

ICEOS 2019 - Atlanta

A “One Stop Shop”: Additional Surgeries at the Time of Rib-based Implant Procedures – Is it Safe?

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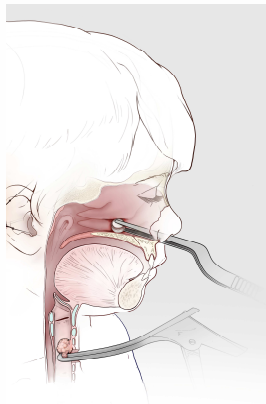


Disclosures

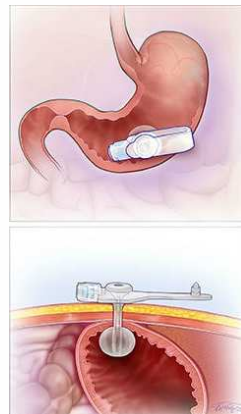
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 - Consultant: Nuvasive, Inc.
- **All other authors have nothing to disclose**

Introduction

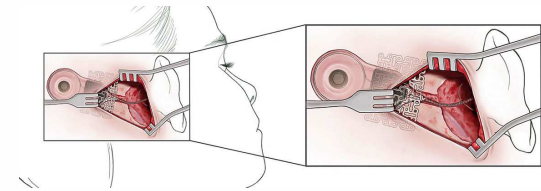
- **Early onset scoliosis (EOS) patients with rib-based implants often require repeated invasive spinal surgery**
 - Increases risk of complications and exposure to anesthesia
- **Patients often have various comorbidities that require additional surgical intervention**



Microlaryngoscopy and
Bronchoscopy (MLB)



Gastrostomy Tube
Insertion



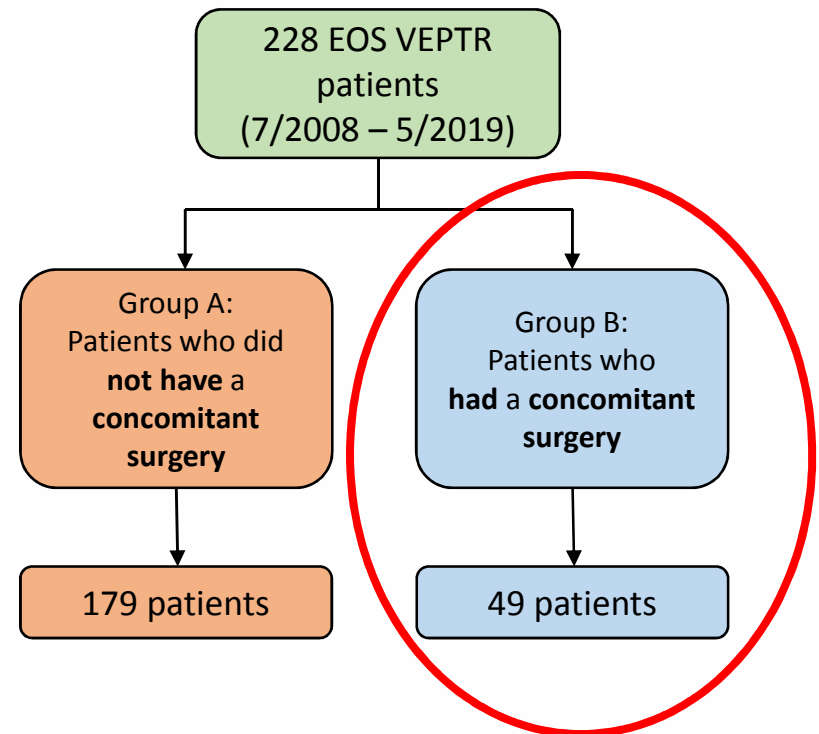
Ear Tube Insertion

Can We Safely Perform Other Procedures in Same Surgical Setting as a VEPTR procedure?



Methods

- **Retrospective review**
 - EOS patients
 - Single institution
- **At least 1 other surgical service operate in conjunction with a VEPTR procedure**
- **Demographics**
- **Surgical parameters**
 - Anesthesia
 - Surgical department
 - Complication profile



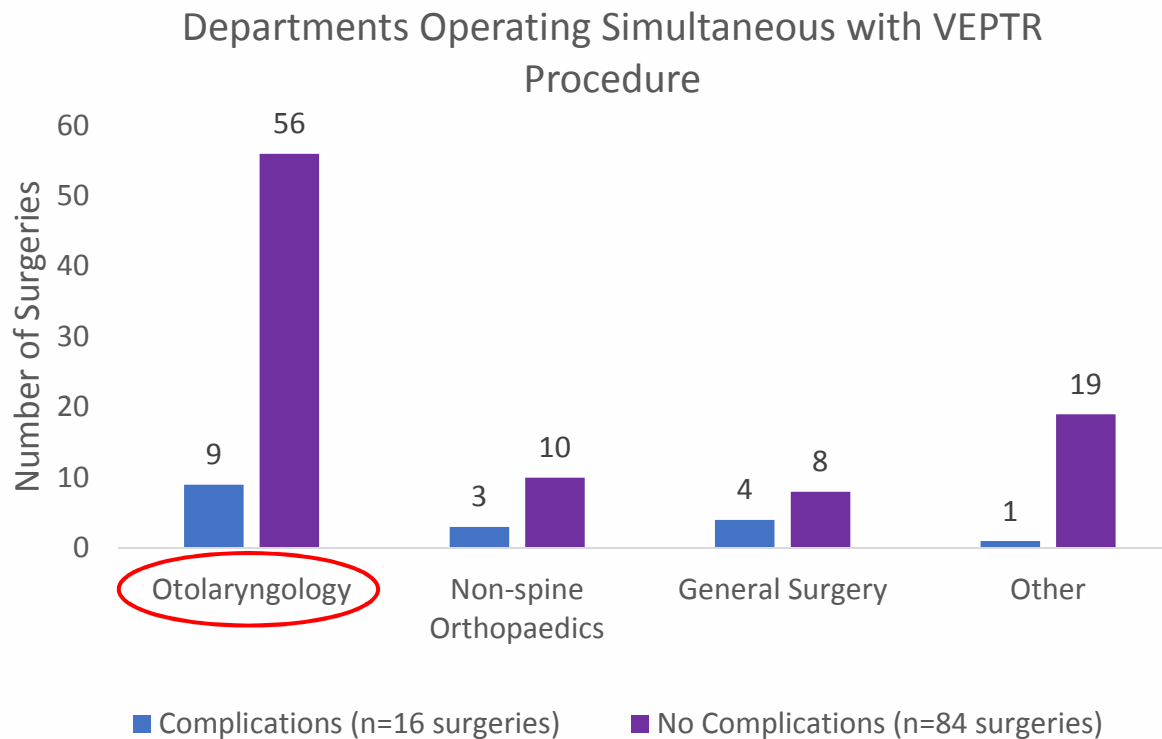
No Significant Association Found in Patient Demographics

	Complications (n=16)	No Complications (n=33)	P-value
Gender			
Male	6	16	0.48
Female	10	17	
Etiology			
Neuromuscular	4	10 (29%)	0.62
Syndromic	3	3 (9%)	
Congenital	9	21 (62%)	
BMI (kg/m²)	18.59 ± 2.26	17.96 ± 3.91	0.52
Follow up (years)	5.31 ± 2.32	5.41 ± 2.23	0.89
Age at VEPTR implant (years)	2.74 ± 3.26	2.08 ± 0.96	0.51
Total Number of VEPTR Procedures	8.38 ± 4.29	9.12 ± 4.57	0.58

No Significant Association Found in Surgical Information Per Patient

	Complications (n=16)	No Complications (n=33)	P-value
Number of Multiple Procedures Under the Same Anesthetic	2.13 ± 1.21	1.91 ± 1.67	0.34
Surgical Time of Multiple Procedure Surgery (hours)	2.03 ± 1.06	2.08 ± 1.03	0.88
Anesthesia time (hours)	4.12 ± 1.56	3.63 ± 1.30	0.35
Surgical Time of VEPTR Procedure (hours)	1.03 ± 1.07	0.773 ± 0.47	0.44
Surgical Time of Other Procedure (hours)	0.555 ± 0.56	0.470 ± 0.521	0.763

Otolaryngology: Most Common Department



Most Common Procedures:

1. Microlaryngoscopy and bronchoscopy (MLB)
2. Cerum removal under anesthesia
3. Ear tube insertion

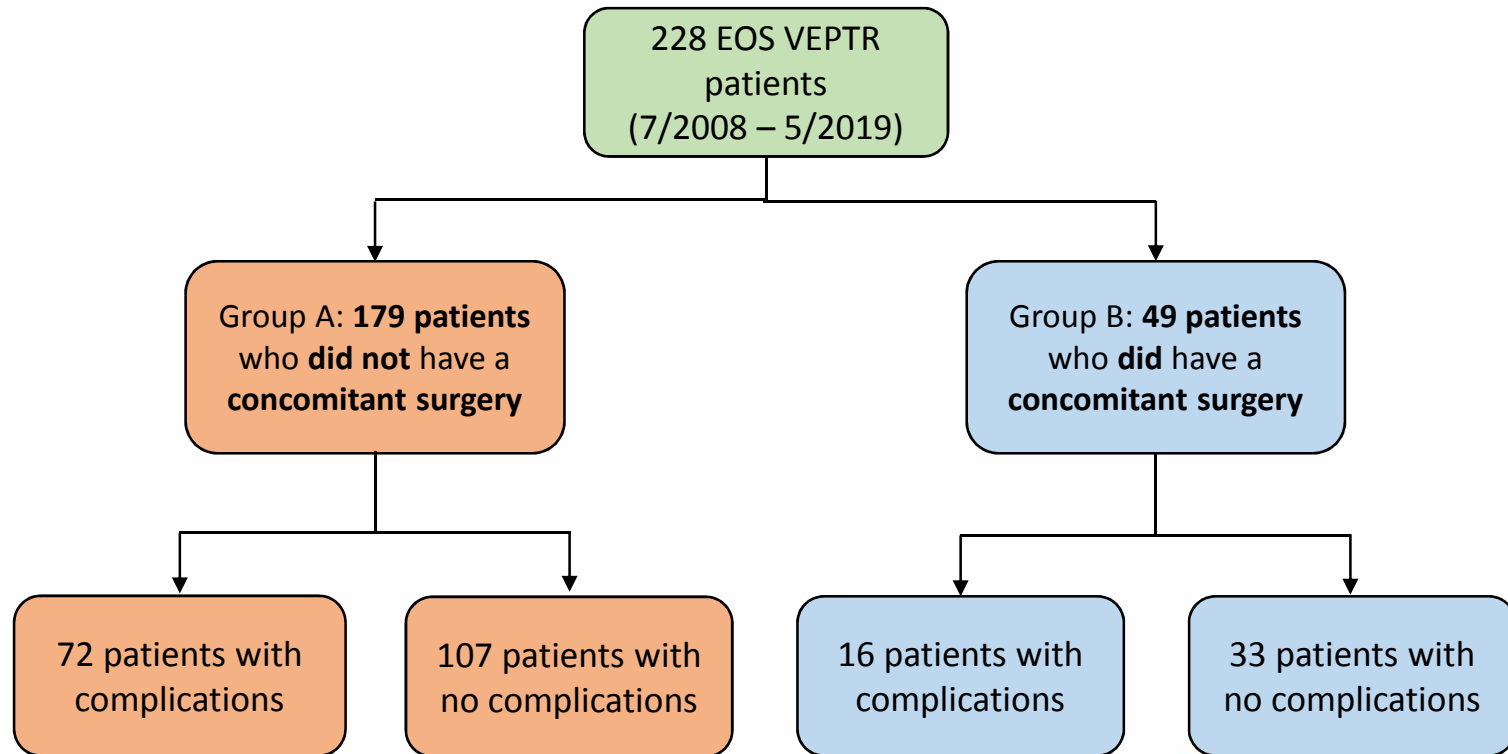
Other departments include Urology, Hematology, Interventional Radiology, Gastroenterology, Ophthalmology, and Neurosurgery

10 Patients Required Another Surgery Due to Complication

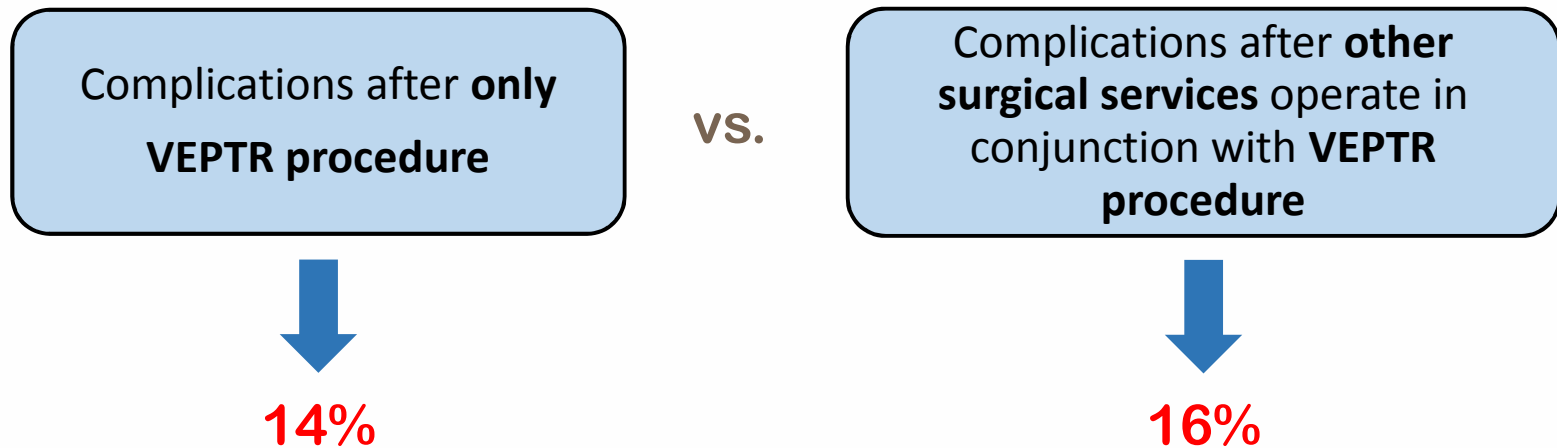
- 16 patients developed a post-op complication
- **10 out of 16 patients** ultimately required another surgery
 - 8 I&D surgeries
 - 2 VEPTR revisions

Complications	Number of Occurrences
Infection required I&D	8
Device migration	2
Concern for Infection (no surgery required)	2
Fever	2
Pneumonia	1

Is the Complication Rate Higher if We Perform Concomitant Surgery?



Group B: Complication Rate Per Surgical Procedure



Group A versus Group B Complication Rate Per Surgical Procedure

Group A:
Complications after **only**
VEPTR procedure

vs.

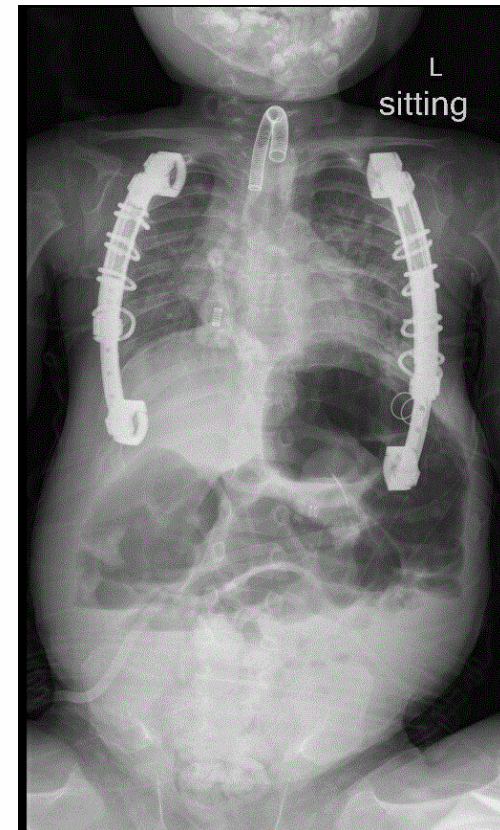
Group B:
Complications after **other surgical**
services operate in conjunction
with VEPTR procedure

↓
12%

↓
16%

Conclusion

- **16% complication rate** after having another procedure at the same time as VEPTR procedure
 - Similar to reports for posterior distraction based procedures (range from 10 to 32%)
- **No significant association found in surgical and demographic parameters**
 - Thus, no one specific non-spine Orthopedic procedure put patients at risk of a complication when paired with a rib-based VEPTR surgery



Thank you!

