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Laryngeal Mask and Neonatal Resuscitation

Presentation

In the recent years, the Laryngeal Mask (LM) has received increasing interest in the field of neonatal resuscitation. The LM was included in the algorithm of the American and European guidelines since 2015 and 2021 respectively, and the recent Consensus on Science of the neonatal ILCOR task force supports its use.

Nevertheless, the use of the LM in the field of neonatal resuscitation is still limited.

The purpose of this survey is to **find out how much** the Laryngeal Mask is available in European birth centers and **to understand the reasons for its apparent limited use**.

If you are a neonatologist, anesthesiologist, obstetrician, pediatrician, nurse, midwife, pediatric resident we are interested in your opinion even if you have **no experience** in using LM.

Estimated time for completion: 10 minutes

Data needed to take the survey:

Approximate number of births in your center in 2021

Data Protection Policy:

The data collected by the UENPS "European Survey on Laryngeal Mask and Neonatal Resuscitation" will be used solely by UENPS and only for the purposes of this survey. It will be used to draw up results, and then it will be anonymised before publication.

No data will be shared with third parties.

GDPR policy will apply in full to the survey (<https://eur-lex.europa.eu/eli/reg/2016/679/oj>).

Useful technical tips:

- 1) you can change your answers on any survey page until you click the DONE button to complete the survey.
- 2) you can choose your preferred language from the **dropdown menu above on the right**
- 3) if you need help or have any questions, please write to: **uenps.survey@gmail.com**

*** 1. What is your profession?**

Neonatologist

Pediatrician

Obstetrician

Nurse

Midwife

Pediatric resident

Anesthesiologist

Other (please specify)

*** 2. Your age**

< 30 years old

30-40 years old

41-50 years old

51-60 years old

> 60 years old

*** 3. What is your gender?**

Female

Male

Prefer not to disclose

Other

* 4. **How many years have you been working in a delivery ward?**

- <5 years
- 5-10 years
- 11-20 years
- > 20 years

* 5. **In what country do you work?**

* 6. **How many deliveries (approximately) were performed in your hospital in 2021?**

* 7. **Is your center equipped with a Neonatal Intensive Care Unit?**

- Yes
- No

* 8. **Is the LM available on the resuscitation trolley in your delivery room?**

- Yes
- No
- I don't know

Laryngeal Mask and Neonatal Resuscitation

* 9. Which model of the LM do you have in your delivery room?

- LM with a cuff
- LM without the cuff
- Both
- I do not know

* 10. If the LM is available in your delivery room, is it equipped with gastric access?

- Yes
- No
- I don't know

* 11. Which neonatal LM size is available in your delivery room?

- 0
- 0.5
- 1.0
- 1.5
- 2.0
- I don't know

* 12. Which of the LMs illustrated below are available in your delivery room? (more than one answer is possible)



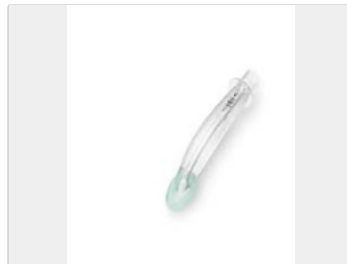
Classic LM



LM Supreme



LM ProSeal



I-Gel



Ambu AuraOnce



Air-Q



Shiley



I don't know

None of the above



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TRAINING (training with the LM on a manikin)

* 13. **Have you ever attended a course on how to use an LM?**

- Yes, a specific course dedicated entirely to the LM
- Yes, a session on LM within a neonatal resuscitation course
- No, I have never taken part in a course that included training on the LM
- Other (please specify)

* 14. **Have you ever placed the LM on a neonatal manikin?**

- Yes
- No

Laryngeal Mask and Neonatal Resuscitation

* 15. If you have placed the LM on a neonatal manikin, how many insertions did you make in total?

- <5
- 5-10
- 11-20
- >20

* 16. What technique did you use to insert the LM into the manikin?

- Pushing the LM against the palate
- Pushing the LM against the base of the tongue
- No particular landmarks because the LM found the right place automatically
- Using a laryngoscope as a tongue depressor
- I do not know
- Using another instrument than a tongue depressor (please specify)

* 17. When you use an LM, how much air do you put in the cuff?

- I follow the manufacturer's instructions
- I use a test balloon
- I do not use a cuffed LM
- I do not know

* 18. **Before removing the LM, do you remove the air from the cuff?**

Yes

No

I do not use cuffed LM

I do not know

Laryngeal Mask and Neonatal Resuscitation

LARYNGEAL MASK AND MANIKIN

* 19. How easy do you consider it to position (defined as placing the device in the correct position) an LM on a manikin?

TIPS: 1 star = difficult; 2 stars = quite easy; 3 stars = very easy

difficult	quite easy	very easy
★	★	★

* 20. How easy do you consider it to position (defined as placing the device in the correct position) a Face mask on a manikin?

difficult	quite easy	very easy
★	★	★

* 21. How easy do you consider it to position (defined as placing the device in the correct position) an Endotracheal tube in a manikin?

difficult	quite easy	very easy
★	★	★



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LARYNGEAL MASK AND NEWBORN INFANT

* 22. Have you ever placed an LM in a newborn infant?

Yes

No



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* 23. If yes, what LM size did you use?

- 0
- 0.5
- 1.0
- 1.5
- 2.0
- I do not remember

* 24. In how many newborns did you place the LM?

- <5
- 5-10
- 11-20
- >20

* 25. **On what occasion do you use the LM? (give as many answers as necessary)**

- In neonatal resuscitation, as first choice in neonates requiring positive pressure ventilation
- In neonatal resuscitation, as a second choice after face mask ventilation has failed
- In neonatal resuscitation, as a second choice after tracheal intubation has failed
- In neonatal resuscitation, due to lack of intubation skills
- During neonatal transport
- In elective conditions (e.g. neonate who needs anesthesia)
- Other (please specify)

* 26. **What was the situation when you used the LM for the first time during neonatal resuscitation:**

- I was the most experienced healthcare provider on neonatal resuscitation and I had no problems
- I was the most experienced healthcare provider on neonatal resuscitation and, although I was not an expert in using the LM, "I tried"
- A more expert colleague guided me
- Other (please specify)

* 27. In each of these clinical situations, how appropriate is it to use an LM as the first mode of respiratory care during neonatal resuscitation?

	not appropriate	possible	appropriate
Mild depressed neonate	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Neonate with moderate asphyxia (apnea and heart rate 60-100 bpm)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Neonate with severe asphyxia (apnea, pallor, heart rate <60bpm)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Neonate with meconium aspiration syndrome	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Neonate who needs endotracheal medications	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Neonate receiving chest compressions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Neonate with severe respiratory distress and with an effective respiratory activity (e.g. severe pneumonia, diaphragmatic hernia)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Neonate with malformation of the upper airways (i.e. Pierre-Robin syndrome)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 28. In each of these clinical situations, how appropriate is it to use an LM following ventilation failure using a face mask during neonatal resuscitation?

	not appropriate	possible	appropriate
Mild depressed neonate	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Neonate with moderate asphyxia (apnea and heart rate 60-100 bpm)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Neonate with severe asphyxia (apnea, pallor, heart rate <60bpm)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Neonate with meconium aspiration syndrome	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Neonate who needs endotracheal medications	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Neonate receiving chest compressions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Neonate with severe respiratory distress and with an effective respiratory activity (e.g. severe pneumonia, diaphragmatic hernia)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Neonate with malformation of the upper airways (e.g. Pierre-Robin syndrome)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Laryngeal Mask and Neonatal Resuscitation

* 29. How many times have you ventilated a newborn infant with an LM?

- 0
- 1-5
- 6-10
- 11-20
- > 20

* 30. How many times have you ventilated a newborn infant with a Face mask?

- 0
- 1-5
- 6-10
- 11-20
- > 20

* 31. How many times have you placed an Endotracheal tube in a newborn infant?

- 0
- 1-5
- 6-10
- 11-20
- > 20

Laryngeal Mask and Neonatal Resuscitation

* 32. How easy do you find positioning these interfaces correctly?

	difficult	quite easy	very easy	I have never used it
LM	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Facial mask	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Endotracheal tube	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 33. How effective for ventilation (defined as enabling good chest movement) do you consider these interfaces to be?

	ineffective	quite effective	very effective	I have never used it
LM	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Facial mask	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Endotracheal tube	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 34. How invasive (defined as degree of risking damage to the patient) do you consider these interfaces to be?

	not invasive	quite invasive	very invasive	I have never used it
LM	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Facial mask	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Endotracheal tube	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Laryngeal Mask and Neonatal Resuscitation

CLINICAL CASES

* 35. Which interface would you use in a newborn infant with mild asphyxia (i.e. heart rate 80 bpm and bradypnea after stimulation)?

Rate 1 (first choice) to 3 (last choice)

	<input type="checkbox"/>	LM
	<input type="checkbox"/>	Facial mask
	<input type="checkbox"/>	Endotracheal tube

* 36. Which interface would you use in a newborn infant with severe asphyxia (i.e. HR 40 bpm, apnea and pallor)?

Rate 1 (first choice) to 3 (last choice)

	<input type="checkbox"/>	LM
	<input type="checkbox"/>	Facial mask
	<input type="checkbox"/>	Endotracheal tube

* 37. Which interface would you use in a newborn infant with upper airway malformation (i.e. severe micrognathia and macroglossia) needing positive pressure ventilation?

Rate 1 (first choice) to 3 (last choice)

	<input type="checkbox"/>	LM
	<input type="checkbox"/>	Facial mask
	<input type="checkbox"/>	Endotracheal tube

* 38. Which interface would you use in a newborn infant with severe dyspnea and good respiratory drive?

Rate 1 (first choice) to 3 (last choice)

- LM
- Facial mask
- Endotracheal tube

* 39. Which interface would you use in a newborn infant with a diaphragmatic hernia?

Rate 1 (first choice) to 3 (last choice)

- LM
- Facial mask
- Endotracheal tube



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Laryngeal Mask and Neonatal Resuscitation

FINALLY... YOUR OPINION

* 40. **Rate your own skills:**

	not competent	competent enough	very competent
Competent in the use of LM in a neonate	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Competent in the use of the Face Mask in a neonate	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Competent in use of the Endotracheal Tube in a neonate	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 41. In your opinion why is the LM used so little in neonatal resuscitation?

	I disagree	I neither agree nor disagree	I agree
Professionals in neonatal care are already expert in ventilation with the Face Mask and do not need any other interfaces	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Professionals in neonatal care are already expert in ventilation with the Endotracheal Tube and do not need any other interfaces	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The LM is more invasive than the Face Mask and may provoke damage to the patient	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The LM is not available in emergency (delivery) ward	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Professionals in neonatal care are not confident with the LM use	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The LM is indicated only in the few cases in which the Face Mask ventilation fails	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The LM is indicated only in the few cases in which the Tracheal intubation fails	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 42. **In your opinion, how important is it to invest in the use of the LM by delivery room personnel?**

- Not important
- Quite important
- Very important

* 43. In your opinion, how important are the following actions to implement the use of the LM in neonatal resuscitation?

	not important	quite important	very important
Availability of the LM in all delivery wards	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reduction of the costs of the LM	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Availability of a simpler model to use than the existing ones	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Availability of smaller sizes (e.g. for the preterm infants)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Theoretical lessons (eg webinars or online lessons) held by experts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dissemination of didactic material (eg videos, tutorials) on its use	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
More practical exercises on neonatal manikin	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Practical exercises on patients (pediatric or adult) induced by anesthesia under the supervision of an expert user (e.g. anesthesiologist)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Presence in the delivery room of an expert in the use of LM who supervises inexperienced professionals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other (please specify)

44. **Please write any comments or feedback here:**