



## Service Priorities and Programmes Electronic Presentations

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### **The Care Pathway of Children with Ambulatory Cerebral Palsy – A Multi-disciplinary Model**

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#### **Introduction**

Cerebral Palsy (CP) is the most common cause of chronic physical disability in children. The care pathway of children with CP is always lifelong and complex because of the pathophysiology and the heterogeneity of the neurological consequence. Numerous interventions at various stages such as spasticity management and orthopaedic intervention are essential to manage the primary neuropathology and the secondary physical dysfunction. Therefore, the collaboration between multidisciplinary team to generate the best practice and best results is very important.

#### **Objectives**

This review is to analyse the care pathway of the children with ambulatory CP in the New Territories West Cluster.

#### **Methodology**

Children with CP referred for physiotherapy management were retrospectively reviewed from 2009 to 2015. Physical assessment with gait analysis was done for those ambulatory patients with Gross Motor Functional Classification System (GMFCS) level I to III. Patients with spasticity were referred for botulinum toxin injection through Botox Clinic. Those patients with diffused spasticity over bilateral lower limbs would be referred to Selective Dorsal Rhizotomy (SDR) Clinic for multidisciplinary assessment. The clinic involved doctors from Department of Neurosurgery, Department of Paediatric and Adolescence, Child Assessment Service, Department of Orthopaedic and Traumatology and Physiotherapist. Regular follow-up by physiotherapist with gait analysis was given so as to monitor the physical changes. Patients would be referred to CP clinic when musculoskeletal consequence became

dominant. Gait analysis were given to patients who received different intervention at different stages, the purpose of gait analysis were stated clearly on each test. The care pathway of the children with CP was reviewed by monitoring the purpose of gait analysis.

### **Result**

Total 254 patients with CP were referred for gait analysis, 84.3 % of them received botulinum toxin (mean age  $4.72\pm 2.94$ ), 23.6% received SDR (mean age  $7.75\pm 2.08$ ), 17% of all patients with CP received orthopaedic surgery (mean age  $12.7\pm 4.5$ ). Amongst the 60 patients with SDR, 45% of them need further orthopaedic surgery in one to six years later. Majority of the children with CP, 65.8% of them have continuously been receiving botulinum toxin injection for spasticity management and don't need any form of surgical intervention. Conclusions: Our results matched with the previous studies that around 80% of CP belonged to spastic type and need certain methods on spasticity management. Those who need surgical intervention were the minor group (17-23%). The mean age of receiving SDR and orthopedic surgery (7-12yr) also matched with the consensus of international studies. In conclusion, the collaboration of multidisciplinary team in the care pathway of children with CP is essential to achieve the best practice for international standard.