Health	☐ Individual participant data ☒ Record updated in last year

Plain English summary of protocol

Background and study aims

Tooth decay is the most common reason that children are admitted to hospital in the UK. Many children need treatment under a dental general anaesthetic (GA), where they are asleep while dental treatment is carried out. It is important that the correct treatment plan is made before the GA so that all necessary treatment can be completed during a single procedure. If treatment needs are missed, a child may require a second GA, which can be distressing for the child and family and places additional demands on NHS services.

Specialists in paediatric dentistry are trained to assess children who require dental treatment under GA. However, many parts of the UK do not have easy access to these specialists. As a result, treatment planning can vary depending on where a child lives.

This study aims to explore whether specialists in paediatric dentistry can accurately create treatment plans remotely using photographs and dental X-rays, rather than seeing the child in person. The study will also explore how acceptable this approach is to parents, carers and dental specialists, and whether it could help improve access to specialist care in the future.

Who can participate?

Children aged 4 to 16 years who attend Liverpool University Dental Hospital and are planned for dental treatment under general anaesthetic; parents or guardians of participating children; and specialists in paediatric dentistry who work at Liverpool University Dental Hospital.

What does the study involve?

The study has three parts.

In the first part, children attending a routine hospital appointment for treatment planning under general anaesthetic will be invited to take part. Five photographs of their teeth will be taken. No additional X-rays will be required. Routine X-rays already taken as part of their normal care will be used. The child's treatment plan made during the hospital appointment will be recorded.

All identifying information will be removed from the photographs and X-rays before they are uploaded to a secure online platform. Specialists in paediatric dentistry will then review the images remotely and create a treatment plan. Researchers will compare the remote treatment plans with those made during the face-to-face appointment to see how closely they match.

In the second part, parents or guardians of participating children will be invited to take part in an online interview. The interview will explore their views on remote treatment planning and whether they would find this approach acceptable.

In the third part, specialists in paediatric dentistry will take part in discussions and evaluation activities to explore their experiences of using the online platform and identify ways it could be improved.

The study aims to recruit approximately 20 children, 10–15 parents or guardians, and 5 specialists in paediatric dentistry.

What are the possible benefits and risks of participating?

Participants are unlikely to receive a direct benefit from taking part. However, the information gathered may help improve access to specialist paediatric dental services in the future and reduce inequalities in care for children who require treatment under general anaesthesia.

The risks associated with participation are low. Children will only have photographs taken of their teeth, which may take a few minutes during their appointment. No additional dental treatment or X-rays will be required. Parents and specialists who take part in interviews or discussions may be asked to spend additional time sharing their views and experiences. All information collected will be kept confidential and handled in accordance with data protection regulations.

Where is the study run from?

The University of Liverpool and Liverpool University Dental Hospital, UK.

When is the study starting and how long is it expected to run for?

May 2026 to June 2028.

Who is funding the study?

The University of Liverpool, UK.

Who is the main contact?

Sarah McKernon, Study Coordinator, University of Liverpool, mckernon@liverpool.ac.uk

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Additional identifiers

Integrated Research Application System (IRAS)

334702

Funder Reference Number

SGL030\1028

Sponsor Reference Number

UoL001999

Study information

Scientific Title

An exploration of remote treatment planning for a dental general anaesthetic by specialists in paediatric dentistry a mixed methods study

Acronym

MODERN

Study objectives

1. To explore the specificity and sensitivity of remote treatment planning by specialists in paediatric dentistry in a sample of 20 children and 5 specialists in paediatric dentistry
2. To understand the acceptability of remote treatment planning to parents/guardians of children requiring a dental general anaesthetic through one-to-one interviews
3. To evaluate the intervention among specialists in paediatric dentistry

Ethics approval required

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Ethics approval(s)

Approved 20/02/2026, London – City and East Research Ethics Committee (2 Redman Place Stratford, London, E20 1JQ, United Kingdom; +44 0207 104 8171; cityandeast.rec@hra.nhs.uk), ref: 26/LO/0021

Primary study design

Interventional

Allocation

N/A: single arm study

Masking

Open (masking not used)

Control

Uncontrolled

Assignment

Single

Purpose

Health services research

Study type(s)**Health condition(s) or problem(s) studied**

Children/young person aged 4-16 who are treatment planned for a dental general anaesthetic (DGA)

Interventions

This is a pilot study testing a complex intervention. The first part of the study utilises a custom-built platform. Specialists in paediatric dentistry will use the platform to complete a treatment plan for a child requiring a DGA. The child will have attended a New Patient Consultation appointment and had a treatment plan completed chairside by a specialist in paediatric dentistry. The platform will enable specialists to view the image and routine radiographs taken at this appointment, then document their treatment plan.

For each tooth, SPDs can select one of five options:

- No treatment required
- Extract
- Restore
- Extract if deemed unrestorable following further examination under GA
- Restore prior to GA if feasible

Platform Development

The custom-built platform has gone through feasibility testing with SPDs and the wider research team. It is secured by an SSL/TLS certificate, which encrypts the connection between the user and the platform. It complies with GDPR requirements.

Intervention Type

Procedure/Surgery

Primary outcome(s)

1. Feasibility of remote dental treatment planning measured using a comparison of treatment plan data collected both at chairside and remotely, assessed with descriptive and inferential statistics using SPSS, at one time point at the end of the study

Key secondary outcome(s)**Completion date**

30/06/2028

Eligibility**Key inclusion criteria**

1. Children/young person aged 4-16 who are treatment planned for a DGA with radiographs (must have both BW and OPT) taken at the time of consultation
2. The child/young person lives with a parent/guardian who can consent, this adult needs to be present at the time of child recruitment

Healthy volunteers allowed

No

Age group

Child

Lower age limit

4 Years

Upper age limit

16 Years

Sex

All

Total final enrolment

0

Key exclusion criteria

1. Children who are not able to tolerate intra-oral photographs
2. Children in care who do not live with someone who can consent for them
3. Unable to gain translation services for participants spoken language

Date of first enrolment

12/05/2026

Date of final enrolment

31/12/2026

Locations

Countries of recruitment

United Kingdom

England

Study participating centre

Liverpool University Hospitals NHS Foundation Trust

Royal Liverpool University Hospital

Prescot Street

Liverpool

England

L7 8XP

Sponsor information

Organisation

University of Liverpool

ROR

<https://ror.org/04xs57h96>

Funder(s)

Funder type

Funder Name

University of Liverpool

Alternative Name(s)

The University of Liverpool, , Universidad de Liverpool, UoL

Funding Body Type

Government organisation

Funding Body Subtype

Universities (academic only)

Location

United Kingdom

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary

Not expected to be made available

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Protocol file	version 3	11/02/2026	11/06/2026	No	No