

Powered toothbrushing after a stroke

Submission date 06/01/2026	Recruitment status Recruiting	☒ Prospectively registered ☐ Protocol
Registration date 13/01/2026	Overall study status Ongoing	☐ Statistical analysis plan ☐ Results
Last Edited 12/01/2026	Condition category Circulatory System	☐ Individual participant data ☒ Record updated in last year

Plain English summary of protocol

Background and study aims

After a stroke, many people find it difficult to clean their mouth, which can lead to tooth decay, gum disease, pain, infections, and other health problems. This study aims to see whether using a powered toothbrush, along with personalised oral care advice, can help people improve their oral hygiene.

Who can participate?

Residents of the rehabilitation unit at the Royal Hospital for Neuro-disability who have had a stroke.

What does the study involve?

Participants will learn how to use a powered toothbrush and take part in short interviews and observations about their mouth care routine. Staff and carers will receive brief training to support residents. Oral health will be assessed before and after using the powered toothbrush to see if it helps.

What are the possible benefits and risks of participating?

Benefits: Better oral hygiene, learning how to use a powered toothbrush safely, and helping improve care for others recovering from stroke.

Risks: Minimal; some participants may experience mild discomfort when brushing or learning to use a new device.

Where is the study run from?

Royal Hospital for Neuro-disability, rehabilitation wards, UK

When is the study starting and how long will it last?

January 2026 to March 2027.

Who is funding the study?

Oral-B

Who is the main contact?

Mrs Mili Doshi, Consultant in Special Care Dentistry, mili.doshi@nhs.net

Contact information

Type(s)

Principal investigator, Scientific, Public

Contact name

Mrs Mili Doshi

Contact details

Royal Hospital of Neurodisability
London
United Kingdom
SW15 3SW
+44 02087804500
mili.doshi@nhs.net

Additional identifiers

Study information

Scientific Title

Introducing powered toothbrushing and person-centred oral hygiene education in stroke rehabilitation: a feasibility study

Study objectives

1. To assess the current oral health status and mouth care practices of individuals recovering from stroke.
2. To evaluate whether stroke survivors can use a powered toothbrush independently, and to identify the level and type of support required where independence is limited.
3. To determine whether person-centred oral health education, combined with the use of powered toothbrushes, improves oral hygiene and care routines.
4. To explore participants' perceptions of powered toothbrushes, including acceptability, usability, and willingness to continue use.
5. To gather feedback from care staff regarding the feasibility and effectiveness of supporting powered toothbrush use in rehabilitation settings.

Ethics approval required

Ethics approval required

Ethics approval(s)

Approved 23/12/2025, North of Scotland Research Ethics Committee 2 (Summerfield House 2 Eday Road, Aberdeen, AB156RE, United Kingdom; +44 01224558458; gram.nosres@nhs.net), ref: 25/NS/0148

Primary study design

Observational

Secondary study design

Cohort study

Study type(s)

Health condition(s) or problem(s) studied

1. Adults (over 18) who have had a stroke and are undergoing rehabilitation.

Interventions

This prospective observational study at the Royal Hospital for Neuro-disability rehabilitation wards will examine oral health and mouth care practices in patients who have experienced a stroke. Participants will provide informed consent and undergo oral health assessments using the NICE Oral Health Assessment Tool and plaque scoring, along with semi-structured interviews and observation of their mouth care routines. A powered toothbrush will be introduced, with training provided to participants and care staff, followed by a two-week post-intervention assessment. Carer and staff experiences will also be explored, and individualised oral care plans developed to support continuity of care. Qualitative data will be analysed thematically, and quantitative data summarised using descriptive statistics.

Intervention Type

Behavioural

Primary outcome(s)

1. Changes in oral hygiene measured using the Oral Health Assessment Tool (OHAT) and the Modified Plaque Score (MPS) at baseline, 2 and 4 week post intervention

Key secondary outcome(s)

1. Patient experience measured using a semi-structured interview data at one time point

Completion date

01/03/2027

Eligibility

Key inclusion criteria

1. Adults (over 18) who have had a stroke and are residents at the Royal Hospital for Neuro-disability, undergoing rehabilitation.
2. Adults who have the capacity to consent
3. Adults who are not edentulous (they have teeth of any number)

Healthy volunteers allowed

No

Age group

Mixed

Lower age limit

18 Years

Upper age limit

100 Years

Sex

All

Total final enrolment

0

Key exclusion criteria

1. Adults resident at the RHN who do not have a history of a stroke
2. Adults who are assessed as lacking the capacity to consent to this study
3. Adults with no teeth

Date of first enrolment

19/01/2026

Date of final enrolment

19/01/2027

Locations

Countries of recruitment

United Kingdom

England

Study participating centre

Royal Hospital for Neuro-disability (west Hill)

West Hill

London

England

SW15 3SW

Sponsor information

Organisation

Royal Hospital for Neuro-disability

ROR

<https://ror.org/01cmrry21>

Funder(s)

Funder type

Funder Name

Oral-B

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary

Data sharing statement to be made available at a later date