

# Health, Wellbeing and Local Government Committee

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## Committee Inquiry into Stroke services in Wales – Written evidence from All-Wales Podiatrists and Orthotists Stroke Action Group

### Title

**The Role of Orthotic Services in the Rehabilitation of Stroke Patients**

### Purpose

This paper is presented to the committee to highlight the need for fully funded orthotic services to be provided in the acute rehabilitation of patients immediately following stroke and in the continued rehabilitation of patients in the community setting.

Evidence suggests that the prognosis following stroke is improved significantly with early intervention, yet there is frequently little or no specific funding to provide comprehensive orthotic services for stroke patients in many NHS Trusts across Wales. This effectively results in a postcode lottery for many stroke patients and where services are inadequate; it creates a false economy as the consequent increase in patient dependency places a greater burden on NHS resources.

### Background

The inclusion of an orthotic service for stroke patients is recognised in the National Sentinel Stroke Audit of 2008.<sup>1</sup> Orthotists are graduate specialist clinicians who are trained to provide orthotic products which are designed to support and enhance musculoskeletal function. These products are often essential in the acute phase following stroke to prevent irreversible contractures from forming and to enhance the patient's ability to mobilise quickly. For most patients the predominant consequence of a stroke is weakness or paralysis affecting one side (a hemiplegia or hemiparesis). This causes difficulty to control the joints of their affected limbs, to produce functionally useful movements and to perform everyday activities effectively.<sup>2</sup>

It is important to start walking training with patients as soon as possible after a stroke in order to encourage the return of normal muscle activity, and to minimise any abnormalities of the walking pattern resulting from the stroke.<sup>3</sup> Consequently early intervention by the orthotist can be critical to the rehabilitation process, however, the lack of funding and service provision often results in unacceptable delays for the patient. Research indicates that stroke specialist discharge teams and community neuro-rehabilitation teams reduce the length of stay, the admission to full time care settings and longer levels of dependency.<sup>4 5 6 7 8</sup> The effectiveness of these MDT's would be further enhanced by the addition of an orthotist.

There is growing evidence of the benefits of the provision of a range of orthotic products in the management of stroke patients and this is comprehensively summarised within the Report of a Consensus Conference on the Orthotic Management of Stroke Patients.<sup>9</sup> The pages of particular relevance are set out in the following table:

Review	Title	Page
R1	Establishing a Scientific Basis for Orthotic management	83
R2	Non articulated Ankle Foot Orthoses	87
R3	Articulated Ankle Foot Orthoses Designs	95
R8	Orthotic Management of the Hip and Knee for the Post Cerebrovascular Population	162
R14	Orthotic Management of the Upper Limb	130
R18	Current Research in Orthotics	269

Some of the positive outcomes of orthotic intervention outlined in the document are:

Increase in independent walking abilities  
Reduced use of energy and oxygen consumption  
Improvement in ability to perform acts of daily living  
Prevention or correction of joint deformity  
Reduction of pain  
Increase in overall speed of walking  
Increased cadence and stride length  
Improved balance

In conjunction with conservative orthotic management other options are being developed. NICE have recently published guidelines on the use of functional electronic stimulation (FES) as an intervention for drop foot of central neurological origin.<sup>10</sup> The aim is to produce muscle contractions through electrical stimulation that mimic normal voluntary movement lifting the foot so that it does not drag on the ground. Funding for FES is not generally available in most Welsh Trusts.

The need for further coordinated research is evidently clear, particularly in relation to the long term benefits from orthotic intervention and with the involvement of FES. This could effectively be facilitated by the All-Wales Podiatrists and Orthotists Stroke Action Group and the All-Wales Orthotic Service Managers Group which have been set up to work jointly to establish parity of service and clinical standards in the NHS in Wales.

### **Clinical Governance**

The effective use of an ankle foot orthosis (AFO) to reduce the effect of foot drop is well recognised in the management of stroke patients. Using an AFO can make an immediate improvement in walking disability (speed), walking impairment (step/stride length) and balance impairment (weight distribution in standing) while the AFO is worn.<sup>2</sup>

AFO's are currently fitted by a variety of healthcare professionals including orthotists, doctors, physiotherapists, occupational therapists and nurses. The assessment and prescription of an AFO requires specialist knowledge and skills. However, apart from graduate orthotists, there appears to be a lack of practical advice and training for practitioners who are not specialised in this area. There is too much reliance on company representatives to provide training for the products they supply and succession planning is often hindered due to the lack of structured training. This is a worrying concern as clinical outcomes may be directly affected where training is inadequate or inappropriate.

### **Recommendations**

The following key points are taken from the best practice statement issued by NHS Quality Improvement Scotland, 2009:<sup>11</sup>

- 1 Orthotists should be involved in the planning, provision and review of stroke services**
- 2 All patients with mobility problems following a stroke should have timely and equitable access to specialist orthotic services**
- 3 The use of AFOs should be considered in the management of patients with mobility problems following stroke**
- 4 Orthotists should be included within stroke rehabilitation teams and should contribute to assessment for orthoses and the establishment of treatment objectives**
- 5 A client-centred approach to goal setting should be adopted**

Based on the evidence supplied, the All-Wales Podiatrists and Orthotists Stroke Action Group would like to make the following key recommendations for future service provision:

Full funding is provided to enable intervention by the orthotist in both the acute and community rehabilitation stages following stroke. It should be taken into account that the majority of stroke patients will be dependant on orthotic products for the rest of their lives.

The orthotist should be included within stroke rehabilitation teams in both the acute and community sectors and contribute to assessment for orthoses and the establishment of treatment objectives.

The orthotist should lead the establishment of comprehensive training programmes for allied health professionals to measure and fit stock orthotic products.

Consideration should be given to the funding of functional electronic stimulation devices.

A research programme should be developed to supply evidence to support the clinical provision and management of stroke patients by orthotists. Research and training can be coordinated through the All-Wales Podiatrists and Orthotists Stroke Action Group and the All-Wales Orthotic Service Managers Group.

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**On behalf of the All-Wales Podiatrists and Orthotists Stroke Action Group**

## **References**

- <sup>1</sup> National Sentinel Stroke Organisational Audit 2008 Copyright to the Royal College of Physicians 2008
- <sup>2</sup> Orthotic devices after stroke and other non-progressive brain lesions (Review) Copyright © 2009 The Cochrane Collaboration. Published by John Wiley & Sons, Ltd.
- <sup>3</sup> The Road to Recovery – One step at a time. The use of ankle-foot orthoses. © NHS Quality Improvement Scotland 2007
- <sup>4</sup> Scottish Intercollegiate Guidelines, Management of patients with stroke, 2006; Guideline No.64 2006 update
- <sup>5</sup> Department of Health, National Service Framework for Longer Term Conditions, 2005; Crown Copyright
- <sup>6</sup> Early Supported Discharge Trialists, Service for reducing duration of hospital care for acute stroke patients, 2005; Cochrane database of systematic reviews (Issue 2)
- <sup>7</sup> Intercollegiate Stroke Working Party, National Guidelines for Stroke 2<sup>nd</sup> edition, 2004; Royal College of Physicians
- <sup>8</sup> Department of Health, National Service Framework for Older People Standard 5 Stroke, 2001; Crown Copyright
- <sup>9</sup> Report of a Consensus Conference on the Orthotic Management of Stroke Patients in 2007, published by the International Society of Prosthetics and Orthotics. [www.ispo.ws](http://www.ispo.ws)
- <sup>10</sup> Functional electrical stimulation for drop foot of central neurological origin. Guidance IPG278 © National Institute for Health and Clinical Excellence, January 2009
- <sup>11</sup> Best Practice Statement - Ankle foot orthoses following stroke. © NHS Quality Improvement Scotland 2009