



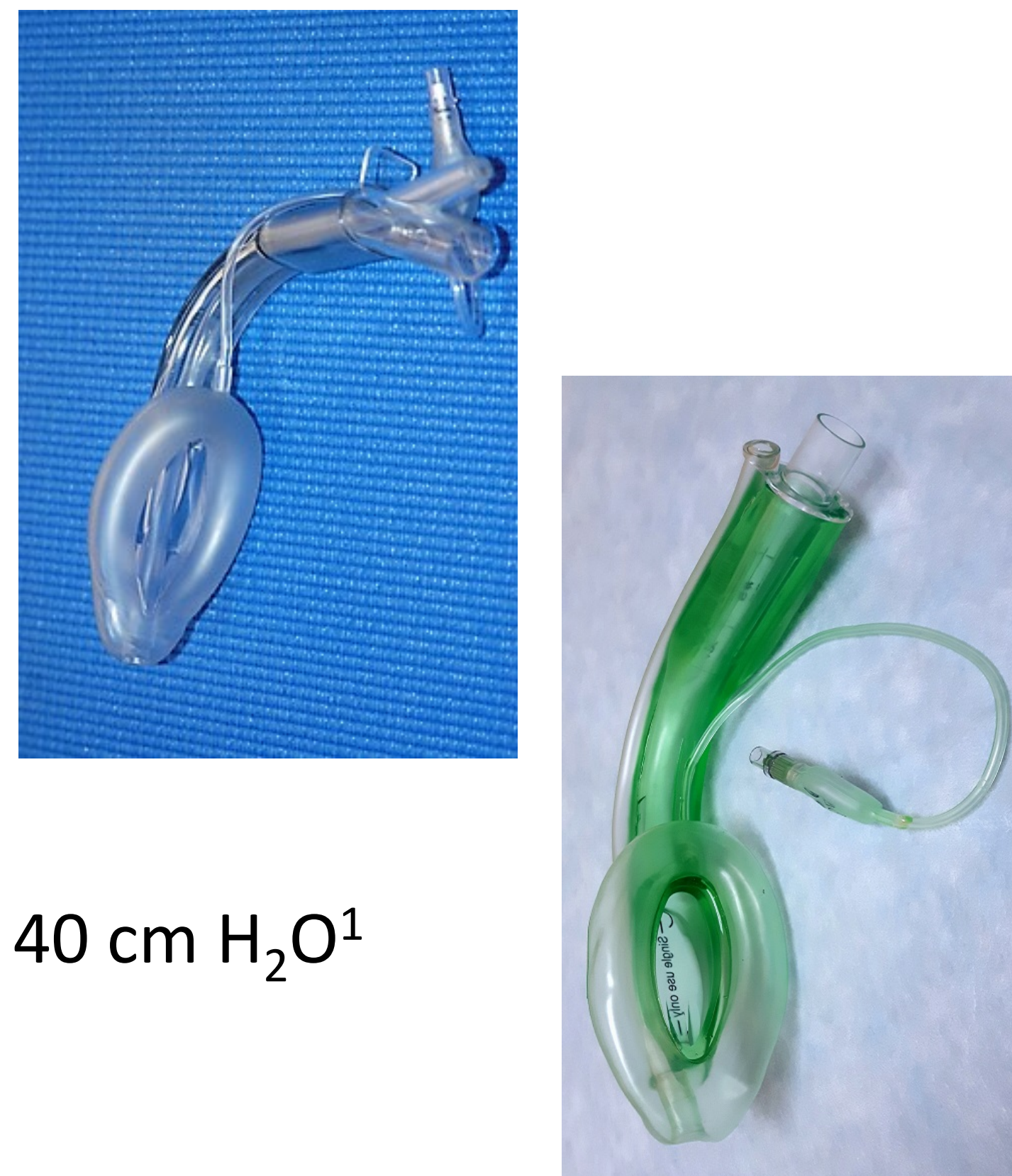
# Comparison of Oropharyngeal Leak Pressure between the Ambu AuraGain and the LMA Supreme; a Prospective Randomized Trial

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## INTRODUCTION

- **Oropharyngeal leak pressure (OLP):** Pressure at which a gas leak occurs around a supraglottic airway device (SGA) after insertion
- Key marker of efficacy and safety when using a SGA for general anesthesia
- Higher OLP suggests better seal between SGA and supraglottic mucosa
- Higher OLP allows safer use in wider range of patients and procedures
- **LMA Supreme™**
- Most widely used double lumen SGA
- OLP approximately 25 cm H<sub>2</sub>O
- **Ambu AuraGain**
- Introduced in 2014
- Double lumen design
- Preliminary data indicate an OLP up to 40 cm H<sub>2</sub>O<sup>1</sup>



## PURPOSE

To compare the OLP of the Ambu AuraGain to the LMA Supreme in surgical patients undergoing general anesthesia.

## OLP MEASUREMENT<sup>2</sup>

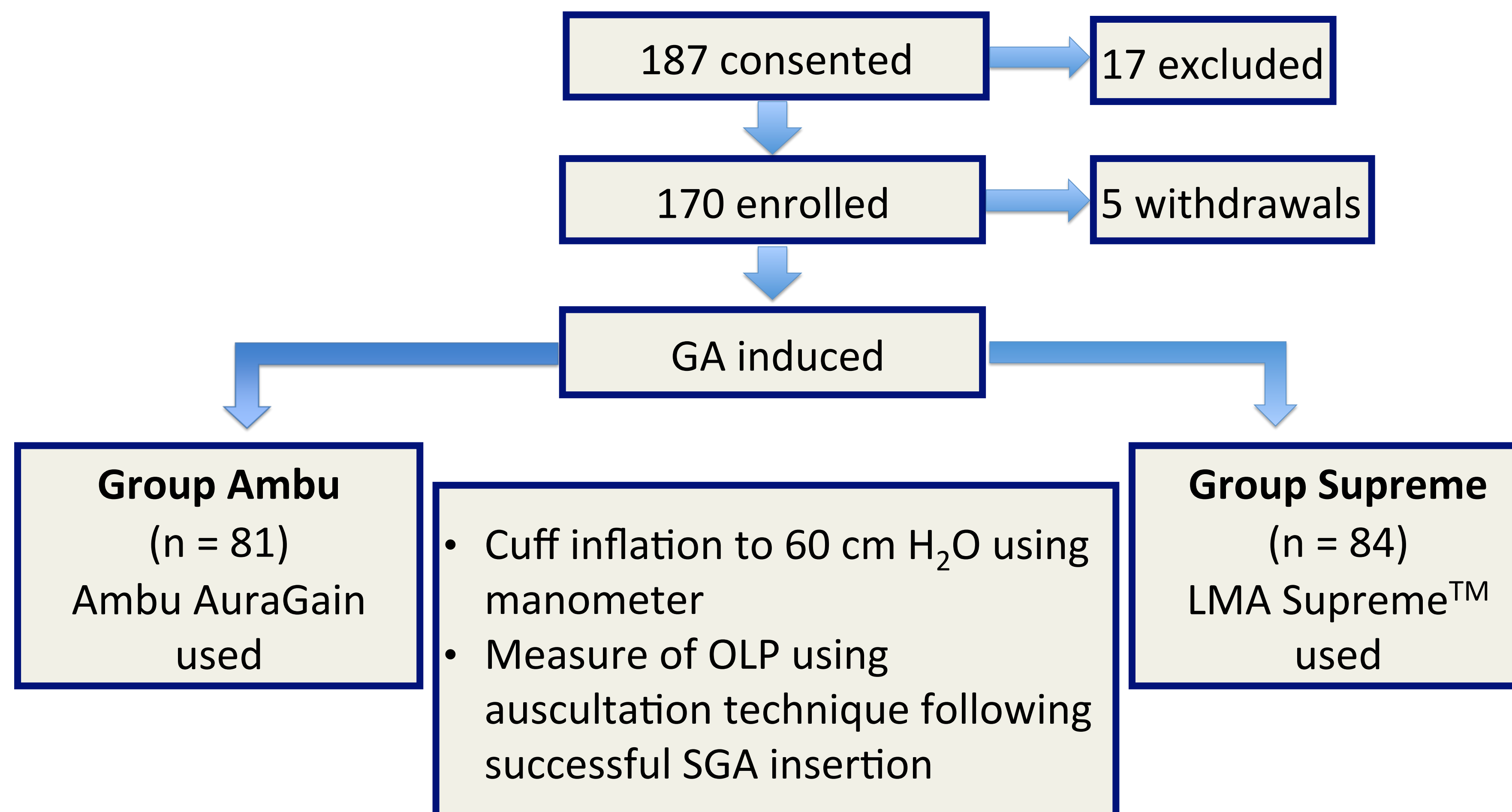
- APL valve closed to 70 cm H<sub>2</sub>O
- Gas flow 3L/min
- Auscultation lateral to the thyroid cartilage



## METHODS

**Study Design:** A prospective single-blinded randomized controlled trial

Inclusion criteria	Exclusion criteria
Age ≥ 18	BMI > 40 kg m <sup>-2</sup>
ASA status I-III	Mouth opening <2.5cm
Could spontaneously breathe on SGA	Symptomatic hiatus hernia, esophageal reflux
Ambulatory surgery of < 2hrs	Recent respiratory tract infection, sore throat



## Outcomes

**Primary:**  
 Oropharyngeal Leak Pressure (OLP)  
**Secondary:**  
 Insertion time, Insertion attempts

## Statistical Analyses

Continuous data: T-test  
 Categorical data: Chi-square analyses  
 P < 0.05 considered significant

## RESULTS

	Ambu n = 81	Supreme n = 84	P value
<b>Age (yrs)</b>	50.5 ± 15	49.8 ± 13	
<b>Gender (Male : Female)</b>	44:36	50:33	NS
<b>BMI (kg/m<sup>2</sup>)</b>	28.3 ± 5	28.8 ± 5	
<b>Oropharyngeal leak pressure (cmH<sub>2</sub>O)</b>	26.4 ± 2.7	21.5 ± 3.4	<0.001
<b>Insertion time (s)</b>	12.6 ± 3.5	10.5 ± 3.0	<0.001
<b>Insertion attempts</b>			
<b>1</b>	77.5%	94%	0.010
<b>2</b>	21%	4.8%	
<b>3</b>	2.5%	1.2%	

Data presented as mean ± SD

## CONCLUSION

In adult patients undergoing ambulatory surgery using a SGA,

- The OLP is higher in Ambu AuraGain than in LMA Supreme
- Insertion time and insertion attempts are higher with Ambu AuraGain than the LMA Supreme.

## REFERENCES

1. Ambu® AuraGain™ Disposable Laryngeal Mask – product website. Accessed Nov 5, 2014
2. Zhang L et al. Can J Anaesth 2011; 58(7):624-9