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A Novel Approach for Laparoscopic Direct Inguinal Hernia Repair in Children

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Describe role of Submitting/Presenting Trainee in this project (limit 150 words): Abstract writing, data collection, analysis and interpretation.

Background, Objectives/Goal, Methods/Design, Results, Conclusions limited to 500 words

Background: Inguinal hernia repair is one of the most common operations performed by pediatric surgeons, and the frequency of laparoscopy for repair is increasing. The vast majority of these are indirect hernias and therefore how to best repair a direct defect when seen during laparoscopy is still unknown. Simple high ligation of the hernia sac (as is done in an indirect hernia) does not repair the inguinal floor weakness/defect seen in a direct hernia.

Objectives/Goal: We therefore present a case of laparoscopic bilateral indirect and direct inguinal hernia repair, commonly known as pantaloon hernia, repaired without mesh and utilizing the tenants of high ligation for the indirect component and tissue repair for the direct component. Our goal is to showcase this novel approach and share our experience with the wider pediatric surgical community.

Methods/Design: The patient is an 8-year-old male who was found on evaluation to have a clear right direct inguinal hernia on physical examination. No preoperative imaging studies were performed. Laparoscopy revealed bilateral direct and indirect hernias (pantaloon hernias). Laparoscopic hernia repair was therefore performed. The direct hernia was repaired in a manner replicating the McVay open inguinal hernia repair technique. The direct hernia defect was repaired using three (3) 2-0 braided polyester sutures placed percutaneously to approximate the muscle to Cooper's ligament, thereby repairing the floor of the inguinal canal. The indirect hernia defects were repaired using a percutaneous internal ring suturing technique with 3-0 braided polyester

suture, with the additional technique of incorporating the medial umbilical ligament over the repair as a buttress.

Results: The patient tolerated the procedure well, there were no complications, and the patient was discharged home on the same day.

Conclusions: The tissue repair approach for laparoscopic direct inguinal hernia repair is a novel technique that is technically feasible, well tolerated, and utilizes known methods.