

STATEMENTS OF BEST PRACTICE

WAYS OF WORKING TO
DELIVER ORTHOTIC
INTERVENTIONS AFTER STROKE



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INTRODUCTION

Whilst orthotic intervention following stroke is often considered an important element of rehabilitation for motor deficit, the optimum content, timing and method of intervention is not agreed. The UK's National clinical guidelines for stroke re-published in 2023 recommend 'access to' orthotic intervention as part stroke rehabilitation services [1], but the mechanisms to facilitate this are unspecified.

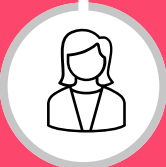
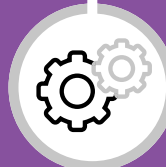
We have developed the first professionally agreed statements of best practice for delivering orthotic interventions to support motor recovery after stroke in the UK.

These best practice statements have been developed following the internationally agreed Grading of Recommendations Assessment, Development and Evaluation (GRADE) approach [2]. Each statement was developed against the five criterion for Good Practice Statements [3] and are underpinned by 3 key principles:

- They are intended to guide practice and promote a consistent, cohesive and achievable approach to care. Their aims are realistic but challenging.
- They are primarily intended for use by orthotists and other allied health professions, but will also be of relevance to the wider clinical team and the patients they treat.
- They are developed where variation in practice exists and seek to establish an agreed approach for practitioners.

These best practice statements will be periodically reviewed, and if necessary, updated in order to ensure they continue to reflect current evidence and professional opinion with regard to best practice.

The statements of best practice themes are divided within this resource into five themes:

 THE ORTHOTIST • The specialist skills of the orthotist are an integral aspect of orthotic intervention success after stroke Page 4	 THE ORTHOSES • The appropriate orthosis is critical to fast and effective rehabilitation following orthotic intervention after stroke Page 6	 THE STROKE SURVIVOR • A patient centred approach should be the primary consideration for any orthotic intervention after stroke Page 9	 THE ORTHOTIC SERVICE • An appropriately funded and staffed orthotic service is essential for timely and efficient orthotic intervention after stroke Page 11	 WAYS OF WORKING • Collaborative and innovative working will lead to the best outcomes for patients requiring orthotic intervention after stroke Page 12
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1

The orthotist is an important member of the stroke rehabilitation clinical team

2

All patients who have experienced a stroke affecting motor control would benefit from having an orthotist assessment

3

Where an orthotist is not embedded within the stroke clinical unit, regular orthotist contact is important to facilitate timely assessment and treatment

4

Regular orthotist contact with the stroke unit is important to facilitate knowledge exchange, advice giving and provide training

5

The orthotist should lead the orthotics assessment and any subsequent orthotics provision for stroke survivors

6

When not embedded within a stroke rehabilitation unit or community team, the orthotist should attend to assess and treat patients at a minimum of once weekly

7

Consistency of approach between orthotists in their assessment and treatment is important to ensure equitable treatment for stroke survivors



8

Orthotist continuity of care when an orthosis has been prescribed following stroke is the ideal

9

The prescribed orthosis should be reviewed by either the same orthotist or another orthotist from the same team to facilitate collective learning and development of practices

10

Orthotists should have the opportunity to specialise in specific conditions such as neurological rehabilitation

11

There should be stroke specific training available to pre-registration and post-registration orthotists to establish an agreed pathway of treatment for stroke survivors to encourage conformity across settings

12

The orthotist should be involved in the planning, commissioning and provision of stroke rehabilitation services



1

Orthotic principles such as biomechanics are important considerations when deciding on a stroke survivors rehabilitation treatment plan

2

Ankle Foot Orthoses (AFOs) should be considered for stroke survivors with mobility problems

3

Any orthosis provided following stroke should be done so with the intent of 'right first time', to include adjustments and new provision if indicated to address changes in clinical need

4

Orthoses prescribed for stroke survivors should be considered a rehabilitation tool in their tool box

5

For new users of an early rehabilitation stroke orthosis, the time between assessment and first provision should be less than 14 days

6

Appropriate orthotic provision for stroke survivors can positively influence stance phase and swing phase limb alignment during mobilising

7

Orthoses in early post stroke rehabilitation can be used to increase dosage of therapeutic alignment and intervention when hands on therapist time is limited or unavailable



8

Orthotic intervention early post stroke can contribute to a 24 hour therapy model of rehabilitation

9

Early orthotic use ensuring correct alignment and normal movement can assist with neuroplasticity retraining of mobility

10

Following provision of an orthosis post stroke; tuning should be optimised to ensure the best functionality and usability for the patient

11

Availability of orthosis type (custom, prefabricated, material etc.) should be equitable for all stroke survivors regardless of location

12

Availability of any orthosis for stroke survivors should not be determined by cost and its prescription should be driven by functional need

13

Custom and personalised orthoses are a preferable prescription in patients with complex gait abnormalities or deformities

14

Prefabricated orthoses are a valid and useful orthotic provision post stroke but should be managed carefully for appropriateness for each individual



15

Provision of prefabricated orthoses should be overseen by an orthotist or appropriately trained healthcare professional with suitable competencies

16

Information regarding any provided orthoses should be given in both verbal and written formats to stroke survivors and their carer



1

All stroke survivors with mobility problems should be assessed by an orthotist in a timely and equitable manner

2

Orthotic provision should be considered as a first line rehabilitation intervention for stroke survivors with lower limb tone and/or spasticity

3

Orthotic assessment should be considered for any stroke survivor with secondary complication risk factors such as contracture, even if they are non-mobile

4

Orthotic assessment and provision should be considered in early gait rehabilitation to avoid compensatory patterns being developed such as over extension at the knee or hip-hiking

5

Timely and effective orthotist assessment and orthotic provision can enable a stroke survivors independence and improve their mental health

6

For stroke survivors who are prescribed an orthosis, a routine follow-up appointment should be made to review progress and on-going need

7

Any orthoses prescribed to a stroke survivor should be reviewed at appropriate time periods within the first 12 months of rehabilitation to assess changing need



8

An orthotic assessment should be available at any stage of a stroke survivors' rehabilitation, even if no need was identified early after stroke

9

Difficulties with speech and/or cognition following stroke should be accommodated in any orthotic assessment and provision

10

Where present, carers should be included in orthotic assessment and provision appointments

11

An orthosis prescribed for a stroke survivor should be the most cosmetic and unobtrusive in design that is possible, whilst still meeting the individual functional requirements and being cost-effective

12

Appropriate accommodations should be made to enhance compliance of orthoses use when designing an orthotic prescription such as fitting into footwear etc.

13

Appropriate orthotic provision for stroke survivors should positively influence mobility and independence



1

Orthotics assessment and provision should be an integral part of a stroke rehabilitation service

2

There should be equity of access to orthotist assessment and orthotic provision across clinical settings (acute hospital, community hospital and community)

3

Orthotic assessment and provision for stroke survivors should have a degree of priority alongside other more complex patient groups in orthotic service delivery and referrals

4

For long-term orthotic users after stroke, a patient or carer should be able to self-refer for further orthotic assessment and review

5

Relationships between the core orthotic service and the stroke rehabilitation service should be established and nurtured to enhance stroke survivor's rehabilitation

6

Orthotic services should be planned, commissioned and run to provide specialist individualised assessment and treatment for stroke survivors

7

The core orthotic service should be invested in to facilitate the orthotic delivery and treatment for stroke survivors



1

An orthotist should be included as a member of the core stroke multi-disciplinary rehabilitation (MDT) team

2

The orthotist should be included in MDT assessments of stroke survivors with motor control problems and contribute to agreed rehabilitation goals and treatments

3

An orthotic assessment should be conducted as a joint exercise with the specialist skills of the orthotist and therapy staff working together

4

The use of technology to facilitate joint orthotist assessment such as video evidence or pressure plate technology can be helpful within early stroke rehabilitation

5

Inclusion of the orthotist within the stroke rehabilitation MDT enhances knowledge exchange and leads to better professional relationships

6

Orthoses prescription should be decided upon using biomechanical principles and led by the orthotist

7

Orthotist assessment and provision following a stroke should take a holistic approach seeking to enable tasks of daily living, promote independence and mental health



8

Access to orthotist led orthotic assessment and/or provision should be equitable regardless of where the stroke survivor is located geographically

9

Scope of practice is an important consideration when an orthotic device is prescribed or fitted by a healthcare professional that is not an orthotist and appropriate competencies must be met

10

Assessment by an orthotist for patients presenting with mobility difficulties after a stroke should be conducted within the 'acute' (7 days) and 'early sub-acute' (3 months) rehabilitation phase after stroke

11

Screening tools can be used by other healthcare professionals to help identify if a stroke survivor will benefit from an orthotic assessment and/or provision

12

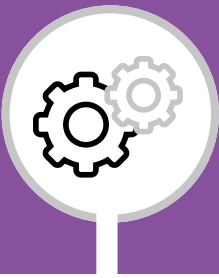
Outcome measures should be used to determine effect of orthotic provision following stroke

13

Requests from other health care professionals for orthotic assessment and/or provision should take the form of referral for assessment rather than a prescription with specified orthoses

14

Referral for orthotic assessment should be considered for stroke survivors who present with severe impairment where an orthosis may aid in comfort, enable transfer and assist in care delivery



15

Stroke services should have a specific referral pathway for orthotic assessment and provision for patients once discharged from the acute hospital setting

16

There should be training for non-therapy acute and sub-acute stroke clinical staff such as nurses and health care assistants on how to correctly put on, remove and use common types of orthotic device such AFOs

GLOSSARY

Acute setting	A location where healthcare interventions are provided that is within a hospital trust site.
Ankle Foot Orthoses (AFO)	An external brace or splint that fits next to the foot and ankle to control its range of motion and helps to stabilise its position. Patients who have weakness in the ankle dorsiflexor or plantar flexor muscles due to stroke may benefit from the support this device offers in standing and walking. By securing an anatomically correct position, this device can prevent muscle shortening or contracture where muscle imbalance is present after stroke.
Community setting	Any geographical location where healthcare interventions are provided that is not within an acute hospital site.
Contracture	A permanent shortening of a muscle or joint due to loss of motion over time due to abnormal shortening of the soft tissue structures spanning one or more joints. Damage to the brain can result in weakness, decreased motor control, sensation, and spasticity. Through disuse, an affected joint becomes less elastic and stiff and eventually contracted.
Custom orthoses	An orthotic splint or brace that has been made specifically for an individual usually by taking a mould. These usually take longer to provide patients as they have to be manufactured individually and are usually more costly than stock devices.
Orthotist	Orthotists are autonomous registered practitioners who provide gait analysis and engineering solutions to patients with problems of the neuro, muscular and skeletal systems. They are extensively trained at undergraduate level in mechanics, biomechanics and material science along with anatomy, physiology and pathophysiology. It is a protected title within the UK regulated by the Health Care and Professions Council.
Stock orthoses	An orthotic splint or brace that is available 'off-the-shelf' and usually kept in stock at orthotic departments which allows immediate provision. These devices are manufactured to 'normal' size dimensions and are usually less expensive than custom devices. They can be used as a long-term prescription, as a temporary device whilst waiting for more the permanent device to be made, or to test the suitability of a certain kind of support before deciding on a longer-term prescription.

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