



There are many reasons to switch  
to a second generation supraglottic  
airway device.

But don't just take our word for it.





# Supraglottic airway devices play a central role in airway management

According to the 4th national audit project of the Royal College of Anaesthetists and the Difficult Airway Society (NAP4), more than half (56%) of the 2.9 million general anaesthesia procedures performed yearly in UK hospitals utilise a supraglottic airway device (SAD).<sup>1</sup>

## The role of SADs in airway management:

- ▶ Alternative to the face mask (FM) and the endotracheal tube (ETT) in elective surgery
- ▶ Use as a primary airway rescue device in the pre-hospital environment
- ▶ Rescue of the airway after failure of either mask ventilation, tracheal intubation or both

## The NAP4 report demonstrates that:

- ▶ Among airway management devices (ETT-FM-SAD) SADs were associated with a lower reported incidence of major airway complications per million than other devices
- ▶ Cases of death/brain damage reported to NAP4 were ETT 9.1/million; FM 6.5/million; SAD 5.0/million
- ▶ The majority of SAD-related complications were aspiration
- ▶ In all but one case (second generation device, non-inflatable cuff), aspiration via a SAD occurred with a first generation device

Choosing a SAD that offers the appropriate level of care and is designed to reduce the risk of aspiration is therefore important.

# Second generation SADs offer a new standard in patient care

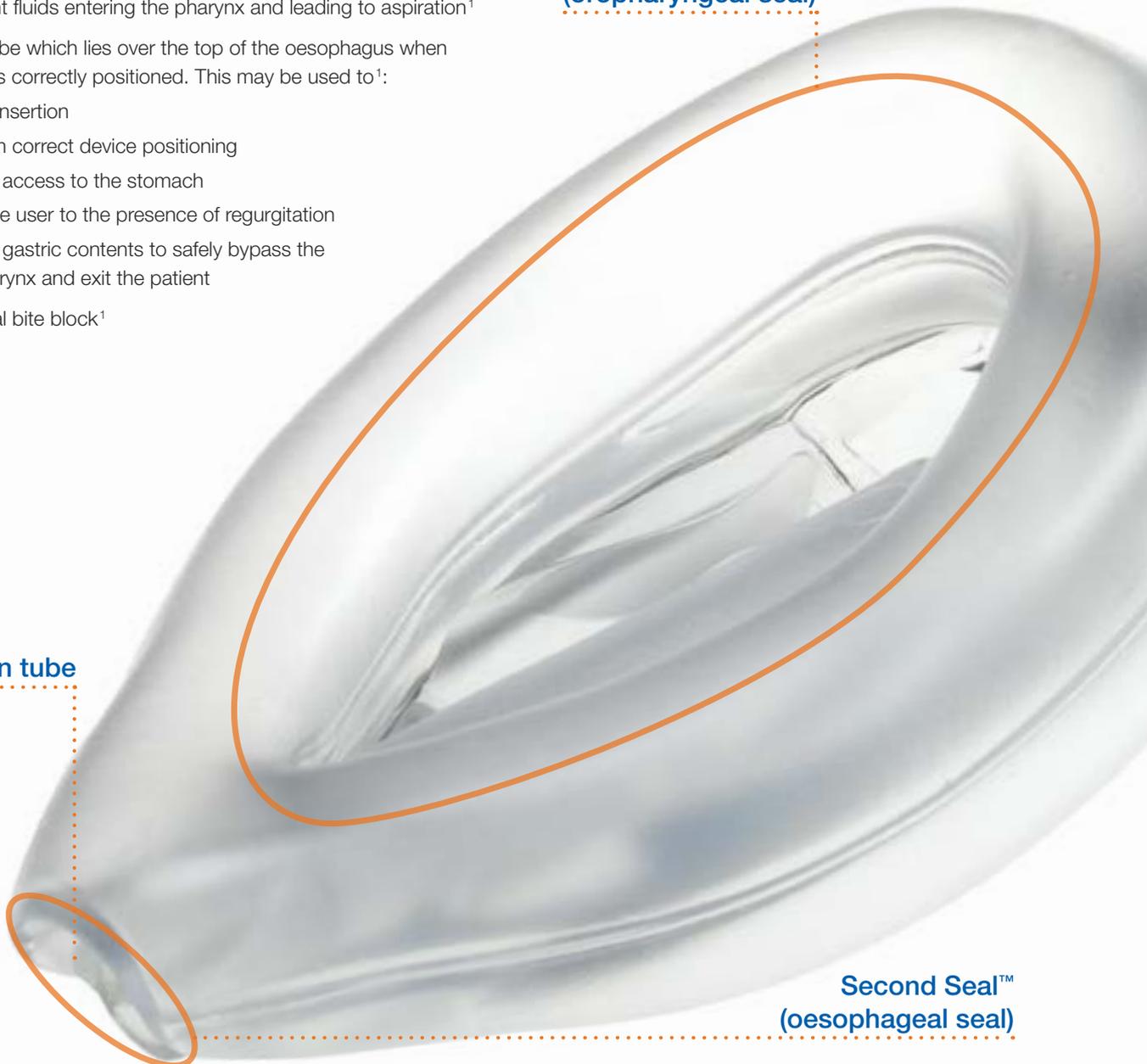
As defined in the NAP4 report, second generation SADs, such as LMA Supreme™, have effective drain tubes and offer a number of benefits over first generation, non-gastric access devices:

- ▶ Improved pharyngeal seal enabling controlled ventilation at higher airway pressures<sup>1</sup>
- ▶ Increased oesophageal seal, which lessens the likelihood of regurgitant fluids entering the pharynx and leading to aspiration<sup>1</sup>
- ▶ A drain tube which lies over the top of the oesophagus when the SAD is correctly positioned. This may be used to:
  - Assist insertion
  - Confirm correct device positioning
  - Enable access to the stomach
  - Alert the user to the presence of regurgitation
  - Enable gastric contents to safely bypass the oropharynx and exit the patient
- ▶ An integral bite block<sup>1</sup>

Drain tube

First Seal™  
(oropharyngeal seal)

Second Seal™  
(oesophageal seal)



# Second generation SADs come highly recommended

The NAP4 report<sup>1</sup> made three key recommendations on the use of second generation SADs:

## Recommendations:

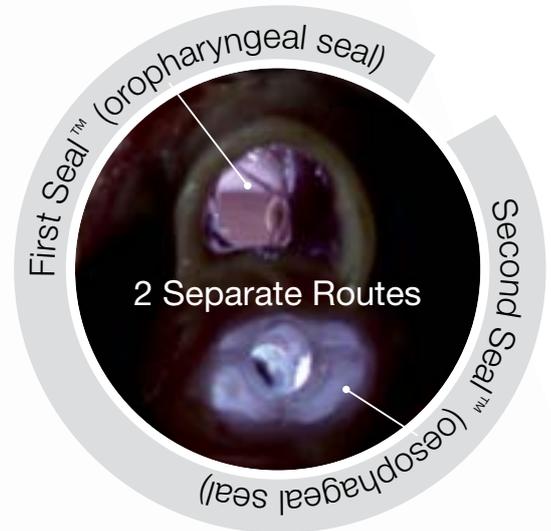
If tracheal intubation is not considered to be indicated but there is some (small) increased concern about regurgitation risk, a second generation supraglottic airway is a more logical choice than a first generation one.

In patients considered to be at low-risk of aspiration who have other factors that mean that use of a SAD is at the limits of normality (e.g. patient position, access to the airway, patient size) consideration should be given to use of a second generation SAD.

In view of the above recommendations, and the frequency of these circumstances, it is recommended that all hospitals have second generation SADs available for both routine use and rescue airway management.

# A second generation SAD with an innovative Second Seal™

LMA Supreme™ is a second generation, gastric access device which forms an effective First Seal™ with the oropharynx (oropharyngeal seal) and an innovative Second Seal™ with the upper oesophageal sphincter (the oesophageal seal).



## First Seal™

LMA Supreme™ delivers measured oropharyngeal leak pressures up to 37 cm H<sub>2</sub>O.<sup>2</sup>

The First Seal™ is important for:

- ▶ Ventilation performance
- ▶ Advanced uses of the device such as in patients with decreased thoracic compliance, in mild-to-moderately obese patients and in certain procedures requiring mechanical ventilation where higher seal pressures are required

## Second Seal™

LMA Supreme™ enables passive drainage or active management of digestive tract contents independent of ventilation.<sup>3</sup>

The Second Seal™ is designed to:

- ▶ Improve safety vs a first generation device
- ▶ Secure the distal tip of the LMA Supreme™ at the upper oesophageal sphincter to maintain the patency of the drain tube
- ▶ Reduce the risk of insufflation during ventilation
- ▶ Reduce the risk of regurgitated gastric content leaking around the tip of the mask

Scan the QR code or visit [www.youtube.com/LaryngealMaskAirway](http://www.youtube.com/LaryngealMaskAirway) to find out more:



# Improving patient safety with effective gastric access



- › Passive drainage of unexpected regurgitation
- › Active management of digestive tract content and secretions

In line with NAP4 recommendations, LMA Supreme™ has a drain tube that enables passive and active removal of gastric content and is designed to prevent gastric insufflation during ventilation.

Effective gastric access is considered to be important in advanced uses where gastric vacuity is unknown and/or there is an increased risk of regurgitation.

“The combination of improved sealing and the presence of a drain tube improves efficacy and creates functional separation of the gastrointestinal tract from the respiratory tract (like an artificial larynx). This is likely to improve safety (though this is very hard to prove) and several recent publications have suggested use of supraglottic airway devices (SADs) with effective drain tubes should become a ‘standard of care’.”

NAP4 report, 2011





# Time to make the switch to a recommended standard of care?

The NAP4 report recommends that all hospitals have access to second generation SADs, such as LMA Supreme™, for both routine use and rescue airway management. LMA Supreme™ delivers the following evidence-based benefits:

		Evidence	
Insertion success	✓	<ul style="list-style-type: none"> <li>▶ Insertion times as low as 5 seconds from picking up the device to connection to the anaesthetic circuit</li> <li>▶ 97% first time insertion success; 100% overall insertion success</li> </ul>	Verghese C. & Ramaswamy B., 2008
High ventilation performance	✓	<ul style="list-style-type: none"> <li>▶ Measured oropharyngeal leak pressures up to 37 cm H<sub>2</sub>O</li> </ul>	Van Zundert A. & Brimacombe J., 2008
Insertion success with new users	✓	<ul style="list-style-type: none"> <li>▶ 86% first time insertion success; 100% overall insertion success</li> </ul>	Howes B.W. et al., 2010
Effective gastric access	✓	<ul style="list-style-type: none"> <li>▶ Regurgitation of gastric contents through the drain tube observed in 4/205 patients with no evidence of aspiration</li> </ul>	Sharma V. et al., 2010
A viable option in prone position	✓	<ul style="list-style-type: none"> <li>▶ 90% first time insertion success; 100% overall insertion success</li> <li>▶ 199 patients successfully managed with PPV</li> <li>▶ No increase in the incidence of problems in obese patients</li> <li>▶ Successful in procedures of up to five hours in duration</li> </ul>	Sharma V. et al., 2010
A viable option in laparoscopic cholecystectomy	✓	<ul style="list-style-type: none"> <li>▶ 100% overall insertion success; 100% gastric tube insertion success</li> <li>▶ No episodes of laryngeal stridor, laryngospasm, bronchospasm, hypoxia, cough, regurgitation or aspiration</li> </ul>	Beleña J.M. et al., 2011
A viable option in radical retropubic prostatectomy	✓	<ul style="list-style-type: none"> <li>▶ Procedures &gt;3 hours duration</li> <li>▶ No adverse events and no aspiration occurred with the use of LMA Supreme™ vs an ETT</li> <li>▶ Peripheral oxygen saturation was significantly higher with LMA Supreme™ at 1 hour at PACU and at 24 hours after surgery vs an ETT</li> </ul>	Roiss M. et al., 2011
An alternative to the ETT	✓	<ul style="list-style-type: none"> <li>▶ Equally as effective with significantly lower postoperative pharyngolaryngeal morbidity with LMA Supreme™ vs an ETT</li> </ul>	Abdi W. et al., 2010
Proven for use during CPR	✓	<ul style="list-style-type: none"> <li>▶ Effective ventilation throughout the period of cardiac compression</li> <li>▶ No airway leak and no impediment to ventilation</li> </ul>	Murdoch H. & Cook T., 2008
Proven in paediatrics	✓	<ul style="list-style-type: none"> <li>▶ Significantly higher First Seal™ (oropharyngeal) leak pressures vs a first generation device</li> <li>▶ A significantly lower incidence of gastric insufflation vs a first generation device</li> </ul>	Jagannathan N. et al., 2011

# Find out more about second generation SADs



## Clinical evidence

For the latest clinical evidence on LMA Supreme™ visit [www.lmaco.com/evidence](http://www.lmaco.com/evidence)



## make-a-switch.com

For more information on making the switch to second generation SADs, visit [www.make-a-switch.com](http://www.make-a-switch.com)



For the latest digital case reports, educational videos and clinician testimonials on the benefits of LMA Supreme™, visit [www.youtube.com/LaryngealMaskAirway](http://www.youtube.com/LaryngealMaskAirway)



For the latest news from LMA, like us on [www.facebook.com/LMAInternational](http://www.facebook.com/LMAInternational)



For product information and access to product instructions for use, visit [www.lmaco.com](http://www.lmaco.com)



For information on other products within the Teleflex product portfolio, visit [www.teleflex.com](http://www.teleflex.com)



### References:

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5. Howes B.W. et al. Anaesthesia 2010; **65**: 343-347.
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9. Abdi W. et al. Acta Anaesthesiol Scand. 2010; **54** (2): 141-146.
10. Murdoch H., Cook T. Anaesthesia 2008; **63**: 316-327.
11. Jagannathan N. et al. Anaesthesia 2012; **67** (2): 139-144.

For the complete list of LMA Supreme™ references, visit [www.lmaco.com/lmasupreme](http://www.lmaco.com/lmasupreme)

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