

# Powered toothbrushing after a stroke

<b>Submission date</b>	<b>Recruitment status</b>	<input checked="" type="checkbox"/> Prospectively registered
06/01/2026	Recruiting	<input type="checkbox"/> Protocol
<b>Registration date</b>	<b>Overall study status</b>	<input type="checkbox"/> Statistical analysis plan
13/01/2026	Ongoing	<input type="checkbox"/> Results
<b>Last Edited</b>	<b>Condition category</b>	<input type="checkbox"/> Individual participant data
12/01/2026	Circulatory System	<input checked="" type="checkbox"/> 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

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# 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