

A Microdiscectomy of L5-S1 in a 20-year-old Male Offensive Linemen: A Case Study

Grant, S.: Springfield College Athletic Training Program Springfield, Massachusetts

Background Information

- A microdiscectomy also known as micro-decompression is a minimally invasive surgical procedure performed on patients with herniated lumbar discs (Hermantin et al., 1999)
- The main goal of a microdiscectomy is to reduce the pressure on the spinal cords and nerve root (Barth et al., 2008)
- Surgeons use a microscope to view the disc and nerves the larger view allows the surgeon to use a smaller incisions, resulting in less damage to the surrounding tissues (Barth et al., 2008)
- Throughout the years, the procedure has been modified to a more minimal approach with minimal removal of bony and ligamentous structures while keeping the herniated disc as intact as possible (Barth et al., 2008)
- Often patients who present with a herniated disc receive a lumbar fusion
- Though a microdiscectomy and lumbar fusion present with the same recovery time, lumbar fusion often has more restrictions in return to activity (Barth et al., 2008)

Case Presentation

- 20-year-old male, NCAA Division I offensive linemen, complaining of lower back pain, effecting his hamstring and hip flexors
- During the summer football season (2019), the patient was deadlifting when disc herniation took place, similar to pain the patient felt in pervious summer session
- Immediately after the injured occurred, the patient started to feel radicular pain and weakness in the back of his left leg, also the patient had decreased reflex in his left achilles
- The patient was removed from sport and referred to the team physician to undergo a Magnetic Resonance Imaging (MRI)
- The MRI reviled a lumbar disc herniation of L5-S1 on the left side
- The patient was recommended for a microdiscectomy, and had surgery August 2019
- After surgery, the patient immediately felt his left leg and had no radicular symptoms
- The patient was restricted from sport activities for eight weeks
- The patient has yet to start sport specific activities, but is said to begin running and participating in drills in March 2020

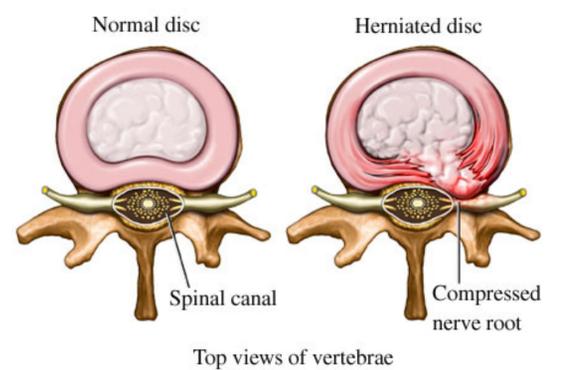


Figure 1: diagram of a normal vertebra compared to a herniated disc
Lumbar Microdiscectomy Surgery FAQs. (2019, October 16). Retrieved from <https://inspiredspine.com/faqs-on-lumbar-microdiscectomy-surgery/>

Interventions:

- Pre-Surgery
 - Soft tissue work
 - Chiropractic adjustment (hip alignment)
 - Light upper body lift
- Post- Surgery:
 - Soft tissues work (Hip flexors, Para spinal, and Quadratus Lumborum)
 - Aquatic therapy
 - Gentile Core (dead bugs, pallof press)
 - Neuroflossing

Diagnostic Imaging

- The patient received an MRI in August 2019



Figure 3: normal lumbar MRI
Drugs Information Online Drugs and diseases reference index. (n.d.). Retrieved from <http://drugline.org/ail/pathography/3215/>



Figure 4: MRI of L4 & S1 disc herniation
Used with permission from the patient.

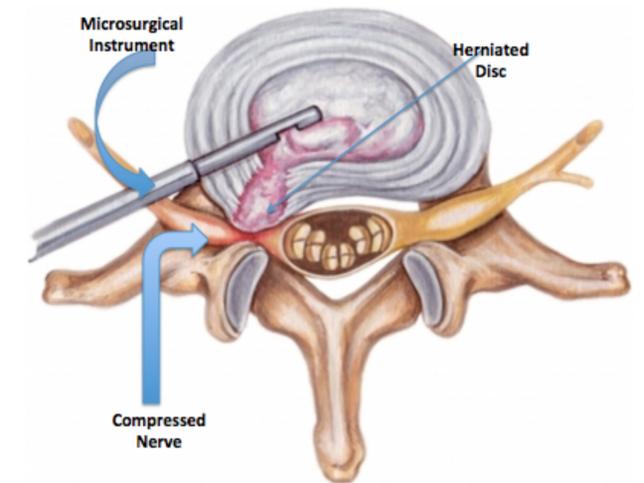


Figure 2: Diagram of a microdiscectomy
Houle, P. (2017, January 11). When Surgery is the Right Treatment for Your Herniated Disc. Retrieved from https://www.mytpi.com/articles/health/whensurgeryistherighttreatment_foryourherniateddisc/

Clinical Bottom Line

- By choosing a microdiscectomy, the patient will be able to return to sport with no restrictions
- Microdiscectomy allows for a faster return to play then a standard lumbar fusion
- The success rate of a microdiscectomy is very high indicating a good overall quality of life

Conclusion

- Due to the patient having a microdiscectomy, the patient was able to begin rehabilitation, and everyday activities with less to no restrictions (Barth et al., 2008)
- After having a microdiscectomy, the patient should immediately become pain free and should be able to resume activity within 4 to 6 months of surgery (Koebbe et al., 2002)
- The patient is able to return to lift (with caution of axial loading), start engaging in return to play activities, started running drills, and is said to return to play in the fall 2020 session

References

- Barth, M., Weiss, C. & Thomé, C. (2008). Two-year outcome after lumbar microdiscectomy versus microscopic sequestrectomy. *Spine*, 33(3), 265-272.
- Hermantin, F. U., Peters, T., Quartararo, L., & Kambin, P. (1999). A prospective, randomized study comparing the results of open discectomy with those of video-assisted arthroscopic microdiscectomy. *JBJS*, 81(7), 958-65.
- Koebbe, C. J., Maroon, J. C., Abla, A., El-Kadi, H., & Bost, J. (2002). Lumbar microdiscectomy: A historical perspective and current technical considerations. *Neurosurgical focus*, 13(2), 1-6.