



Finding the Right Physical Therapist for TCS/OTCS

Currently, there is no formal, singular comprehensive training for a physical therapist that would cover all the things that would benefit someone with TCS or OTCS. There are some specialty trainings and techniques that can be very helpful, and as patients, we can look for individuals that may be able to fill some of these gaps.

Additional specialty training for our rehab professionals that may be beneficial to those with TCS/OTCS include (not limited to) the following:

- Pelvic floor specialty
- Spine and/or scoliosis specialty
- Respiratory/breath mechanics; Postural Restoration Institute trained
- Physical therapist board certified in Neurology
- Barral trained neural manipulation provider, and/or advanced brain training
- Fascial counterstrain provider with neurological system training

Comprehensive care for someone with TCS/OTCS includes the following:

- Safe movement education, body mechanics, self-care
- Monitoring for systemic inflammation and heightened neural sensitivity
- Restoration of neurodynamic mobility
- Neurological retraining
- Re-establishing neuromuscular control over affected muscle groups

Here are the things we would like to be able to address for the best long-term outcomes in a non-surgical, or post-surgical case of TCS/OTCS:

- ***Safe movement education, body mechanics and self-care:*** The majority of physical therapists can work with patients on learning what a neutral spine position is, and how to encourage it throughout the day. They can work on body mechanics during different daily tasks to reduce the strain on the spine, or other specific issues the individual is struggling with. We want to avoid global neural tension, which is typically our slumped positions, forward folding positions or straight leg positions in sitting. Our rehab specialist can look



at the patients' daily activities and make recommendations on posture and alignment and sometimes on supports and bracing that may be helpful. It is helpful if the physical therapist can guide the patient in appropriate self-care, ergonomics, posture, and functional activity modifications and limitations. Some occupational therapists may also be able to help fill this role, especially if adaptive equipment is needed. It can be helpful to review bracing or supports when resting or sitting as well, to support the natural curves of the spine and prevent the slouched position.

- ***Monitoring for systemic inflammation and heightened neural sensitivity:*** It would be great to have a physical therapist that could monitor the level of inflammation of neural reactivity in their patients. These are usually physical therapists that have a background in pain neuroscience education, central sensitization presentations, and/or functional medicine.
- ***Restoration of neurodynamic mobility:*** This is different from flexibility! Those with neural adhesions and tethering are more likely to experience restrictions in nerve tissue mobility in the spine and nerves into the arms and legs as well. Addressing neural mobility can be through manual techniques or teaching the patient self-neural mobility strategies. The best would be a combination of the two. Manual strategies involve neuromeningeal manipulation, neurovascular work, or neurolymphatic work. The therapist may have additional training in advanced visceral work or fascial counterstrain, amongst other labels. Self-taught approaches are through nerve gliding or flossing activities (neural tension, or stretching, is reserved for the very end stages of rehabilitation). This all must be done within the patient's tolerance without "pushing" through anything.
- ***Neurological retraining:*** Neural reeducation will be very important especially in the end stages of recovery but important throughout. This can look very different from person to person. Some physical therapists have additional training in ways to balance the autonomic nervous system, reducing sympathetic activation with nerve mobility, or retraining the brain to better coordinate with the body. This is certainly easier to do with adults that can be an active participant in some of these exercises, but general autonomic calming can be done in children as well.
- ***Re-establishing neuromuscular control over affected muscle groups:*** Physical therapy will also have to help in re-establishing neuromuscular control of affected muscles. This can look very different in our pediatric and adult patients. Finding a pediatric physical therapist with a specialty in neurological rehabilitation can help create more play-based activities the child may be more willing to participate in. For adults, a variety of physical therapists may be appropriate with a note that this is not standard "strengthening."



Appropriate work is first learning to engage muscles that have difficulty receiving input from nerves, maintaining the activation, and then eventually keeping the muscle active while engaging other muscles as well. There is a finesse to this before jumping into strengthening. In both children and adults, part of the neuromuscular reeducation may be retraining appropriate movement patterns if a patient has developed compensations in bed mobility, transfers to sitting or standing, or with walking or going up stairs.

It would be ideal if patients were able to find a physical therapist with all these skills listed above, but that is not always the case. In fact, we have very few providers that understand the complexity of TCS/OTCS, for now. This may become more of a team approach with a patient needing two to three providers to support all these needs.

We advise printing this handout and taking it to a physical therapist to read through, to see if they can help fill some of these needs or know a referral source for things they may not be able to help with.