

Resources for this course were sourced from:

www. bellasbumbas.com Bella's Bumbas began in Webster, NY with the intention of providing one little girl, Bella, with a means to become mobile and navigate the world on her own. That initial intention has blossomed into Bella's Bumbas LTD, which has provided over 3,000 chairs to children worldwide.

<u>www.canchild.ca</u> CanChild research efforts focus on children and youth with disabilities and their families. As a world-leader in the field, CanChild strives to generate innovative knowledge and translate research in an accessible way that is relevant and meaningful to those who need it most: families and service providers.

<u>www.aacpdm.org</u> The American Academy for Cerebral Palsy and Developmental Medicine (AACPDM) is an Academy of over 1,100 health professionals dedicated to advancing the health and well-being of all individuals with cerebral palsy and other childhood-onset disabilities.

International Classification of Functioning, Disability and Health (ICF) Classification of Functioning, Disability and Health, known more commonly as ICF, is a classification of health and health related domains. The ICF was officially endorsed by the World Health Organization (WHO) in May 2001.

<u>www.wheelchairskillsprogram.ca</u> The Wheelchair Skills Program (WSP) is a set of free online low-tech, high impact, evidence-based resources for the assessment and training of the wheelchair skills of users of manual wheelchairs, powered wheelchairs and motorized mobility scooters.

Go Baby Go - Cerebral Palsy Foundation Go Baby Go was founded by Professor Cole Galloway as part of a research project at the University of Delaware but researchers have now trained volunteers in more than 40 communities nationally and internationally with satellite sites all over the world to expand availability.

<u>Eleanore's Project</u> Since 2007 Eleanore's Project has worked in partnership with Yancana Huasy - a wrap-around disability program located in San Juan de Lurigancho, a district of Lima, Peru. We provide wheelchairs and other rehabilitation equipment, together with mentoring of Yancana Huasy occupational and physical therapists. Each year we travel to Peru to work alongside them, fitting wheelchairs and providing other support so they can carry the work on during the rest of the year.

AboutKidsHealth - The Hospital for Sick Children (SickKids) AboutKidsHealth is a health education resource for children, youth and caregivers that is approved by health-care providers at The Hospital for Sick Children. AboutKidsHealth empowers families to become a partner in their own health care by equipping them with reliable, evidence-based health information. It makes complex health information easy to understand for families, and makes it immediately available whenever and wherever they have questions about child health regardless of where they are in Canada or the world



<u>About Us – SeekFreaks</u> Once upon a time in the big city, a lithe PT administrator sought an expert school-based PT to present practical information to his team. One lazy afternoon, he stumbled across the website of an uber-gregarious PT administrator from the small-town south. He was taken with the content of the website; however, the first face-to-face meeting was a bit awkward.

Once the conversation started and ideas flowed, they each recognized the kindred freak in the other. Visually, it was a funhouse mirror reflection for sure! But, mentally, the connection was clear — both sought best practices and how to advance physical therapy in the educational setting.

Thanks to the internet, Laurie aka 'country freak' and Carlo aka 'city freak' have now banded together to seek and share information with other freaks in the US and beyond!

Palisano R, Rosenbaum P, Walter S, Russell D, Wood E, Galuppi B. Development and reliability of a system to classify gross motor function in children with cerebral palsy. Dev Med Child Neurol. 1997 Apr;39(4):214-23. doi: 10.1111/j.1469-8749.1997.tb07414.x. PMID: 9183258.

World Health Organization. International Classification of Functioning, Disability, and Health. 2001.

Rosenbaum P, Gorter JW. The 'F-words' in childhood disability: I swear this is how we should think! Child Care Health Dev. 2012 Jul;38(4):457-63. doi: 10.1111/j.1365-2214.2011.01338.x. PMID: 22040377.

Paleg G, Livingstone R, Rodby-Bousquet E, Story M, Maitre NL. AACPDM Central Hypotonia Care Pathway. 2019. https://www.aacpdm.org/publications/care-pathways/central-hypotonia.

van Abswoude F, Santos-Vieira B, van der Kamp J, Steenbergen B. The influence of errors during practice on motor learning in young individuals with cerebral palsy. Res Dev Disabil. 2015 Oct-Nov;45-46:353-64. doi: 10.1016/j.ridd.2015.08.008. Epub 2015 Aug 27. PMID: 26299638.

Palisano RJ, Shimmell LJ, Stewart D, Lawless JJ, Rosenbaum PL, Russell DJ. Mobility experiences of adolescents with cerebral palsy. Phys Occup Ther Pediatr. 2009;29(2):133-53. doi: 10.1080/01942630902784746. PMID: 19401928.

Paleg G, Livingstone R. Evidence-informed clinical perspectives on postural management for hip health in children and adults with non-ambulant cerebral palsy. J Pediatr Rehabil Med. 2022;15(1):39-48. doi: 10.3233/PRM-220002. PMID: 35275575.

Fehlings D, Switzer L, Stevenson R, Gaebler-Spira D, Dalziel B, Ozel S. AACPDM Osteoporosis Care Pathway. 2016. https://www.aacpdm.org/publications/care-pathways/osteoporosis-in-cerebral-palsy



Willerslev-Olsen M, Choe Lund M, Lorentzen J, Barber L, Kofoed-Hansen M, Nielsen JB. Impaired muscle growth precedes development of increased stiffness of the triceps surae musculotendinous unit in children with cerebral palsy. Dev Med Child Neurol. 2018 Jul;60(7):672-679. doi: 10.1111/dmcn.13729. Epub 2018 Mar 24. PMID: 29573407.

Franchak JM, Kretch KS, Adolph KE. See and be seen: Infant-caregiver social looking during locomotor free play. Dev Sci. 2018 Jul;21(4):e12626. doi: 10.1111/desc.12626. Epub 2017 Oct 26. PMID: 29071760; PMCID: PMC5920801.

Anderson DI, Campos JJ, Witherington DC, Dahl A, Rivera M, He M, Uchiyama I, Barbu-Roth M. The role of locomotion in psychological development. Front Psychol. 2013 Jul 23;4:440. doi: 10.3389/fpsyg.2013.00440. PMID: 23888146; PMCID: PMC3719016.

McLean LJ, Paleg GS, Livingstone RW. Supported-standing interventions for children and young adults with non-ambulant cerebral palsy: A scoping review. Dev Med Child Neurol. 2023 Jun;65(6):754-772. doi: 10.1111/dmcn.15435. Epub 2022 Dec 3. PMID: 36463377.

McNamara L, Morgan C, Novak I. Interventions for Motor Disorders in High-Risk Neonates. Clin Perinatol. 2023 Mar;50(1):121-155. doi: 10.1016/j.clp.2022.11.002. PMID: 36868702.

Novak I, Morgan C, Fahey M, Finch-Edmondson M, Galea C, Hines A, Langdon K, Namara MM, Paton MC, Popat H, Shore B, Khamis A, Stanton E, Finemore OP, Tricks A, Te Velde A, Dark L, Morton N, Badawi N. State of the Evidence Traffic Lights 2019: Systematic Review of Interventions for Preventing and Treating Children with Cerebral Palsy. Curr Neurol Neurosci Rep. 2020 Feb 21;20(2):3. doi: 10.1007/s11910-020-1022-z. PMID: 32086598; PMCID: PMC7035308.

Paleg, Ginny & Livingstone, Roslyn. (2016). Evidence-informed clinical perspectives on selecting gait trainer features for children with cerebral palsy. International Journal of Therapy and Rehabilitation. 23. 444-454. 10.12968/ijtr.2016.23.9.444.

Paleg G, Livingstone R. Outcomes of gait trainer use in home and school settings for children with motor impairments: a systematic review. Clin Rehabil. 2015 Nov;29(11):1077-91. doi: 10.1177/0269215514565947. Epub 2015 Jan 30. PMID: 25636993.

Lobo MA, Harbourne RT, Dusing SC, McCoy SW. Grounding early intervention: physical therapy cannot just be about motor skills anymore. Phys Ther. 2013 Jan;93(1):94-103. doi: 10.2522/ptj.20120158. Epub 2012 Sep 20. PMID: 23001524; PMCID: PMC3538987.

Iverson JM. Developing language in a developing body, revisited: The cascading effects of motor development on the acquisition of language. Wiley Interdiscip Rev Cogn Sci. 2022 Nov;13(6):e1626. doi: 10.1002/wcs.1626. Epub 2022 Sep 27. PMID: 36165333.

Gonzalez SL, Alvarez V, Nelson EL. Do Gross and Fine Motor Skills Differentially Contribute to Language Outcomes? A Systematic Review. Front Psychol. 2019 Dec 3;10:2670. doi: 10.3389/fpsyg.2019.02670. PMID: 31849775; PMCID: PMC6901663.



Oudgenoeg-Paz O, Volman MC, Leseman PP. First Steps into Language? Examining the Specific Longitudinal Relations between Walking, Exploration and Linguistic Skills. Front Psychol. 2016 Sep 27;7:1458. doi: 10.3389/fpsyg.2016.01458. PMID: 27729885; PMCID: PMC5037183.

The Early Childhood Coaching Handbook, Second Edition By Dathan Rush, M'lisa Shelden--isbn 978-1-68125-256-8. [Tender documents: T461887476, 461887476]. (2021). SyndiGate Media Inc

Goering S. Rethinking disability: the social model of disability and chronic disease. Curr Rev Musculoskelet Med. 2015 Jun;8(2):134-8. doi: 10.1007/s12178-015-9273-z. PMID: 25862485; PMCID: PMC4596173.

Choosing a Stander

Written by Ginny Paleg, PT, DScPT, MPT and Laura Money, PT Created by Carlo Vialu. PT. MBA. www.SeekFreaks.com

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2		

HEAD CONTROL

User cannot clear airway?

Supine Stander + try neck collar/support

User has intermittent control & this is a goal of standing?

Prone Stander

No concern?

Any Type of Stander

ARMS/HANDS

User has use of upper extremities?

User has

tightness but

full range?

User has

oss of knee

extension

ROM?

Knees collapse

upon loading?

KNEES

You can strengthen arms, hands & accessory breathing muscles. You can encourage independence, mobility and/or exploration.

Ensure device can attain full

hip extension and avoid

pressure on kneecaps

A knee contracture bracket is available

Partially stand person and increase

stretch slowly over time

You can choose to accommodate

or gently stretch over time

Self-Propelled, Sit-to-Stand with swivel seat. Sling seat

Prone Stander.

Self-Propelled.

Upright

Special order

Sit-to Stand,

Sling Seat

Sling or Other

Type of Stander

User has tightness but full range?

TRUNK/SPINE

User has

tendency to

hyperextend

User has

tendency to

flex trunk

User has scoliosis/

kvphosis/lordosis?

User has loss of flexion or extension

User has tightness/spasticiity in adductors, or you want increased loading

total abduction

Add dorsiflexion

or wedge

Any type where joints can be adjusted

Sit-to-Stand or

Sling Seat

Supine Stander

Prone Stander

Sit-to-Stand or

Sling Seat

Stander Model

that allows this

HIPS

Device that can attain full hip extension

Device that allows hip hyperextension

Can't attain full extension & you want to increase hamstrings ROM?

& you wish to block this?

& you wish to block this?

& back contact exacerbates this?

& chest/stomach contact exacerbates this?

You can choose to accommodate

or gently stretch over time

You want to improve hip extension ROM?

You want to improve hip flexion ROM? Place legs in

at the acetabulum/femoral head? User has

You can choose to accommodate this or try to gently de-rotate pelvis over time and stretch hip/knees

independently

ADDITIONAL RECOMMENDATIONS

Make sure feet are fully loaded. If you can move feet or slip a piece of paper under shoe, reposition!

Be sure the supports are where you want. In some models, as you raise & lower the user, the position of the supports change & you may get undesired results.

> For solid seat sit-to-stand models. consider a swivel seat to increase ease of transfers.

> > Power lifts are available in some models.

ANKLES

windswept

deformity?

Want to stretch the heelcords?

or internal/external

rotational deformity?

User has pronation/supination

Order model with adjustable foot plates

10-60 degrees

All types

All types



The Six F-Words for Child Development



FUNCTIONING

I might do things differently but I CAN do them. How I do it is not important. Please let me try!



them. Talk to them. Hear them. Respect them.



Everyone needs to stay fit and healthy both physically and mentally. Help me find ways to keep fit.





Please help me do the activities that I find the most fun.

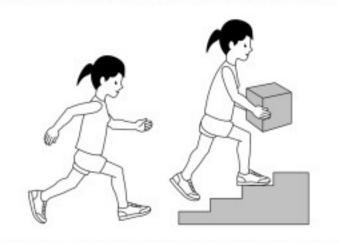


https://www.canchild.ca/en/research-in-practice/f-words-in-childhood-disability



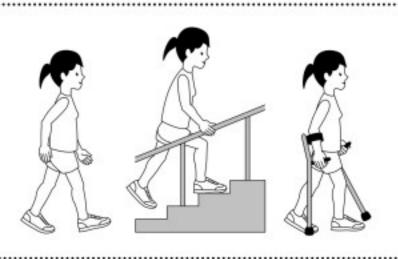
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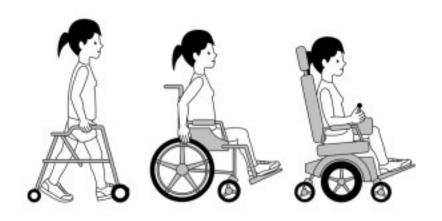
GMFCS Level I

Youth walk at home, school, outdoors and in the community. Youth are able to climb curbs and stairs without physical assistance or a railing. They perform gross motor skills such as running and jumping but speed, balance and coordination are limited.



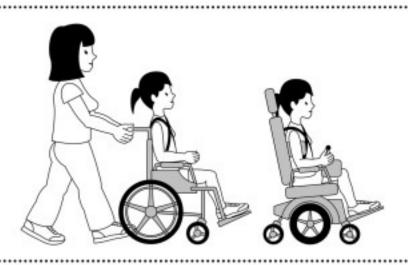
GMFCS Level II

Youth walk in most settings but environmental factors and personal choice influence mobility choices. At school or work they may require a hand held mobility device for safety and climb stairs holding onto a railing. Outdoors and in the community youth may use wheeled mobility when traveling long distances.



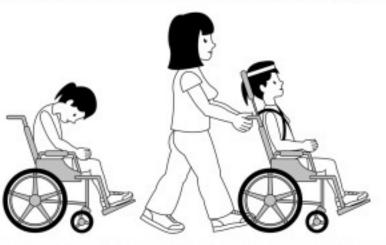
GMFCS Level III

Youth are capable of walking using a hand-held mobility device. Youth may climb stairs holding onto a railing with supervision or assistance. At school they may self-propel a manual wheelchair or use powered mobility. Outdoors and in the community youth are transported in a wheelchair or use powered mobility.



GMFCS Level IV

Youth use wheeled mobility in most settings. Physical assistance of 1-2 people is required for transfers. Indoors, youth may walk short distances with physical assistance, use wheeled mobility or a body support walker when positioned. They may operate a powered chair, otherwise are transported in a manual wheelchair.



GMFCS Level V

Youth are transported in a manual wheelchair in all settings. Youth are limited in their ability to maintain antigravity head and trunk postures and control leg and arm movements. Self-mobility is severely limited, even with the use of assistive technology.