**Investigating Disability factors and promoting Environmental Access for healthy Living Rehabilitation Research Training Center**

**Webinar: *Aging with Cerebral Palsy: Health Outcomes and Management***

**Summary**

Cerebral palsy (CP), a condition which affects muscle and bone development, is the most common child-onset physical disability [2]. It is estimated that around 500,000 adults are living with cerebral palsy in the United States today. However, despite the size of the CP population, there remains considerable confusion and lack of clarity surrounding the challenges experienced by individuals aging with CP beyond early development and into adulthood. This knowledge gap limits the providers’ ability to provide effective and appropriate healthcare services to adults living with CP. The importance of addressing this issue is underscored by empirical evidence that indicates that early adulthood may be a particularly vulnerable developmental period for adults with CP, with many adults with CP experiencing functional decline and a spike in mental health difficulties during early adulthood. To address this issue, Drs. Heidi Haapala and Mark Peterson from the University of Michigan’s Department of Physical Medicine and Rehabilitation joined Dr. Michelle Meade from the IDEAL Rehabilitation Research Training Center and Jenni Alexander from the Arc to discuss aging with cerebral palsy from a clinical perspective.

For all aging adults, there is a general decline in muscle quality that is typically characterized by a decrease in muscle mass and increase in intramuscular fat tissue. These changes can also be exacerbated by factors, including disease, injury, obesity, and prolonged sedentary behaviors. Furthermore, these physiological transformations of the bone and muscle quality cause young adults with cerebral palsy to experience the side effects of aging at an accelerated pace, putting them at an increased risk for chronic disease [3]. These observations inspired a study which examined multimorbidity – the presence of two or more chronic conditions - in cerebral palsy patients of various functional classifications [4]. Researchers found that obesity in cerebral palsy patients is associated with a higher prevalence of comorbidity regardless of function level. Another study examined age-related trends in cardiometabolic disease among adults with cerebral palsy and found evidence suggesting that aging put cerebral palsy patients at a heightened risk for these conditions [5]. More specifically, they found that the three-year incidence of hypercholesterolemia and hypertension in cerebral palsy populations was equivalent to the non-cerebral palsy lifetime incidence in the general population. Similarly, a study examining non-communicable diseases and multimorbidity found that young adults with cerebral palsy already have a risk of non-communicable diseases prior to age thirty which increases with age [6]. More recently, researchers found that adults with cerebral palsy had a heightened risk for mental health disorders [7]. These studies together exemplify how adults with cerebral palsy are at a heightened risk for a variety of clinical conditions as they age.

Informed by these studies, Drs. Peterson and Haapala translated these findings into several tips for adults with CP. For example, the physicians stressed the importance of adults with CP to establish a relationship with a primary care provider (PCP) who can perform baseline assessments and age appropriate screening, and who can work alongside a specialist to address specific concerns related to CP. In collaboration with their care team, adults with CP can advocate for earlier screening and health assessments for several age-related diseases. For example, in addition to traditional cardio metabolic assessment, it might be beneficial

1.

for individuals with CP to request for a waist circumference measurement in addition to the traditional body mass index (BMI) assessment, as findings from previous studies have indicated that waist circumference may be a better predictor of associated health outcomes than BMI. Additionally, Drs. Peterson and Haapala recommended that adults with CP who are experiencing psychological distress seek mental health services from psychologists and other mental health providers. Lastly, health behaviors like good sleep hygiene and adequate nutrition and exercise may help prevent onset of age-related health conditions such as cardiovascular disease and diabetes. For adults who find it difficult to exercise for prolonged periods of time, it can be beneficial to incorporate short bursts of movement throughout the day. As appropriate, increasing to weight-bearing exercises and progressing to moderate exercise by using the current published guidelines can help build muscle mass, which has been found to be a protective measure against age-related diseases [8]. In conclusion, there are several steps that adults with CP and their care providers can take to ensure that they’re receiving preventative care to avoid age-related illness as researchers and clinicians work to better understand how aging affects individuals with CP.

**References**

[1]   Peterson M, Haapala H (2020). Aging with Cerebral Palsy: Health Outcomes and Management.

Online webinar via the University of Michigan Medicine, Department of Physical Medicine and

Rehabilitation.

[2]   Paneth N, Hong T, Korzeniewski S (2006). The Descriptive Epidemiology of Cerebral Palsy.

*Clin Perinatol* 33.

[3]   Peterson M, Zhang P, Haapala H, Wang S, Hurvitz E (2016). Greater Adipose Tissue Distribution

and Diminished Spinal Musculoskeletal Density in Adults with Cerebral Palsy. *Arch Phys Med*

*Rehab* 10.

[4]   Cremar N, Hurvitz E, Peterson M (2017). Multimorbidity in Middle-Aged Adults with Cerebral

Palsy. *Amer J Med* 6.

[5]   Peterson M, Kamdar N, Hurvitz E (2018). Age-related trends in cardiometabolic disease among

adults with cerebral palsy. *Dev Med Child Neuro* 61.

[6]   Whitney D, Hurvitz E, Ryan J, Devlin M, Cairid M, French Z, Ellenberg E, Peterson M (2018).

Noncommunicable disease & multimorbidity in young adults with cerebral palsy.*Clin Epidemiol 10.*

[6]   Whitney D, Waschausky S, Ng S, Hurvitz E, Kamdar N, Peterson M (2019). Prevalence of Mental

Health Disorders Among Adults with Cerebral Palsy: A Cross-sectional Analysis. *Ann Intern Med* 5.

[7]   Verschuren O, Peterson M, Balemans A, Hurvitz E (2016). Exercise and physical activity

recommendations for people with cerebral palsy. *Dev Med Child Neuro* 60.



*The contents of this webinar was developed under a grant from the National Institute on Disability, Independent Living, and Rehabilitation Research (90RTHF0001). NIDILRR is a Human Services (HHS). The contents of this webinar does not necessarily represent the policy of NIDILRR, ACL, or HHS, and you should not assume endorsement by the Federal Government.*

2.