**Introduction:** Calcaneal apophysitis (Sever's Disease) is one of the most common causes of adolescent heel pain, affecting 3.7 per 1000. This condition is believed to be an overuse injury that occurs due to repetitive submaximal loading and resulting microtraumas on the growth plate caused by traction of the Achilles tendon. There is currently no gold standard for diagnosis or treatment for Sever's Disease.

**Case Description:** This retrospective case study evaluated the effectiveness of physical therapy treatment on a 15-year-old male who was diagnosed with Sever's Disease at age 11 by a physician. The goal of intervention was to reduce the patient's pain and allow for him to return to age-appropriate recreational physical activity. The subject ceased participation in track and field when initially diagnosed due to his pain. Daily bilateral heel pain, particularly during running, jumping, and quick cutting motions were still experienced when physical therapy interventions were initiated.

**Clinical Impression:** The patient presented with left > right heel pain on average of 6/10 on the visual analog pain scale that was worse in the mornings once he got out of bed when he bore weight through the lower extremities. He reported pain levels increased to a 9/10 during activities including pushing off the leg while scootering or while walking or jumping. Pain symptoms were occurring daily, sometimes multiple times, and episodic pain would last from 1-5 minutes. At the time of the initial evaluation, the patient demonstrated bilateral weakness with both knee flexion and extension, as well as hypomobility at bilateral talocrural joints. Patient was also tender to palpation bilaterally at mid-portion of Achilles tendons, greater than the insertional point of Achilles on the calcaneus. Treatment interventions included lower extremity strengthening, passive and active stretching, balance and manual therapies including stretches, PNF, and soft tissue techniques. Strengthening included both closed and open chain exercises as well as concentric and eccentric exercises.

**Outcomes:** At conclusion of treatment, the patient's pain levels decreased from at worst 9/10, to 3/10. Duration of symptoms decreased from 1-5 minutes to 30 seconds-3 minutes. Lower leg pain occurrence was reduced from daily to only with activity. Patient's morning heel pain was completely alleviated. The patient also had improved pain free range of motion, improved strength in all planes of the bilateral lower extremity and improved muscle flexibility as demonstrated by muscle length measurements.

**Discussion:** This case study demonstrated that physical therapy intervention can reduce pain severity and frequency in patients with long standing Sever's Disease. Our episode of treatment resulted in decreased pain and improved function during both activities of daily living and leisure activities. Sever's Disease is one of the most common diagnoses of young athletes and a common source of pain. It is reported that 16% of emergency department visits involving active children are due to posterior heel pain. At the time of this study there are no current gold standard diagnostic outcome measures or recommendations for treatment of Sever's disease. The absence of these tools could lead to long-term effects being experienced for these patients including not returning to sport and long-term health implications. Long-term effects could also lead to psychosocial issues for these adolescents. Sever's disease is assumed to be a self-limiting disease that resolves with activity modification and will completely resolve by the time the child's development slows down. This study supports the need for further research of this disease to treat patients that do not recover based on the traditional treatments and expected recovery time.

**Presenting Author:**
Lisa Grant – l.grant@wingate.edu