ORTHOTIC TREATMENT:
STROKE REHABILITATION

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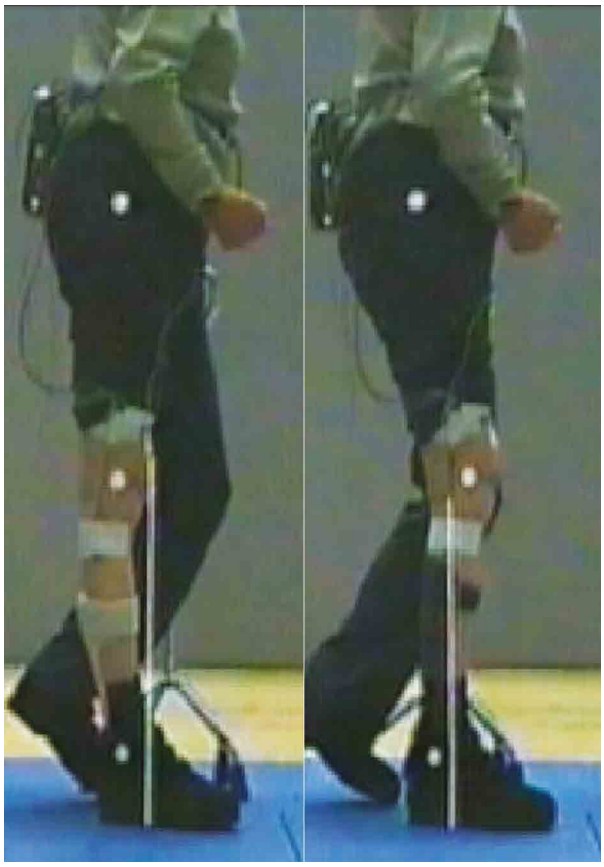
Stroke is the second most common cause of death and the leading cause of disability in Europe. [1] Of those that survive an acute stroke, it is estimated that about 40% remain dependant on other people for their daily activities. The treatment of Stroke accounts for approximately 5% of total NHS costs with the societal costs being £8.9 billion. [3] Of this total annual direct care was estimated at £4.361 billion. Dropped foot is present in around 20% of patients surviving a stroke. [2] In this context orthotic treatment is essential where appropriate given that for every £1 spent on orthotics, the NHS could save up to £4. [8]

Orthotists - members of the stroke team

The orthotist has a key role to play in helping manage contractures, optimise safety, mobility and recovery. Good orthotic intervention can enhance and optimise the effect of other services such as physiotherapy and potentially minimise the need for long term care by preventing secondary complications. [9,10]



Joint assessment with other therapists will lead to the most effective integrated treatment to optimise recovery. Using orthoses to stabilise or challenge stability in conjunction with a planned programme with regular review of the orthoses to compliment changes as the patient recovers will ensure best outcome. [10,11]

The earlier the orthotist can be involved, the greater help can be offered. The orthotist should be involved each step of the way in the rehabilitation journey from acute to early discharge to review in the chronic stage. [11]

Stroke survivors are often left with a long term condition to manage, involvement with the orthotist to review the orthoses is often the only contact they have with healthcare services, the orthotist plays an important role at this stage in rereferring in to other service if problems arise and in doing so help maintain mobility and independence.

TERMINOLOGY

- Orthosis / orthotic device (plural orthoses): externally applied device used to modify the structural or functional characteristics of the neuro-muscular and skeletal systems[12]
- Orthotics: the science and art involved in treating patients by the use of orthoses[12]

Common orthotic treatment in stroke

Prevention of contractures in the presence of muscle imbalance and abnormal tone.

Optimising alignment in stance as an adjunct to physiotherapy input. This can reduce the number of hands and therapists required in early treatment and ensure consistent repeatable alignment, essential for motor learning. This can both reduce costs by need for fewer staff and optimise quality by ensuring good alignment with every stand [8,10]

The orthotist can supplement therapy input by fine tuning the demands versus degree of control provided by the orthoses to match patient needs as recovery progresses. [10]

Orthoses can be designed to specifically retrain proximal control as part of a planned rehabilitation programme.

In complex situations Orthotic input can maximise effect of tone management and if necessary functionally accommodate for loss of range. [11]

Where the aim of treatment is to have an immediate improvement on walking speed, efficiency or gait pattern or weight bearing during stance, patients should be assessed for suitability for an Ankle Foot Orthosis (AFO) by an orthotist. [4, 5]

In chronic stroke, the orthotist has the ability to optimise function, allowing for compensations if necessary.

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