

Submission ID #: 65508

Scriptwriter Name: Pallavi Sharma

Project Page Link: https://review.jove.com/files_upload.php?src=19979988

Title: Full-Endoscopic Transforaminal Approach for Lumbar Discectomy

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Author Questionnaire

1. We have marked your project as author-provided footage, meaning you film the video yourself and provide JoVE with the footage to edit. JoVE will not send the videographer. Please confirm that this is correct.

✓ Correct

2. Microscopy: Does your protocol require the use of a dissecting or stereomicroscope for performing a complex dissection, microinjection technique, or something similar? **Yes**
Authors: Please create scope videos of the shots labeled as SCOPE and upload the files to your project page as soon as possible:

https://review.jove.com/files_upload.php?src=19979988

SCOPE: 2.1.2, 2.2.2

3. Software: Does the part of your protocol being filmed include step-by-step descriptions of software usage? **No**

4. Proposed filming date: To help JoVE process and publish your video in a timely manner, please indicate the proposed date that your group will film here:

When you are ready to submit your video files, please contact our Content Manager, [Utkarsh Khare](#).

Current Protocol Length

Number of Steps: 03

Number of Shots: 08

Introduction

NOTE: AUTHORS DID NOT FILM THE INTRODUCTION

REQUIRED: What is the scope of your research? What questions are you trying to answer?

- 1.1. **Cafer Ikbal Gulsever:** Our research focuses on the full-endoscopic transforaminal approach for lumbar discectomy, evaluating its safety, effectiveness, and advantages over conventional surgical techniques.

1.1.1. INTERVIEW: Named talent says the statement above in an interview style shot, looking slightly off-camera. *Suggested B.roll:2.1.2*

What are the current experimental challenges?

- 1.2. **Cafer Ikbal Gulsever:** A major challenge is the steep learning curve associated with full-endoscopic techniques, requiring surgeons to master specific anatomical and procedural nuances.

1.2.1. INTERVIEW: Named talent says the statement above in an interview style shot, looking slightly off-camera. *Suggested B.roll:2.2.1*

What research gap are you addressing with your protocol?

- 1.3. **Cafer Ikbal Gulsever:** We address the need for minimally invasive lumbar surgery options that reduce tissue damage and postoperative complications compared to traditional discectomy methods.

1.3.1. INTERVIEW: Named talent says the statement above in an interview style shot, looking slightly off-camera. *Suggested B.roll:2.3.1*

What advantage does your protocol offer compared to other techniques?

- 1.4. **Cafer Ikbal Gulsever:** Our protocol reduces muscle retraction and bone removal, preserving spinal stability, minimizing postoperative pain, and enabling quicker patient mobilization.

1.4.1. INTERVIEW: Named talent says the statement above in an interview style shot, looking slightly off-camera.

Ethics Title Card

This research has been approved by the Institutional Review Board (IRB) at Mount Sinai.
Written informed consent was obtained from the participants

Protocol

2. Lumbar Discectomy Using Full-Endoscopic Transforaminal Approach

Demonstrator: Cafer Ikbal Gulsever

~~2.1. To begin, introduce an endoscope through a working sleeve [1] and observe the annulus fibrosis, posterior longitudinal ligament, and epidural fat tissue [2].~~

~~2.1.1. WIDE: Talent introduces the endoscope through the working sleeve.~~

~~2.1.2. SCOPE: The annulus fibrosis, posterior longitudinal ligament, and epidural fat tissue are being seen.~~

2.2. After preparing the endoscopic access through the transforaminal approach, facilitate visualization of the vessels, fat, and ligaments in the intervertebral foramen by cranial rotation of the working sleeve and endoscope [1]. Then, remove the disc fragment using the Kerrison punch and the rongeur [2]. **NOTE: VO has been edited.**

~~2.2.1. Talent rotates the working sleeve and the endoscope towards the cranial aspect.~~

2.2.2. SCOPE: JOVE 65508 Transforaminal.mp4 00.01 – 00.15

2.2.3. SCOPE: JOVE 65508 Transforaminal.mp4. 00.58 – 01.18

2.3. Evacuate the disc space utilizing the existing annulus defect with a rongeur [1]. Then, seal the evacuated area and the margins of the annulus defect by coagulation to avert any recurrence [2]. Use a singular 3-0 (*Three-O*) suture for closing the skin incision [3-TXT].

2.3.1. SCOPE: JOVE 65508 Transforaminal.mp4 01.20 – 01.31

2.3.2. SCOPE: JOVE 65508 Transforaminal.mp4 . 01.33 – 01.47

2.3.3. Talent sutures the surgical site. **TXT: Make sure there is no drainage present**

Results

3. Results

- 3.1. The preoperative MRI (*M-R-I*) scans revealed a left paracentral extruding disc herniation that was causing compression on the left L5 nerve root [1].
 - 3.1.1. LAB MEDIA: Figure 1 *Video editor: Please emphasize Figures 1A and C*
- 3.2. The postoperative MRI scans demonstrated successful decompression of the left L5 nerve root [1].
 - 3.2.1. LAB MEDIA: Figure 1 *Video editor: Please emphasize Figures 1B and D*

Pronunciation Guide:

1. annulus fibrosus

Pronunciation link:

<https://www.merriam-webster.com/medical/annulus%20fibrosus> YouGlish+10Merriam-Webster+10YouGlish+10YouTube+11Merriam-Webster+11TheFreeDictionary.com+11

IPA: /'æn.jʊ.ləs faɪ'brʊ.səs/

Phonetic Spelling: AN-yuh-lus fik-BROH-sus

2. transforaminal

Pronunciation link:

<https://www.howtopronounce.com/transforaminal> Merriam-WebsterHow To Pronounce+1Glosbe+7How To Pronounce+7How To Pronounce+7

IPA: /ˌtrænz.fə'ræm.ɪ.nəl/

Phonetic Spelling: tranz-fuh-RAM-ih-nul

3. Kerrison punch

Pronunciation link —Unfortunately Merriam-Webster does not have a dedicated entry; no confirmed link found.

IPA (American): /'kerɪsən pʌntʃ/

Phonetic Spelling: KER-ih-sun punch