CPIPS

Cerebral Palsy Integrated Pathway Scotland

Overview

Children with cerebral palsy (CP) are at risk of developing musculoskeletal problems such as muscle contractures, displacement of the hip and scoliosis. Hip dislocation leads to pain, decreased function and increased difficulties with personal care. The prevalence of hip displacement is directly related to gross motor function as determined by the Gross Motor Function Classification System (GMFCS)[1,2].

The prevalence of hip displacement rises according to the severity of the CP. Children who are GMFCS Level 1 have virtually no incidence of hip displacement whereas for children at Level V it is 90%[2]. Evidence has shown that hip dislocation in CP is potentially preventable by patients having regular, standardised physical and radiological assessments. This, in turn, allows the early identification of hip displacement and timely intervention.

Monitoring

Monitoring and preventing progressive hip displacement has been the main aim of established hip surveillance programmes in other countries. In Sweden and Australia the incidence of hip dislocation has significantly reduced by earlier intervention after the introduction of the surveillance programmes.

Currently there are no standardised guidelines for surveillance of the musculoskeletal system of children with CP in Scotland, or elsewhere in the UK. Cerebral Palsy Integrated Pathway Scotland (CPIPS) has been developed by a group of children's orthopaedic surgeons and physiotherapists from all regions in Scotland. This is intended as a pathway for a nationally agreed protocol of standardised musculoskeletal examination for children with CP to ensure equity throughout Scotland. It is based on best practice guidelines from Sweden and Australia and meets the principles of care recommended in the 2012 NICE Clinical Guideline 'Spasticity in children and young people with non-progressive brain disorders'[3].

Goals of CPIPS

The main goal of CPIPS is to prevent hip dislocation and severe contractures by early identification of these problems, enabling timely intervention. The programme also aims to encourage collaborative working between the child, their family and the clinical team.

CPIPS is an online database available for storage of physical examination and radiological data for children enrolled in the programme. The programme includes a protocol for the frequency of pelvic radiography and physical assessment. The latter includes a record of the child's function, use of orthoses, equipment and postural management programmes.

Additional interventions such as botulinum toxin injections, medication or surgery are also recorded. Data from the programme is stored in a secure server at the Health Informatics Centre, Dundee. An annual report on a child's progress will be generated and sent to the child's local clinicians.

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What CPIPS can achieve

The programme established by CPIPS has the potential to:

- Enable early identification of hip displacement, muscle contractures and/or scoliosis
- Enable early orthopaedic referral and, if necessary, intervention
- Avoid excessive radiation of children at risk of hip displacement by adhering to an agreed hip surveillance protocol
- Provide a standardised framework by which a child's progress can be monitored
- Reduce health costs by use of standardised assessment protocols
- Enable sharing of clinical data between professionals and across health boards

Cerebral Palsy Integrated Pathway Scotland Mission Statement

Our aim is to provide a high quality, standardised follow-up programme for children with cerebral palsy that will identify musculoskeletal problems by regular physical and radiological examinations to enable effective management of these problems during childhood.

References

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