ABSTRACT

Background and Purpose: Diffuse Idiopathic Skeletal Hyperostosis (DISH), or Forestier’s disease, is a musculoskeletal condition characterized by ligamentous calcification and osteophytes in the spinal column causing back pain and spinal stiffness, and occasionally includes extraspinal involvement. Literature has been scant surrounding conservative management and rehabilitation expectations for DISH. The purpose of this case report is to describe the clinical reasoning process in the management of a patient with DISH with extraspinal involvement.

Case Description: The patient was a 60 year old male diagnosed with DISH who was evaluated in an outpatient rehabilitation setting. His right shoulder was self-reported as his most limiting factor, though he also presented with low back stiffness and recently worsening neck stiffness with occasional radicular symptoms. Objective testing revealed decreased right shoulder strength and range of motion, in addition to cervical and lumbar spine range of motion limitations, both actively and arthrokinematically. These impairments primarily impacted his participation as a softball coach. An impairment-based and patient-centered approach was utilized to implement a structured three-phased model, while prioritizing the patient’s most pertinent concerns. The first phase prioritized pain modulation and passive range of motion through stretching and joint mobilizations. Phase two included a transition to active range of motion and shoulder strengthening in neutral, while phase three was comprised of functional overhead strengthening and throwing exercises.

Outcomes: As the patient had multiple body regions of impairments, the Oswestry Disability Index (ODI), Quick Disabilities of Arm, Shoulder, and Hand (Q-DASH), and Neck Disability Index (NDI) were utilized. Minimal Clinically Important Change scores (MCID’s) of all of the above patient reported outcomes (PROs) were met, indicating there was a clinically significant improvement in disability levels of the patient’s right shoulder, lumbar, and cervical spine. He had also demonstrated improvements in shoulder strength, and range of motion of his shoulder and neck. By the end of the 8-week plan of care, he had achieved a short-term goal of improving shoulder flexion and abduction by 15 degrees for ease with reaching overhead. Treatment was continued after the data collection period to progress the patient toward achieving his remaining goals.

Discussion: This case report describes a clinical reasoning framework in conservative management for DISH as there is a paucity of literature surrounding the diagnosis. This framework incorporated the International Classification of Functioning, Disability, and Health (ICF) model to provide a hierarchical structure to care, as well as the biopsychosocial model to address psychological factors as a result of his condition. These two approaches were utilized in conjunction to create a holistic treatment plan that emphasized patient preference. As the
patient’s symptoms showed clinically significant improvement using this model, this case report may serve to provide a framework for physical therapy treatment with this patient population.

**Key Words:** Physical therapy, diffuse idiopathic skeletal hyperostosis, DISH, Forestier’s disease, intervention, clinical reasoning

**References:**