

Case Report Abstract:

Shea H. - Cerebral Palsy (CP) athlete with affected movement, balance, and strength limitations on his left CP-affected side

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Client History

We first met Shea in June 2017 when he was 15 years old. A gifted athlete with tremendous drive, he was restricted by the limitations of Cerebral Palsy (CP) on his affected left side. Shea was a motivated athlete who he would push his body to extremes that often caused him injury. The impact of over-driving his non-impacted, right side to compensate for his weaker and functionally-impaired left CP side was obvious when comparing the muscle strength and tone, particularly of his lower extremities.

Shea's goal was to play soccer at the highest level possible. He set his sights on becoming the youngest member of the US Para 7 Aside Men's Team. This is Soccer's equivalent of the Paralympics team, culminating with International World Cup games. He trained as all world class athletes do: every day. He played on the local high school soccer team, but his inability to strike the ball effectively with his CP-affected left foot put him at a severe disadvantage, which limited his time on the field during games.

Subjective Information

Shea's body was out of balance. The strength and coordination on his CP side was noticeably different. The muscle mass of his right, non-affected thigh and calf were approximately 30% more than his CP leg. He was constantly experiencing pain in his left foot. Hamstrings in both legs were tight and leg cramps were common. His daily weight training focused on maximum weight, primarily on his non-affected side. His CP side was capable of lifting only half the weight of his non-affected side. His injuries were stressing his unbalanced body and taking a toll on his growing body and mind. Shea was ready for a change.

Objective Findings

Shea was fortunate to have had no structural surgical intervention, as this is a common medical procedure for CP children. Tendon and muscle lengthening is sometimes used to surgically increase the range of motion in an affected area. Shea had a knee injury in a high school soccer game the year prior to beginning our work together, that required surgical repair. This was on his non-CP-affected leg. Shea did have a minimal Botox treatment to soften his hamstrings prior

to our working together, but no casting. These are practices to which young, CP-children are often subjected. We are told that the effect of Botox usually wears off within 3 months. Besides that, there was no medical or structural intervention to his body when we started our work together.

Our objective was to focus on the functional aspects of his movement limitations. We did this by using some of the principles Dr Milton Trager taught, now known as the Trager Approach®. We focused on soft tissue, one of the body's largest receptors for feeding information to the brain.

Sessions began by using Shea's natural, unassisted movement range for specific movement sequences. By following his comfortable range, and introducing guidance and suggestion through touch, we were able to extend his range of motion (ROM) leading us to believe that new movement information and ROM possibilities were being fed through the neurological pathways to reduce muscle restriction and improve muscle tone.

This treatment protocol was accompanied by engaging the body's rhythm and amplifying that rhythm with a gentle rocking sensation applied by the practitioner. Shea's body responded to this intervention by showing signs of obvious relaxation including deepening breath patterns, relaxed muscle tension, heavier limbs, and decrease resistance to the movement.

With repetition of this type of movement therapy over a period of several weeks, Shea began to show signs of new motor skill abilities. Muscles and tendons that had limited ROM began to experience an increase in ROM. Once the increased range was experienced, a much greater sense of body awareness seemed to emerge. As his CP-limited muscle patterns were being called to action, his strength, muscle mass, and balance improved.

Treatment and Patient Response

Treatment Session 1

After evaluation, Shea was instructed to perform a variety of simple standing movement exercises to observe both the structural and functional capabilities on both the CP and non-CP affected sides of the lower body. These exercises were repeated before and after each session and were video recorded. A short summary video appears in the appendix of this report. The session consisted of both table work (Trager work) and floor exercises (yoga poses and Mentastics®). Mentastics® is a word coined by Dr Trager; it combines the words 'mental' and 'gymnastics' and refers to a free-flowing movement exercise designed to help bring the client into their own body awareness. The Trager work is soft and gentle. The client is assisted in explorative movement to the edge of their no-pain-zone. Utilizing a rocking sensation, we softened the muscle tissue throughout Shea's body. Although initially skeptical, he reported feeling very relaxed after the session. In fact, he said he had never felt anything like this session before despite having had many PT sessions prior to our working together. There was noticeable ease in his movement.

Treatment Session 2

Sessions were scheduled approximately 5 days apart. The client reported feeling lighter on his feet when walking and running after Session 1. Being a dedicated athlete, Shea adheres to a training routine including weight training and field practice every day. We noticed a visual difference of muscle mass from one leg to the other. We estimated it to be approximately 25%. To bring this into balance, we instructed Shea to decrease the weight he was training with on his non-CP-side so it matched the weight he was using on the CP-side. Gradually, he was to increase the weight equally on both sides. This was a major shift for Shea, as he would often over-tax his non-CP-side, resulting in injury to his right, non-CP-side. The same Trager table work – Mentastics® and yoga poses -- were performed.

Treatment Session 3

Shea reported feeling a noticeable awareness and difference in his body. He showed more interest in participating in the session. He was more verbal in expressing what he was feeling in his body while on the table. We invited him to participate by directing his breath to the areas of his body we were working on. We use the phrase “meet our hands with your breath and softly touch us from the inside” in order to methodically slow down the brain and allow the client to engage on a nuanced level. Shea’s increased body awareness and mental participation accelerated the changes that were happening in his body. His CP-side was catching up.

Treatment Session 4

Shea reported less pain while running. There was visual evidence that muscle mass was developing on Shea’s entire CP-affected side. Compression work was introduced into the table work. Using both hands to apply very little pressure, we compressed the joints of Phalanges, Metatarsals and the Tarsals of each foot, which released tension. Along with introducing compression, we started to address the tensegrity of the fascia by lifting the muscle tissue and rocking specific locations where movement was limited. The results are visually evident in the exercises that were video recorded.

Treatment Session 5

This was the last session of Shea’s introduction to somatic movement therapy. It was similar to the previous sessions, but with more emphasis on the integration of balance and attention to the longitudinal and spiral chains of stretch and recoil amplified through the Trager work used. The tensegrity in Shea’s body shifted. The CP-affected side was now more actively participating in Shea’s activities. He reported that his field injuries had decreased significantly. While participating in the series of 5 weekly sessions, the muscle tone and muscle mass on his affected C- left side improved visually by 10%. Shea reported that he was now confident to shoot soccer goals with his CP-affected left foot. This was a game changer for him as it improved his ability to be a formidable competitor on the playing field.

Follow-up Treatment Sessions

Shea continues a routine of ‘Tune-up’ sessions with us each year. He is off to college and maintains a very active practice and game schedule, playing for both the US Para 7 Aside Men’s

Soccer Team and the Clemson University soccer team. He is actively coaching young CP athletes in the national CPSoccer League he co-founded.

Discussion

Shea was the first of many CP-affected clients we've worked with at the MYB clinic. Together we explored the unknown impact somatic movement could have on a neurologically impaired body. Our work with this client offered the most profound, visible changes we'd seen so far. We believe his interest, and willingness to participate allowed us to reach the brain more effectively. It also led us to conclude that, based on the precepts of neuroplasticity – or the capacity of the brain to change - a skilled Practitioner can, through touch and movement, assist a CP-affected client with making noticeable improvement. We continue to observe how a newly learned movement pattern can teach a structurally sound body to function in ways it was previously not functioning.

Request for Support

We welcome your support in continuing this research. Please visit www.tragerfoundation.org The Trager Foundation is a 501-c-3 organization that has been set up to accept tax deductible donations to support this and other somatic movement research.

Appendix

This is a summary video of Shea's first group of sessions with Richard and Madelana. It includes before and after session videos that captured the changes that were taking place in Shea's lower extremities' movement, balance, and strength. It also features the restorative one of the yoga poses which helped Shea release the muscle tension in his lower back.

<https://vimeo.com/258662506>

Shea was invited to do a TED X talk in the Spring of 2022 about what it's like being a CP athlete. In this TED X Shea shares his story. The title of his TED X talk is called "Paralyzed to Paralympic"

<https://www.youtube.com/watch?v=-nXWyBVR-b4>