EFFECTIVENESS OF ANKLE FOOT ORTHOSIS (AFO) ALGORITHM FOR NEW ADULT ACQUIRED BRAIN INJURIES.

NHS Greater Glasgow and Clyde

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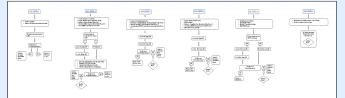
Introduction

In current Orthotic practice there are no assessment or outcome tools in use for the treatment of patients with new adult acquired brain injuries which cause a unilateral weakness. This makes it difficult to audit current Orthotic practice and measure the impact of future developments.

Aims

To develop an orthotic algorithm, to standardise orthotic practice across Greater Glasgow & Clyde.

Method

An algorithm was developed using the Massachusetts Functional Ambulatory Category (FAC) along with current neurological specialist orthotic knowledge and best practice statements.

A trial patient group was defined as in-patients with new adult acquired brain injuries causing unilateral weakness to the lower limb. Degenerative conditions were excluded.

A form was developed to capture patients functional level, gait assessments, and physical examination.

LIMITING FACTORS
• Increase in tone/spasticity
• Development of contractures
• Sudden Illness
• Cognitive Issues
• Compliance
• Delivery Complications

Limiting Factors which may influence the orthotic treatment plan were also recorded.

A trial took place at the Physical Disabilities Rehabilitation Unit (PDRU) in the Southern General Hospital between August and December 2013.
Data was captured on initial assessment, 1st return visit and 2nd return visit. This was carried out over a 3 week period for each patient.
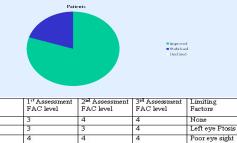
Results

Over the trial period, 5 patients fell into scope. Of these 5 patients, 4 progressed to the higher functional levels, 1 stabilised at their current functional level and none regressed.

Patients	1st Assessment FAC level	2nd Assessment FAC level	3rd Assessment FAC level	Limiting Factors
A	3	4	4	None
B	3	3	4	Left eye Ptosis
C	4	4	4	Poor eye sight
D	2	3	4	Increased tone
E	3	3	4	Increased tone

All patients were referred by PDRU staff at level 2 or above showing that these were all appropriately referred.

These patients were all using walker boots prior to 1st Assessment to allow PDRU staff to rehab patients to appropriate FAC level before Orthotic intervention. Patient A, B, D & E all improved in FAC level except patient C. This was due to this patients limiting factor being out of the control of the rehab team. Patients D & E were given Baclofen medication which improved their tone, patient B was given awareness and training on how to safely risk assess her surroundings.

Use of the assessment form and algorithm led to improved clinically focused notes. It was also found that communications between Orthotist, AHPs & other staff was improved.

Conclusion

The algorithm used alongside the FAC has shown to be a useful orthotic assessment tool which may be used to help standardise orthotic practice in this area.

The Algorithm can also be used to assist in the training of staff and students.

There is the possibility of using the algorithm and FAC as a general Orthotic AFO neurological assessment and outcome tool.

The initial results appear positive and it is recommended that the trial is continued to increase the number of patients captured. This will enable firmer conclusions to be drawn.

It is further recommended the trial is extended to include other neurological conditions.