



Case-Base Discussion – 5th June 2023 (Ref 305)

Case - Scoliosis

Today's discussion focused on a 15-year-old girl who was diagnosed with scoliosis at 18 months. She wore a body brace from the age of 2 and underwent surgery aged 11 – an experimental operation at the time, involving Vertebral Body Tethering (VBT), designed to allow flexibility of the spine. She was advised post-operatively not to lift anything heavy – not even her school bag; now, however (5 years on!), her consultant has advised her that she should start sporting activities, and now most of her growth has taken place. Interestingly, the patient has never experienced any pain directly relating to her scoliosis, but she suffers widespread pain on a daily basis associated with hypermobility resulting from a connective tissue disorder (unspecified at this stage).

Thoughts from Claire Minshull on rehabilitation:

The consequence of a long period of not lifting is that the body becomes de-conditioned, ie. muscles, ligaments, tendons and bones have not had the opportunity to respond to load, and therefore do not strengthen. According to the research, this adaptation response is shown to be beneficial for patients suffering with hypermobility. This patient needs to find a way to engage in activities that promote this conditioning.

Claire suggests that she follows a graded exposure to resistance training, challenging the body to adapt in progressions. A useful starting point could be a vibrating plate; the input of vibrations into the body cause the muscles to contract and help patients cope with more physically demanding exercises. Water-based exercises could be a good first step into loaded activity. The medium of water gives resistance to body weight, and additional resistance can then be added with equipment such as aqua gloves or foam dumbbells. An exercise strategy can also be built around the patient's interests; for example, gradually increasing the load activities when mucking out the horses, lifting the saddle etc. Exercises could also be incorporated into everyday activities, such as standing on one leg while making breakfast or brushing teeth, to improve balance. Although the research states that the adaptation response to load is best stimulated by the 5-rep max rule, this would be impossible in this case, when a graded exposure to resistance training is required.