

# Adolescent Varicocelelectomy: Success at What Cost?

## Clinical Outcome and Cost Comparison of Surgical Ligation and Percutaneous Embolization

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# Background

- Management of adolescent varicocele remains controversial
- Indications for intervention:
  - varicocele with ipsilateral testis hypotrophy
  - symptomatic varicocele, i.e. pain
  - abnormal semen analysis, if obtainable
- Limited comparison of surgical ligation to embolization

# Objective

- To evaluate clinical outcome, recurrence, morbidity, and cost associated with percutaneous embolization versus surgical ligation of adolescent varicocele.

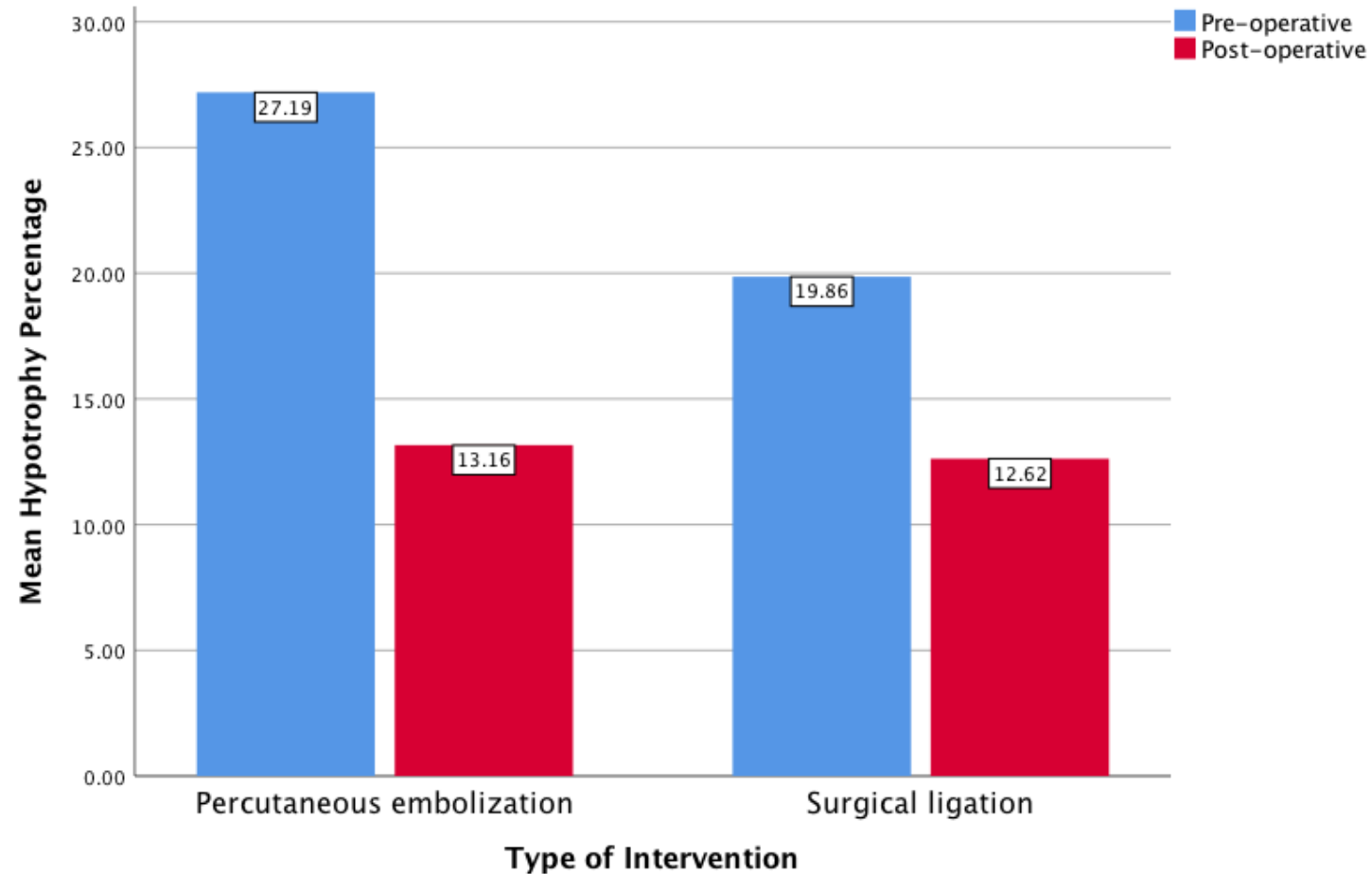
# Methods

- Retrospective review of 59 consecutive adolescent males age 18 years or younger with clinical diagnosis of varicocele who underwent either percutaneous embolization or surgical ligation between the years 2006 and 2016
- Varicocele grade and testicular volumes determined by scrotal ultrasound
- Patient demographics, operative time, postoperative complications, recurrence of varicocele, and hospital charges were abstracted

# Baseline Characteristics

	<b>Percutaneous Embolization</b>	<b>Surgical Ligation</b>	<b>Total</b>	<b>P-value</b>
<b>Number of patients</b>	8	51	59	
<b>Age (years)</b>	15.38 ± 1.19	13.96 ± 2.16	14.15 ± 2.11	0.077
<b>Length of follow-up (months)</b>	18.00 ± 9.71	20.80 ± 18.71	20.41 ± 17.71	0.527
<b>Grade of Varicocele</b>				0.981
<b>I</b>	0	2	2	
<b>II</b>	3	16	19	
<b>III</b>	5	32	38	

# Outcomes – Testicular Volume Difference

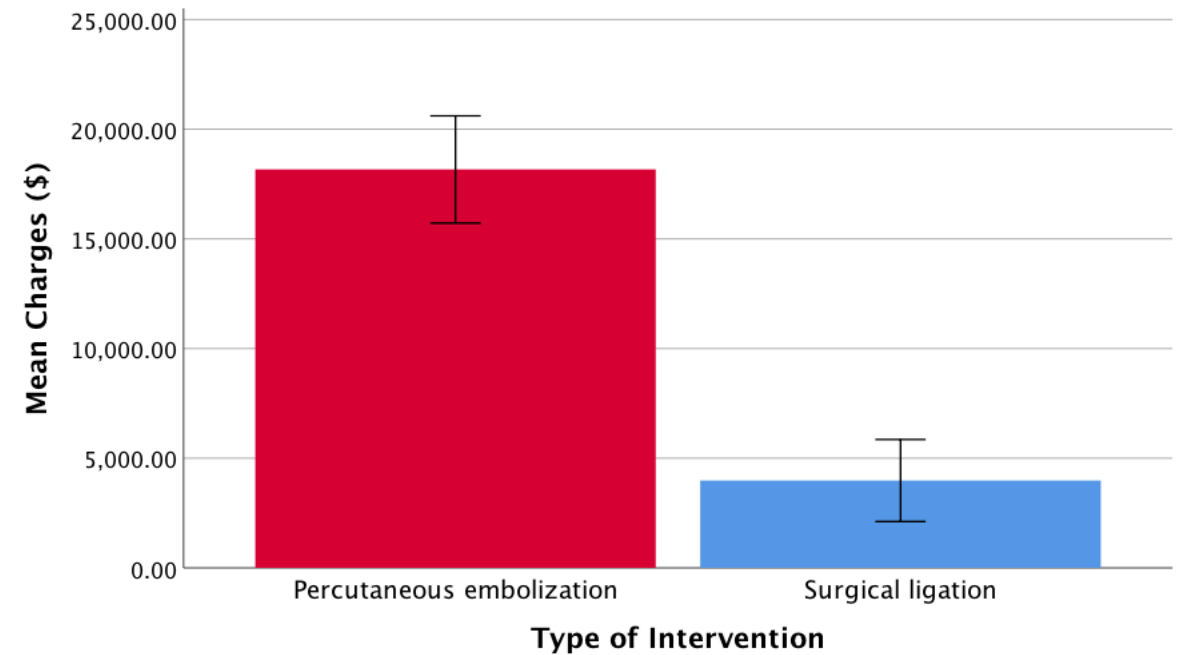
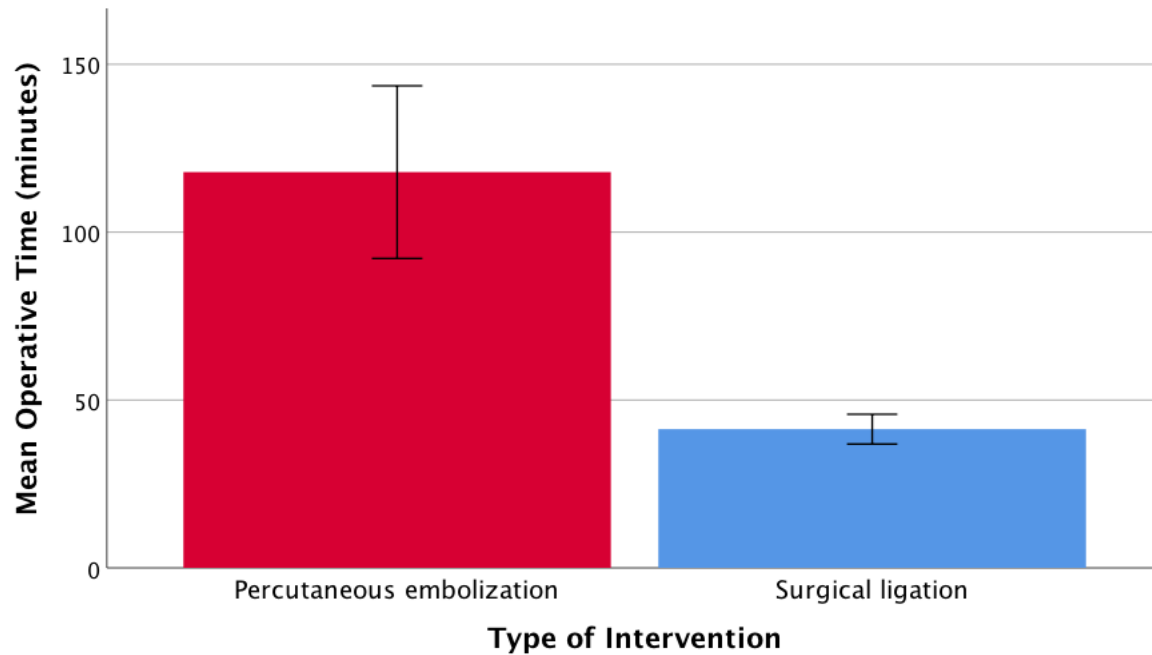


# Outcomes – Complications and Recurrence

<b>Complication</b>	<b>Percutaneous Embolization</b>	<b>Surgical Ligation</b>
Left hydrocele	0 (0%)	2 (3.9%)
Testicular pain	0 (0%)	1 (2%)

	<b>Percutaneous Embolization</b>	<b>Surgical Ligation</b>
<b>Recurrence</b>	0 (0%)	6 (11.8%)

# Operative Time and Charges





# Conclusions and Future Directions

- Percutaneous embolization has seemingly lower rates of postoperative hydrocele and varicocele recurrence
- Percutaneous embolization: 3x the exposure to general anesthesia and 4x the cost
- Embolization may be better reserved for failures of surgical repair
- Our results are limited, but provide the impetus for a prospective randomized comparison



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