

PSPCAN

PROGRESSIVE SUPRANUCLEAR PALSY
SOCIETY OF CANADA

“Ask the Physiotherapist”



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7:30pm EST via Zoom

Kaela Southwell

PT, MScPT, BScHK, CPA

- Physiotherapist & owner at Woolwich Physiotherapy in Elmira, Ontario, Canada
- Studied at the University of Toronto (MScPT) and the University of Ottawa (BScHK)
- Clinically treats both orthopedic and neurological conditions with specialty focus on stroke, brain injury and movement disorders such as PSP, Parkinson's and MS.
- Uses manual therapy, functional exercise prescription and NDT treatment strategies to address movement impairments in the neurological population.



Progressive Supranuclear Palsy (PSP)	Multiple System Atrophy (MSA)	Corticobasal Degeneration (CBD)
Atrophy predominantly in midbrain structures (pons/thalamus/striatum)	Atrophy of cerebellum, basal ganglia and brainstem	Atrophy more so in bilateral pre-motor cortex, superior parietal lobe, striatum

PSP vs. Parkinsons? Anecdotaly..

- More visual complaints in PSP(difficulty looking up/down, light sensitivity, double vision)
- Resting tremor not as common in PSP but more so when doing things with hands
- Posturally- PSP tend to stand straight and tilt head back vs. PD bend/flex forwards

Neurologist or MD best to have this discussion with
Diagnosis can take a few years due to similarities.

“What is the best form of physiotherapy for PSP patients?”

- ▶ Individualized based on current presentation, impairments and patient/family goals
- ▶ Could be a combination of hands on mobilization/stretching + exercise
- ▶ NDT- traditionally used in a way to maximize neuroplasticity therefore not specifically used in PSP/CBD/MSA population as goals of PT is different than for patient who have suffered a stroke, ABI, SCI.
- ▶ Many physiotherapists (even with limited neuro background) could help
- ▶ Should be 1:1 with a physiotherapist that focuses on:
 - ▶ 1) preserving strength & function for as long as possible
 - ▶ 2) preventing falls & secondary injury/pain to patient and caregiver
 - ▶ 3) preventing and managing pain
 - ▶ 4) a home exercise program for appropriate carry over
 - ▶ 5) treatment that evolves with how the individual declines

Examples:



“Is it something I have to do forever?”

“How often do I need to exercise?”

- ▶ Atrophy of muscle vs. brain
 - ▶ Time it takes for muscles to atrophy depends on age, previous fitness level and cause, but can happen within 2-3 weeks of not recruiting/using muscles. Atrophy of brain is different and not always predictable.
- ▶ Daily gentle movements/exercise is encouraged to maintain ROM, function and pain
- ▶ “Use it or lose it faster” - unclear evidence if true or not in these populations
- ▶ Where does exercise/movement fall on your priorities?
- ▶ Attending in-person PT vs. on-going PT strategies at home

“What changes should I see from doing physiotherapy?”

- ▶ As PSP, MSA and CBD are progressive, the main role of physiotherapy is to manage symptoms & maintain quality of life
- ▶ Dependent on when you reach out to a physiotherapist & your goals
- ▶ Sometimes no change is a good thing

Stages	Role of physiotherapy
Early Stage (ambulant, occasional falls/poor balance, reduced socializing)	<ul style="list-style-type: none"> - Higher level balance and reactive balance exercises - Strengthening for larger muscle groups - Encourage/modify hobbies, sports, exercise they currently participate in - Aerobic exercise
Mid Stage (ambulating with aid, higher risk of fall/injury, visual problems, impulsivity, speech difficult, less mobile)	<ul style="list-style-type: none"> - Ongoing balance exercises - Training walking while multi-tasking/turning head to adjust for vision - Ongoing strengthening + smaller muscles (hands/arms/face) - Stretching/mobilization of joints and soft tissue (muscles/tendons) - Education on use of gait aid, transfers, appropriateness of exercise, falls prevention - Mouth/jaw exercises
Advanced Stage (mobility compromised/mostly chair bound, significant muscle stiffness, pain)	<ul style="list-style-type: none"> - Maintain shoulder and leg mobility through PROM/AAROM - Pain management (acupuncture, modalities, gentle movement etc.) - Transfer training for caregiver and patient to make as effective as possible for both - Education on positioning, strategies to adjust to increasing difficulty with ADLs, mobility, and pain management - Support for patient and caregiver

“My loved one has no strength in his legs, he sits a lot and not interested in walking”

- ▶ Find something that motivates them (intrinsic or extrinsic) even if it's the precursor to walking (standing, transferring, walking a short distance)
- ▶ Make exercise part of their routine (brushing teeth, every meal, commercial break)
- ▶ Start with a pre-cursor exercise to walking (standing, marching, sit to stands, leg extension)
- ▶ Make it fun - put on a video and follow along, do it in a group, put on music, hit or kick a balloon around
- ▶ Find an alternative to walking to maintain muscle flexibility and aerobic capacity- can they ride a stationary bike or use a cubi
- ▶ Remind them of the other benefits of exercise- sleep, stress/depression, heart health, prevention of rigidity/pain, digestion, prevent decline etc.
- ▶ Is it important to them?

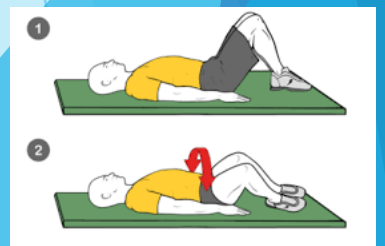
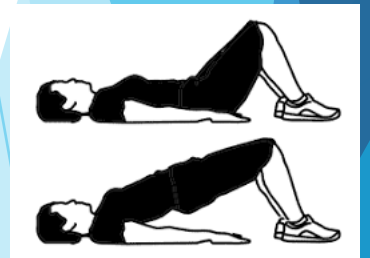
“They have pain in both shoulders, not able to put on a shirt or jacket”

- ▶ This may be where a visit to a physiotherapist could be of value to determine cause of pain
- ▶ Look at their posture and mid-back movement → you need extension + rotation in order to effectively get coat on → get them to sit tall first or assist them in sitting tall before attempting to put jacket on
- ▶ Use of shoulder pulleys to maintain shoulder mobility and mid-back posture
- ▶ Compensatory strategies: put more sore arm in first, buy larger/stretchy clothes and button up shirts



“My sister suffers from muscle rigidity and tightness in her back and buttocks. Are there any exercises or other therapies that can help in reducing the muscle tightness in these areas?”

- ▶ Rigidity → caused by changes in dopamine levels PLUS decreased activity and movement that “breaks up” muscle movement
- ▶ Pharmacological intervention also likely to assist in managing these symptoms
- ▶ Physiotherapy interventions:
 - ▶ Passive stretching of low back, hips, pelvis and legs
 - ▶ Some strategies
 - ▶ Use of a big exercise ball 1) reaching above head in sitting 2) having a loved one stretch them using one
 - ▶ Dissociation exercises: 1) dropping bent knees to R and L 2) tall sitting with rotation
 - ▶ Strengthening extensors (back muscles and seat muscles): 1) squeezing shoulder blades + arms back 2) glute squeezes → clam shells → bridge → sit to stand



“What is the best way to help someone with PSP get off the floor after a fall, assuming they were not hurt?”

- ▶ 1) Roll onto side → crawl over to a chair/sturdy piece of furniture (ideally one against the wall) → from a kneeling position put your arms on seat of chair → bring one knee forward then foot on the floor → push with arms and legs, pivot your bottom around
- ▶ 2) Have them crawl to stairs if they can (either up or down will work)
- ▶ 2) Find a small object of ~3-4 inches high (could be books). Get the person to roll onto their side and push themselves up into long sitting (help as needed with positioning legs or feet). Place the object behind them and stand behind them. If they can use their arms to help, have them push their bum up. If unable, get into a low squat and lift under their arms to get their bottom on the object. Find another object that is slightly bigger (kitchen stool, small chair). From the first object help them onto the next object. Continue until they are sitting up on a chair.
- ▶ **If able, get another person to help lift them up and avoid pulling on their joints



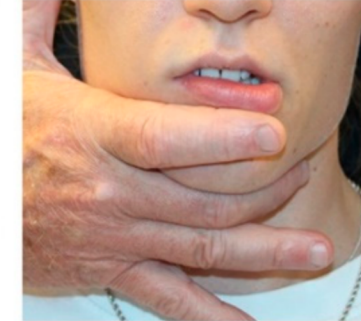
“Can PT help with using the tongue?”



Mouthopening with lingual guide



Lateral mandibula exercise with lingual guide



Lateral mandibula exercise movement strengthening



Lateral mandibula movement with tongue depressor



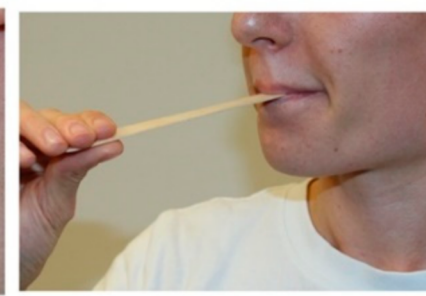
Tongue strengthening exercise with tongue depressor



Lateral tongue strengthening with tongue depressor



Tongue protrusion strengthening with tongue depressor



Lip strengthening with tongue depressor

Best to be assessed by SLP **

<https://www.mdpi.com/2076-3417/11/15/6857/htm>

Speech/swallowing related questions:

- how to communicate when speech is unclear?
- please review voice exercises for PSP
- any exercises to slow progression of swallowing?
- any “machines” to strengthen vocal cords?

- ▶ Out of scope of physiotherapy in Canada
- ▶ A Speech Language Pathologist (SLP) would be the best allied health professional to address these questions
- ▶ Communication ideas: iPad, language board, give 2 discrete choices or yes/no answers etc.
- ▶ Sitting tall helps with swallowing (*try it yourself!)

Other equipment/ideas:

- ▶ Sock aid - help with putting socks on
- ▶ Slider board - can help with getting from one surface of a similar height to the other (ie. bed to wheelchair or wheelchair to car etc.)
- ▶ Transfer disc or Beasy Glyder
- ▶ Saska pole/transfer pole
- ▶ Grab bars
- ▶ Shower bench/chairs
- ▶ Larger utensils/grips for larger utensils
- ▶ Shoulder pulleys
- ▶ Lift recliner chairs
- ▶ Chair risers (portable) - to put under any chair legs to make it higher
- ▶ Add weights to walker or their legs to slow them/decrease ataxia
- ▶ **Consult an Occupational Therapist (OT) for more details on other products and a home safety assessment to determine your needs



Where to seek out Physiotherapy?

- ▶ Your **Local Health Integrated Network (LHIN)** - may be able to have some covered physiotherapy sessions
- ▶ **Local private practice** - ask if they are familiar with PSP/MSA/CBD and if they are not, ask them if they would be able to help address your specific goals or ask them if there is someone they could refer you to
- ▶ **Reach out to PSP community**
- ▶ **Ask for a referral from your family physician or neurologist**
- ▶ **If in Ontario can connect with me virtually or locally**



Key messages:

- 1) Physio treatment should be individualized
- 2) Physio intervention and the role of a physiotherapist will change as the person does
- 3) “Physio” is more than just manual therapy
- 4) Exercise is medicine but not a cure (brain health, pain management, maintaining independence and quality of life)
- 5) Lots of equipment and strategies available to you
- 6) Advocate for yourself/your loved one because you know them best

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Other questions?



Looking to connect further?

Kaela Southwell, MScPT, BScHK
Owner & Physiotherapist
Woolwich Physiotherapy
Elmira, Ontario
519-669-2578

kaela@woolwichphysio.ca

