

# "Mini-open" Lateral Transpsoas Interbody Fusion

M. Neil Woodall MD; Haroon F. Choudhri MD

Department of Neurosurgery, Medical College of Georgia at Georgia Regents University

## Introduction

Lateral transpsoas interbody fusion (LTIF) is an increasingly popular minimally invasive technique for lumbar interbody fusion. LTIF has several proprietary names including "Extreme Lateral Interbody Fusion" (XLIF) and "Direct Lateral Interbody Fusion" (DLIF). We would like to focus on the surgical approach, as opposed to the retractor system used, and will use the term LTIF to refer to this surgical approach to the lumbar intervertebral disc. A percutaneous technique has been popularized thus far for the LTIF, we set out to describe an alternative "mini-open" technique.

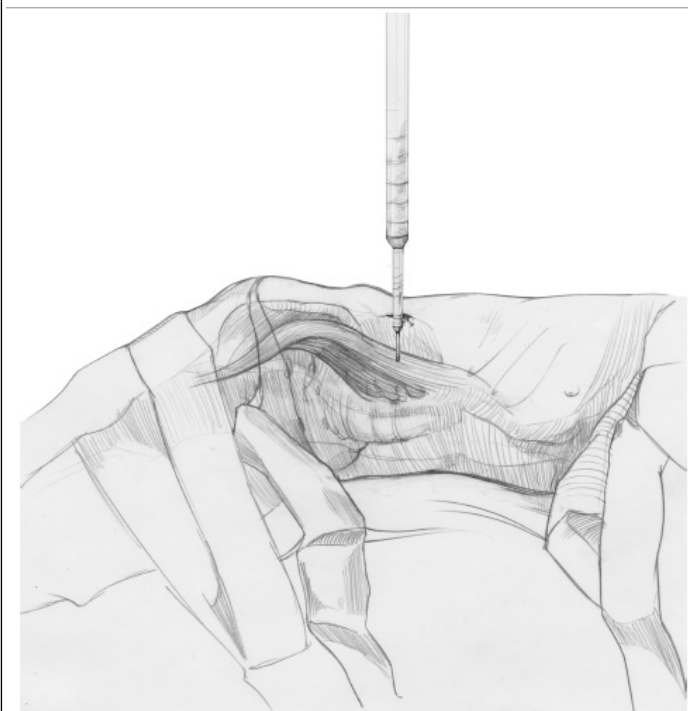
### Patient Positioning



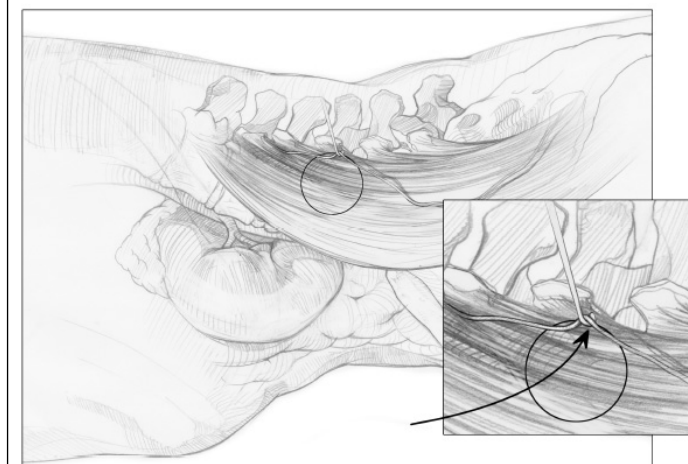
## Methods

An alternative "mini-open" technique for the lateral transpsoas interbody fusion is described. We report our experience with 12 cases using this technique. The key difference in the "mini-open" and traditional percutaneous approaches to the LTIF has to do with the placement of the retractor system, and imparts two key advantages. 1) While monitoring techniques have been described for the genitofemoral nerve, it is typically not monitored, and is at risk for injury during LTIF. Often, during the mini-open step in the LTIF procedure, the genitofemoral nerve can be identified running on the border of the psoas and gently retracted, or the retractor system can be repositioned. 2) Next t-EMG over the psoas surface can be carried out under direct visualization, such that the surgeon has a better sense of local anatomy.

### Retractor Placement



### Genitofemoral Nerve Retracted



## Results

Eleven out of twelve patients (92%) had improvement in their symptoms, and there were no major neurologic complications using this technique. There were no injuries to the genitofemoral nerve in this series.

## Conclusions

The "mini-open" LTIF is a safe and effective technique for performing transpsoas interbody fusion.

## Learning Objectives

Discuss the options for placement of the retractor system during LTIF. Compare the advantages of a percutaneous versus a "mini-open" approach.