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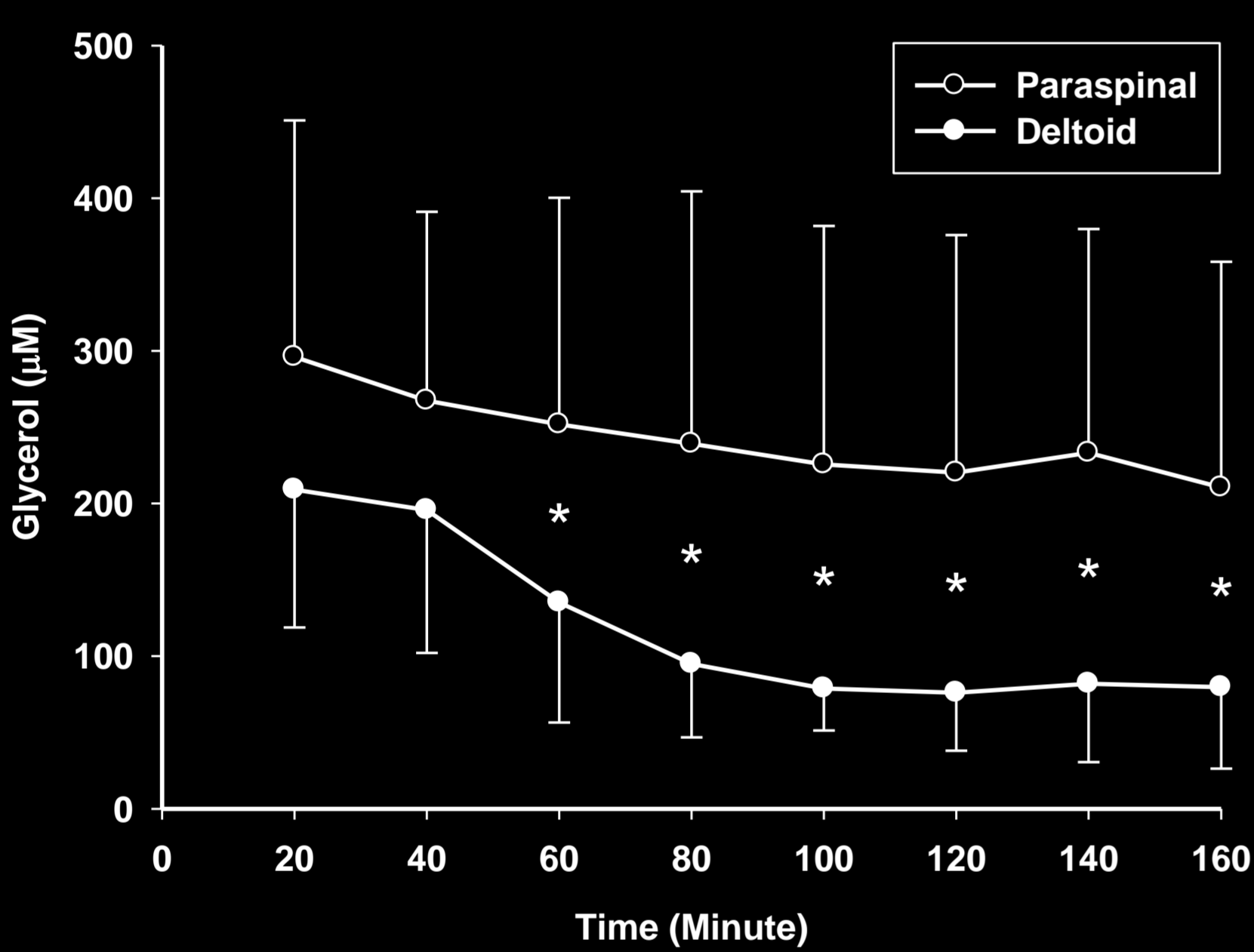
# Reduced Surgical Invasiveness To The Paraspinal Muscle In Minimal Invasive Spine Surgery

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## INTRODUCTION

- The reasoning for performing minimal invasive spine surgery (MISS) is the perception that a gentle surgery is in many cases more beneficial for the patient, than a traditional surgery would be. The benefits are understood to be a faster healing, less pain, and consequently a faster mobilization and rehabilitation.
- The lesser damaging of the soft tissue under minimal invasive surgery is most likely one of the main reasons for these benefits. In a previous study we have proven glycerol concentration changes in the paraspinal muscle to be related to the extension of exposure.



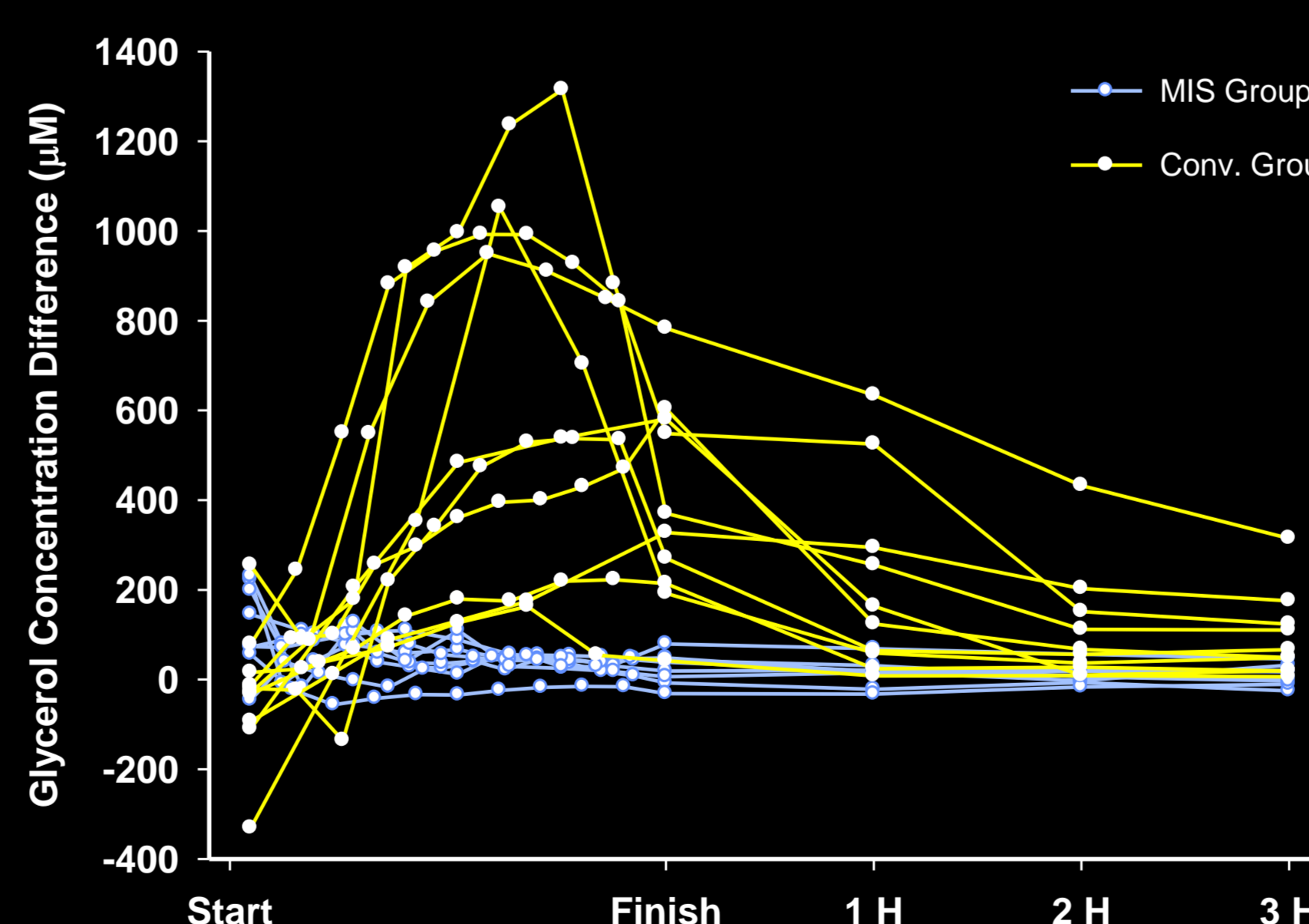
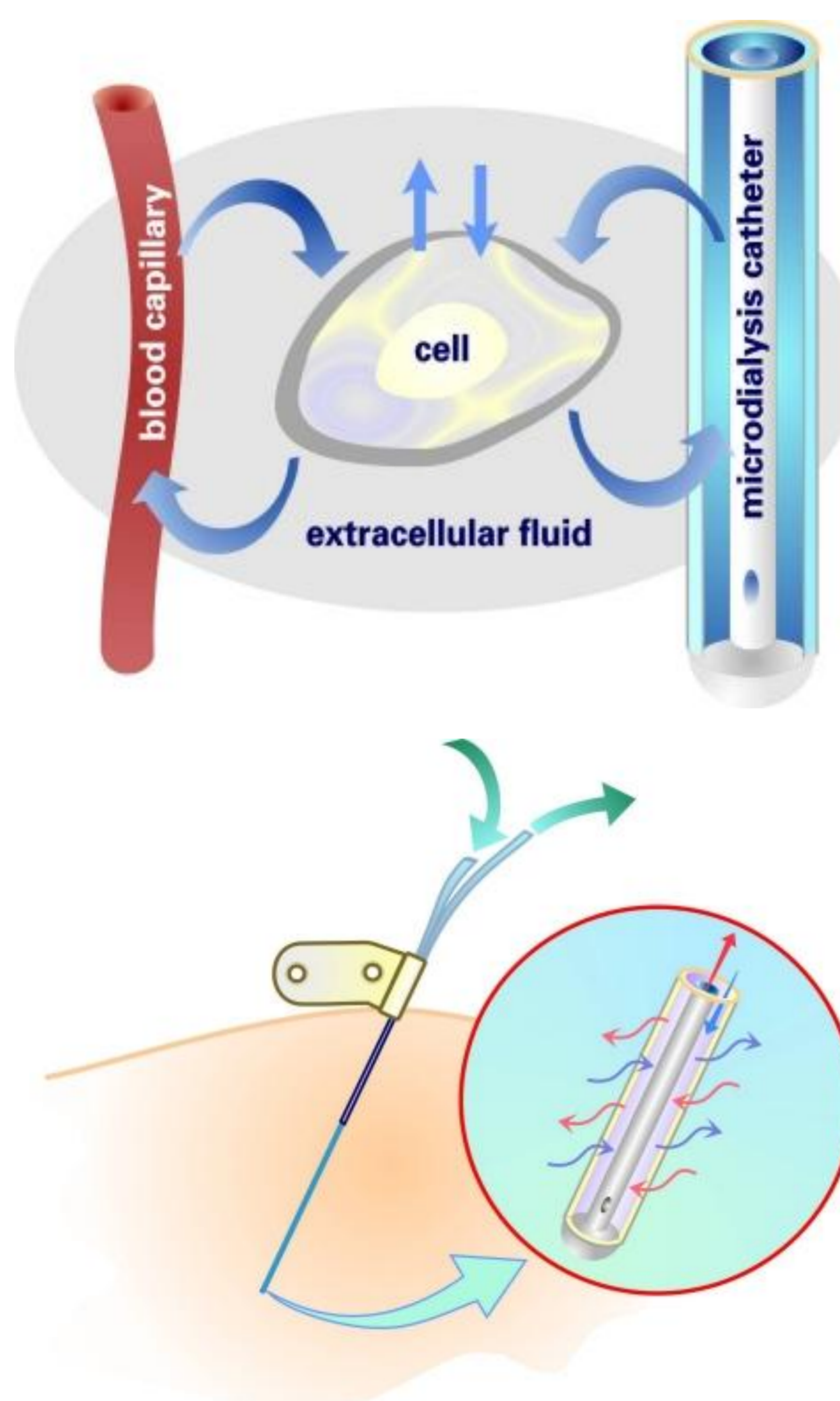
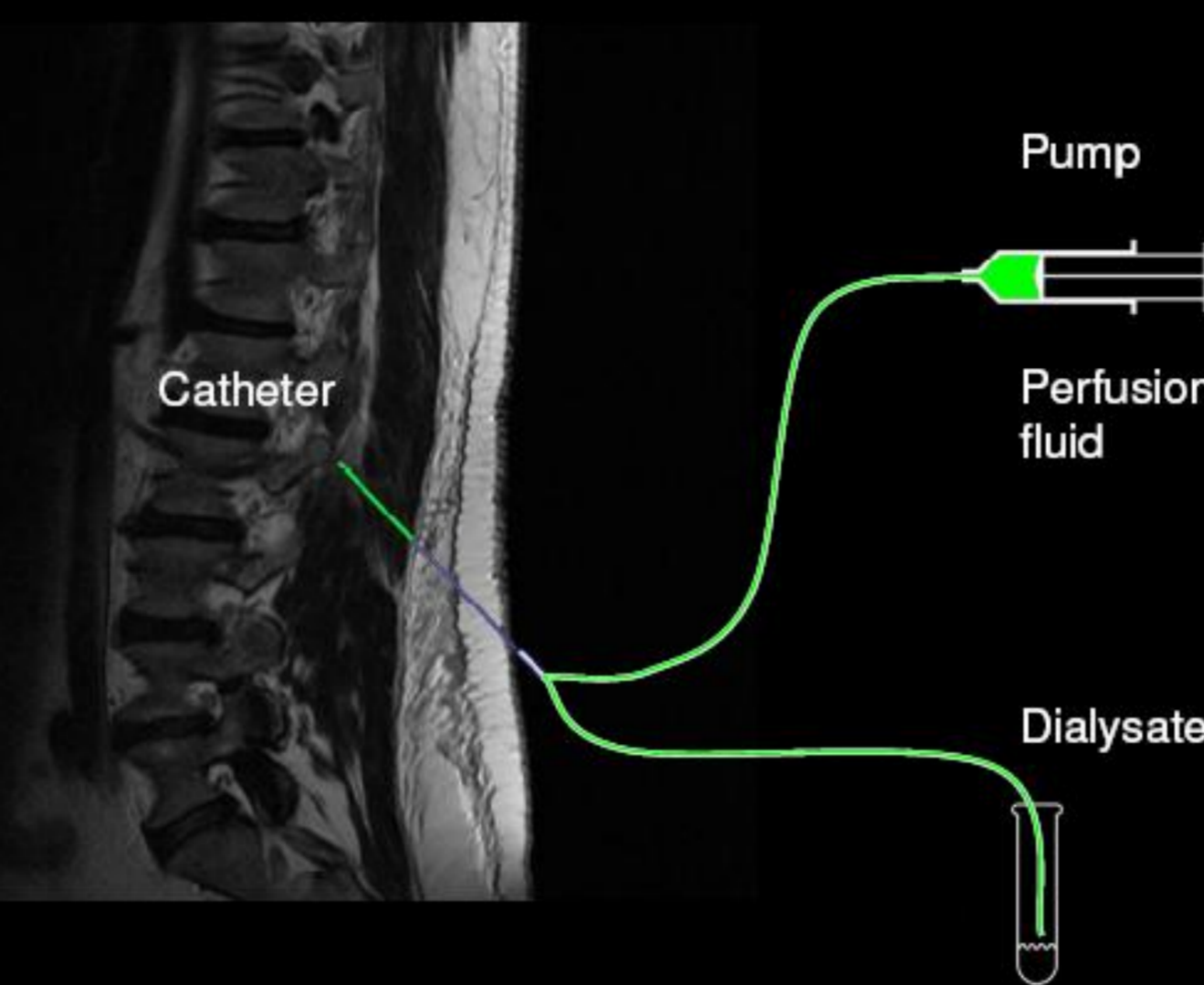
## OBJECTIVES

The aim of this study was to quantify glycerol concentrations changes in the paraspinal muscle during traditional open spine surgery (TOSS) and MISS.

## METHODS

- Eighteen patients scheduled to undergo lumbar surgery were enrolled in this study.
- Glycerol concentrations of the paraspinal muscle and deltoid muscle, during surgery, were measured in 8 patients during TOSS and in 10 patients during MISS.
- Microdialysis samples were collected every 20 minutes during surgery.
- Glycerol concentration difference were calculated

## Microdialysis Setup



## RESULTS

- Glycerol concentration differences (GCD) between the paraspinal and deltoid muscle were 124.1 (119.6) micro mol in the TOSS group and 46.4 (43.4) micro mol in the MISS group (P = 0.001).



## CONCLUSIONS

- This study showed a relationship between the surgical approach and GCD level. Reduced GCD level indicate a reduced invasiveness of MISS to the paraspinal muscle.

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