

Supporting physical activity in young people with cerebral palsy

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Aim

To audit the current practice of the **Complex Movement and Neurorehabilitation Service at Royal Belfast Hospital for Sick Children** with regards to **documentation of discussion of physical activity at multidisciplinary clinics**

Introduction

Physical activity and play are crucial in the development of children and teenagers.

The World Health Organisation has published guidelines for recommended levels of physical activity in neurotypical children, but have not published similar guidelines for children with cerebral palsy (CP).

Sedentary time in children with CP exceeds 75% in all GMFCS groups. Less than 7% of time is spent in moderate to vigorous physical activity across all groups; only children at GMFCS 1 exceed 5%.

Young people with cerebral palsy especially vulnerable to the consequences of immobility.

Population

- Diagnosis of cerebral palsy
- Age < 18 years
- GMFCS I – III
- Attending a multidisciplinary clinic run by our service
- August – December 2016

Methods

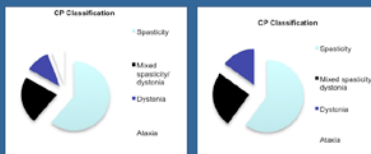
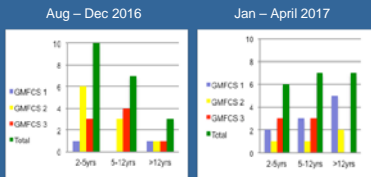
Multidisciplinary clinic reports for patients meeting inclusion criteria were reviewed to determine:

1. Was any mention made of child's physical activity or leisure/ exercise participation?
2. Was exercise frequency documented?
3. Was potential new physical activity discussed and/ or advice or resources given? If so, did it relate to structured exercise/ team sports, unstructured leisure or therapy-directed activities?

The audit standard was to accomplish the above in 100% of consultations.

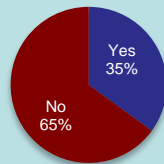
After results were analysed and interventions implemented, re-audit was performed in January – April 2017 to close the loop.

Demographics

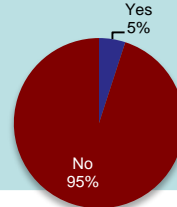


Results: Audit cycle 1

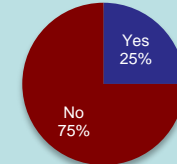
Was Physical Activity Mentioned?



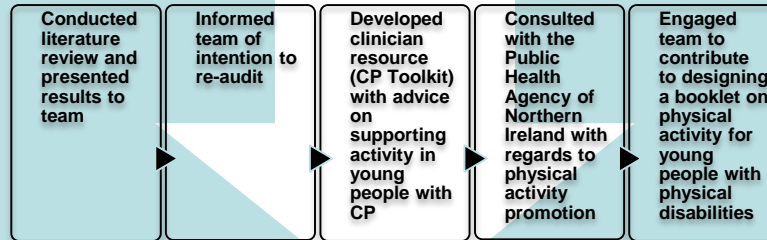
Was Exercise Frequency Documented?



Were Activity Advice or Resources Given?

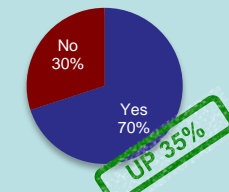


Interventions: collaborative, consultative and non-directive

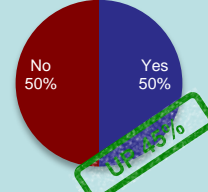


Closing the Loop: Audit Cycle 2

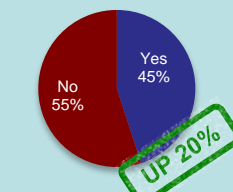
Was Physical Activity Mentioned?



Was Exercise Frequency Documented?



Were Activity Advice or Resources Given?



Discussion

This audit has led to a **positive change in practice** for the neurorehabilitation team leading services for Northern Ireland.

Several children in the second audit cycle have **identified new sports** which may become longterm interests, or have returned to **school PE class** having sat out for several years.

Inter-agency collaboration with the **Public Health Agency** in the production of an information resource for young people with physical disabilities and their families led to the publication of **"Active Fun For Everyone"** which has been distributed nationally.



In future, considering strategies to **fragment sedentary time** in young people at GMFCS IV and V may be beneficial.

References

- Verschuere O, Takken T. Aerobic capacity in children and adolescents with cerebral palsy. Res Dev Disabil. 2010; 34:1352-1357.
- Bjornson KF, Balza B, Karlin D, Logsdon R, McLaughlin JF. Ambulatory physical activity performance in youth with cerebral palsy and youth who are developing typically. Phys Ther. 2007; 87:248-257.
- Carlson SL, Taylor NF, Dodd KJ, Shields N. Differences in habitual physical activity levels of young people with cerebral palsy and their typically developing peers: a systematic review. Disabil Rehabil. 2013; 35:647-655.
- Ortega FB, Silventoinen K, Tynelius P, Rasmussen F. Muscular strength in male adolescents and premature death: cohort study of one million participants. BMJ. 2012; 45:e7279.
- Peterson MD, Haapala HJ, Hurvitz EA. Predictors of cardiometabolic risk among adults with cerebral palsy. Arch Phys Med Rehabil. 2012; 93:816-821.
- World Health Organization. Global Recommendations on Physical Activity for Health. WHO Press. World Health Organization; 2010.