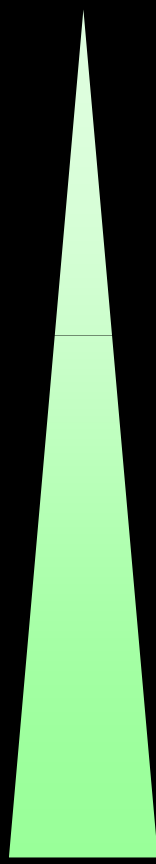
Když nemohu prodýchnout ...

Lukáš Dadák, Karel Pelikán

Level of airway instrumentation

Aneb aby bylo hned od počátku jasno....



Spontanous Vent.

Face Mask

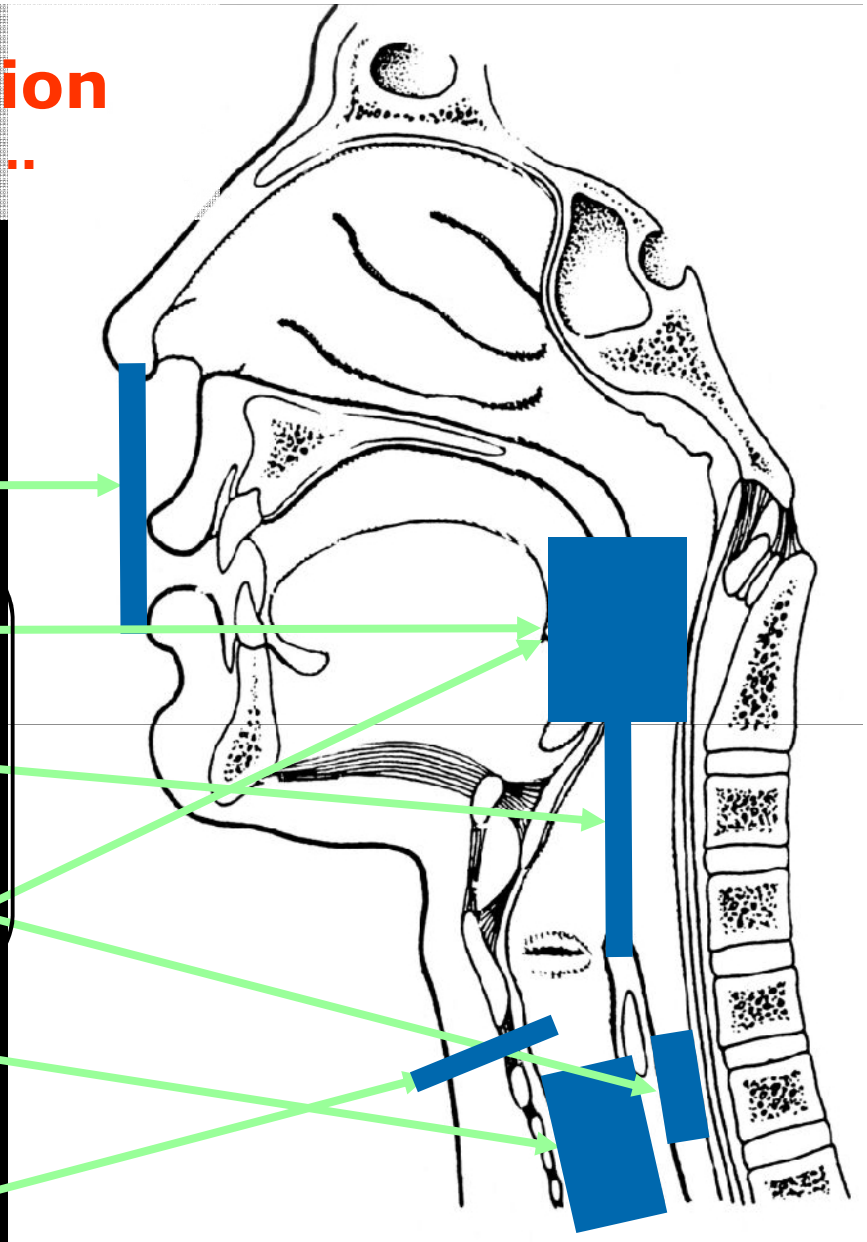
Cuffed oral airways

Supraglottic (SGA)

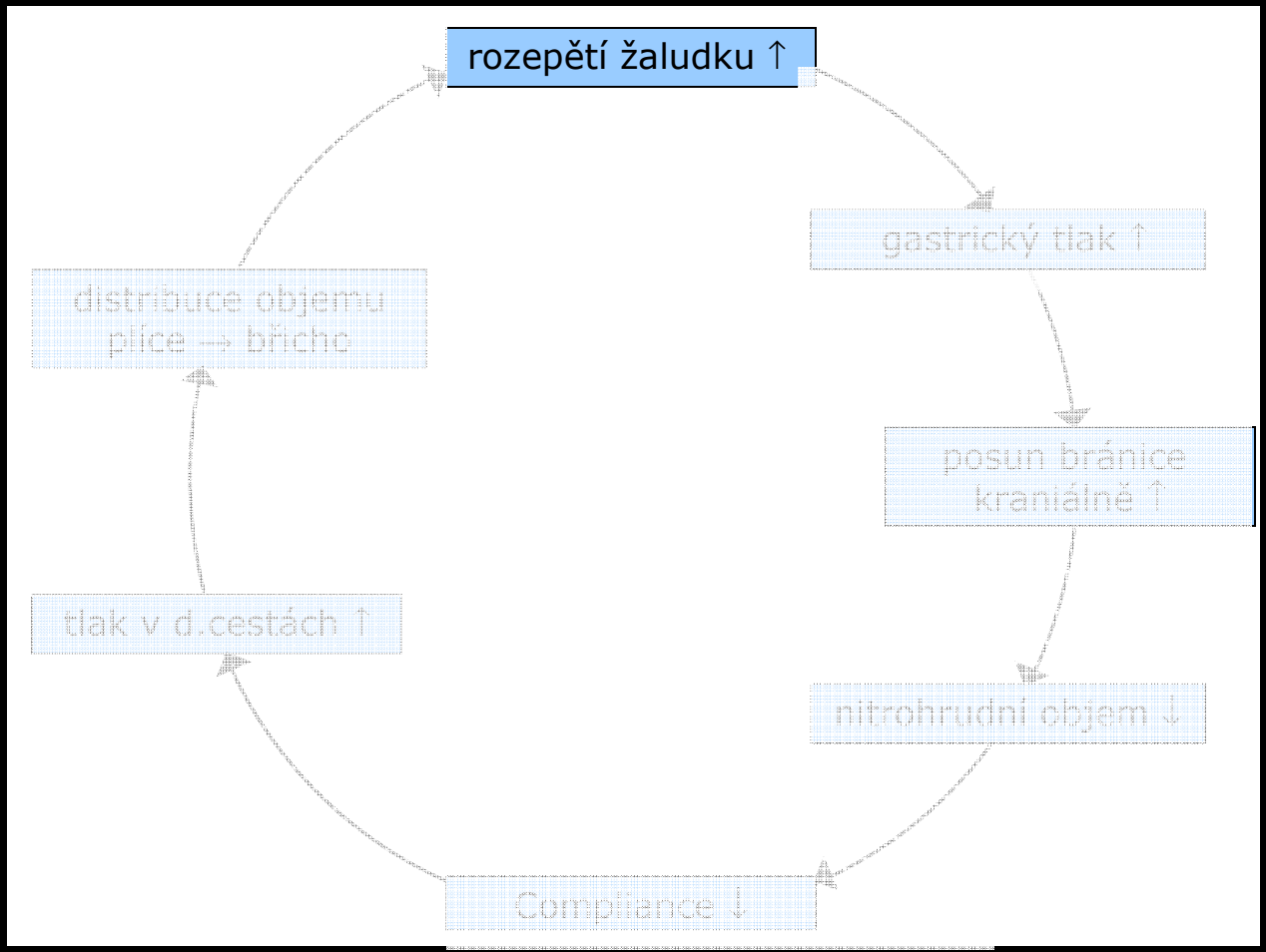
Eso. closing tube

Tracheal tube

Surgical airway

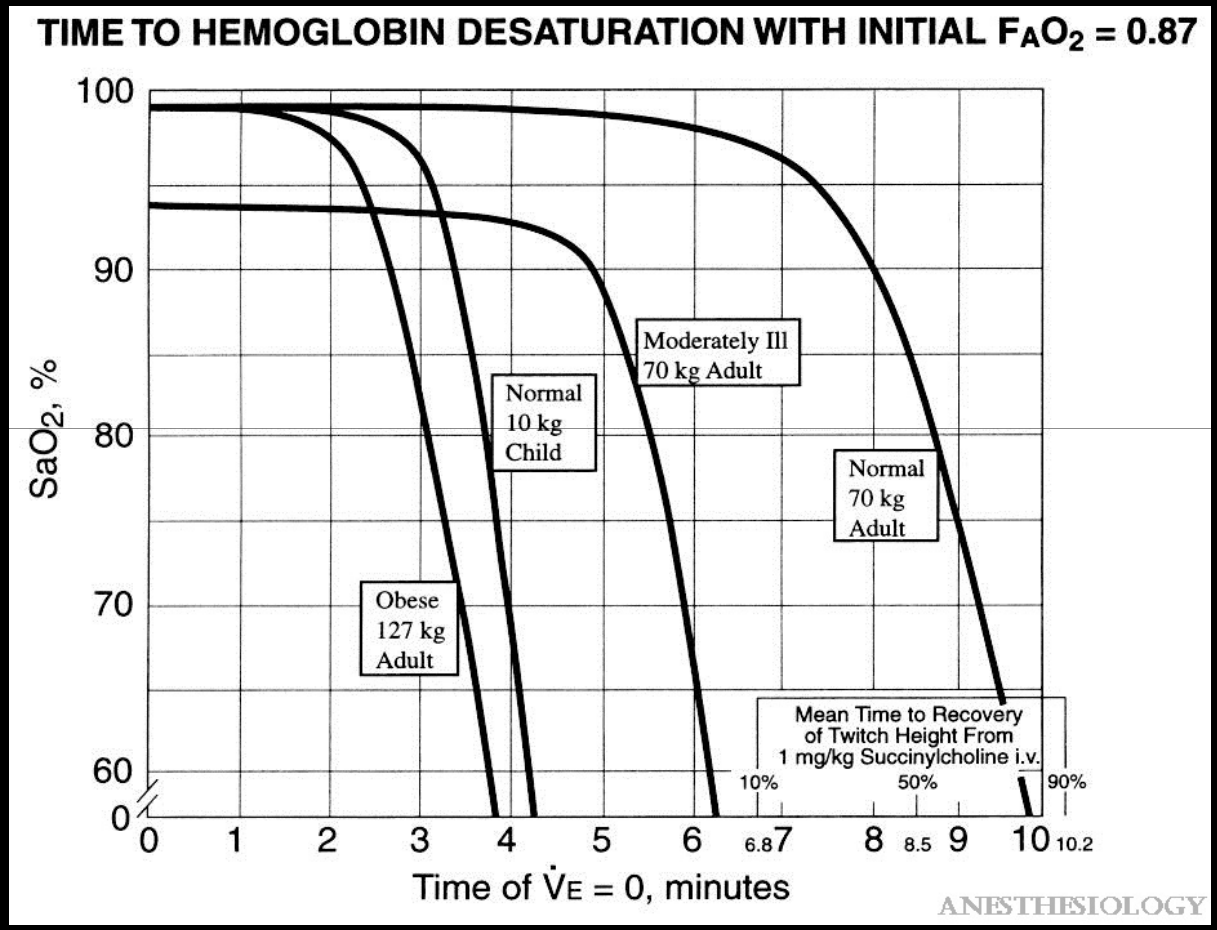


Selhání ventilace obličejovou maskou



Nach Wenzel et al., Resuscitation 1998; 38: 113-8

Desaturace



Benumof, J. L. et al. Critical Hemoglobin Desaturation Will Occur before Return to an Unparalyzed State following 1 mg/kg Intravenous Succinylcholine. Anesthesiology. 87(4):979-982, 1997.

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Potíže s intubací na sále a mimo něj

	OR[1]	Out-of-hospital[2]
Total no. of patients	18205	1106
>= 3 attempts	**1.5%**	**5.5 %**
Failed	**0.3%**	**2.0 %**
Difficult or awkward intubation	**4.3%**	**14.8 %**

[1] **Rose DK, Cohen MM. Can J Anaesth 1994**
[2] **Timmermann et al., Resuscitation, 2006**

Nárůst komplikací prolongované intubace

Table 5. Complications by Intubation Attempts

Complication	2 or fewer attempts (90%)	>2 attempts (10%)*
Hypoxemia	10.5%	70%
Severe hypoxemia	1.9%	28%
Esophageal intubation	4.8%	51.4%
Regurgitation	1.9%	22%
Aspiration	0.8%	13%
Bradycardia	1.6%	18.5%
Cardiac arrest	0.7%	11%

* All categories $P < 0.001$ when comparing 2 or fewer attempts to >2 attempts.

Mort TC: Emergency Tracheal Intubation: Complications Associated with Repeated Laryngoscopic Attempts. Anesth Analg 2004;99:607–13

To se mi nemůže stát ...

Final outcome of all reports.

	All reports	Anaesthesia	ICU	ED
Death	38	16	18	4
Brain damage	8	3	4	1
Other permanent harm	10	6	3	1
Full recovery	124	106	9	9
Unrelated death	4	2	2	0

Specialty and grade of the practitioner managing the airway at the time of the reported emergency department event.

Grade and specialty	Number
Consultant or Associate Specialist in anaesthesia	7
Specialist Trainee Year 7 (ST7) in anaesthesia	1
Specialist Trainee Year 6 (ST6) in critical care (non-anaesthetist)	2
Specialist Registrar (Year unrecorded) in emergency medicine	1
Specialist Trainee Year 3 (ST3) in anaesthesia	3
Acute Care Common Stem Trainee in anaesthesia (5 months experience)	1

"Airway management complications during anaesthesia, in intensive care units and in emergency departments in the UK"

Nicholas M. Woodall

Trends in Anaesthesia and Critical Care 2 (2012) 58–64

The LMA™ in a difficult airway algorithm

Gilles Dhonneur

Professor of Anesthesiology and Intensive Care Medicine
Jean Verdier University Hospital of Paris, Bondy
Paris XIII University, Bobigny School of Medicine

Gilles Algorithm

Induction

(unexpected DAM in OR)

↓

Facemask ventilation

Gilles Algorithm

Induction

(unexpected DAM in OR)

↓

Facemask ventilation

Ventilation/Oxygenation (V/0)

↘

Impossible

Gilles Algorithm

Induction

(unexpected DAM in OR)

↓

Facemask ventilation

Ventilation/Oxygenation (V/0)

↘

Impossible

Gilles Algorithm

Call for help

Induction

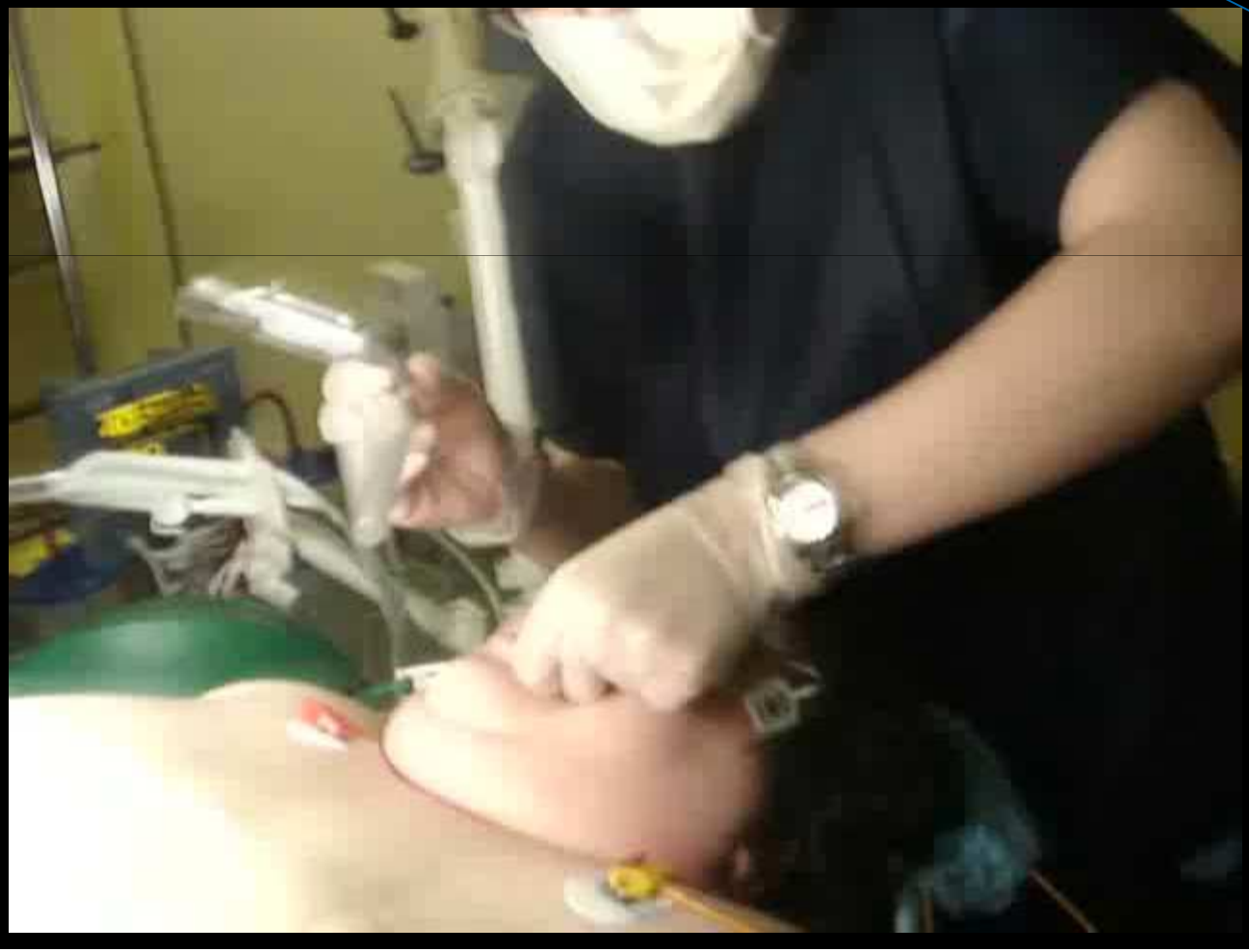
(unexpected DAM in OR)

↓

Facemask ventilation

Ventilation/Oxygenation (V/0)

→ Impossible



LMA™ SUPREME

Výhody: zavedení a okamžitá oxygenace v jakékoliv poloze, simultánní aktivní odsávání z dýchacích cest během zavádění – špička Supreme vyčistí HCD

Gilles Algorithm

Induction

(unexpected DAM in OR)

Facemask ventilation

Ventilation/Oxygenation (V/0)

Impossible

Step 1

Rescue LMA Fastrach V/O
LMA Supreme

\-

\+

Step 2

Trans -Tracheal V/O

Gilles Algorithm

Induction

(unexpected DAM in OR)

Scenario 2

Tracheal Intubation (OTI)

+

Facemask ventilation

Difficult

Scenario 1

Ventilation/Oxygenation (V/0)

Impossible

Step 1

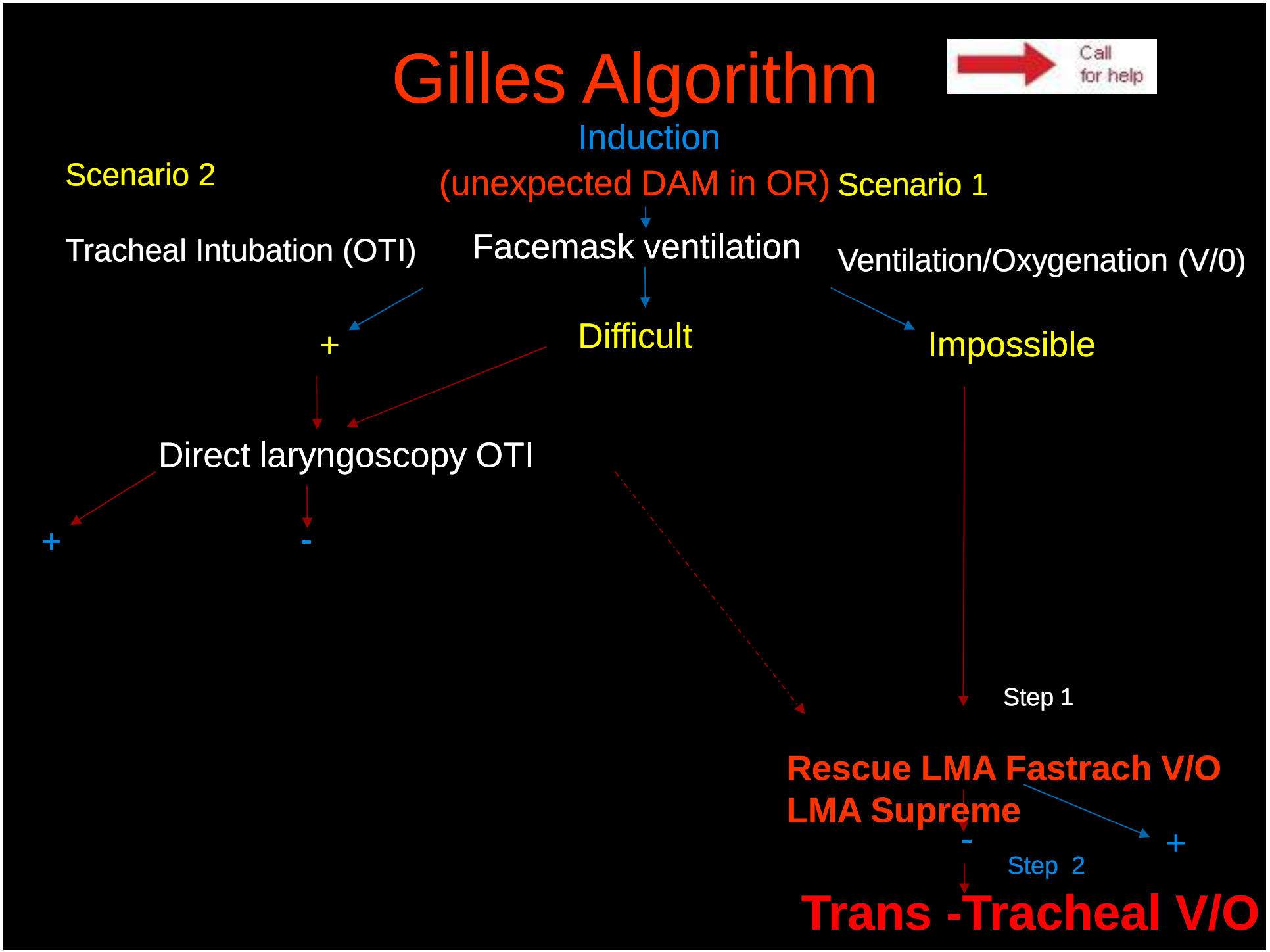
Rescue LMA Fastrach V/O
LMA Supreme

-

+

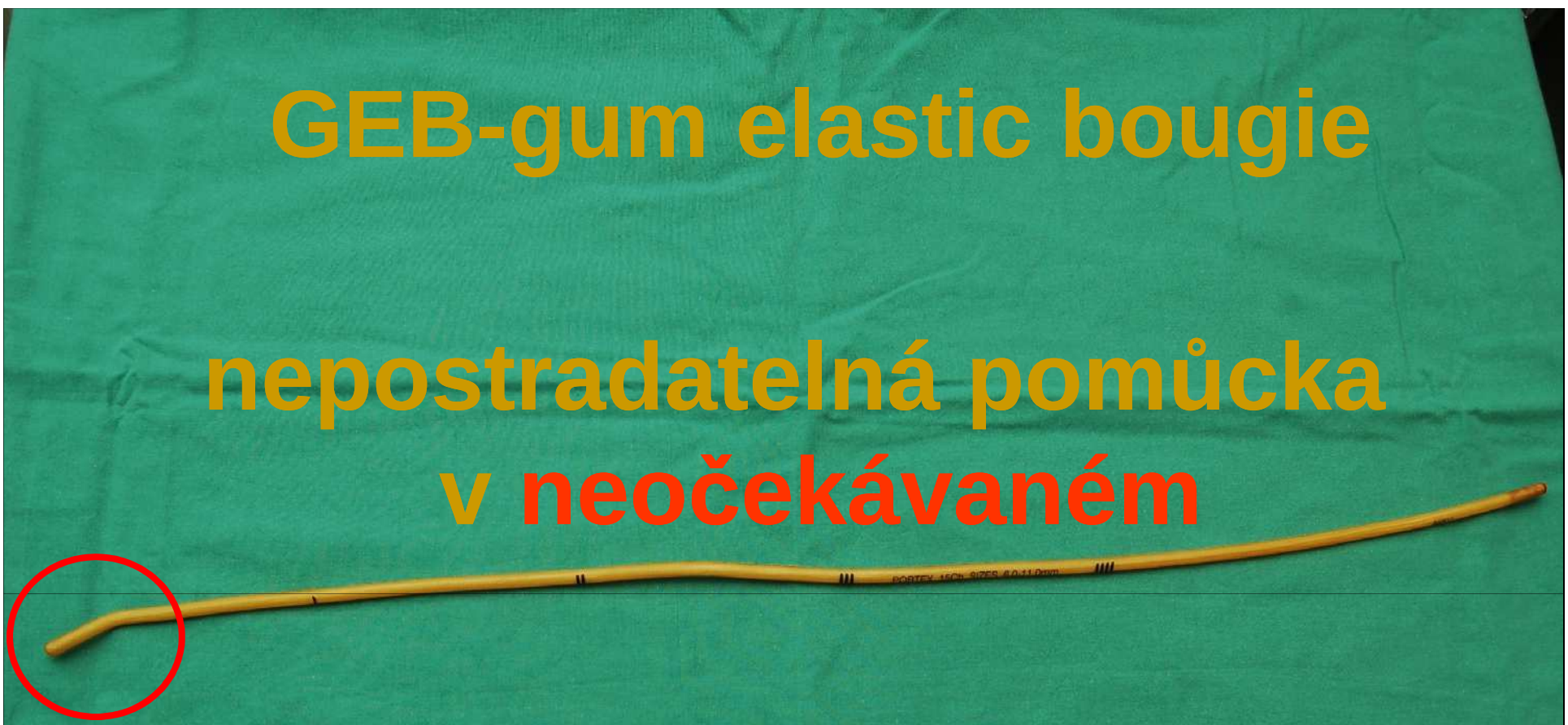
Step 2

Trans -Tracheal V/O


Gilles Algorithm
Call for help
Induction
(unexpected DAM in OR)
Scenario 2
Scenario 1
Tracheal Intubation (OTI)
Facemask ventilation
Ventilation/Oxygenation (V/0)
+
Difficult
Impossible
Direct laryngoscopy OTI
+
-
Step 1
Rescue LMA Fastrach V/O
LMA Supreme
-
+
Step 2
Trans -Tracheal V/O

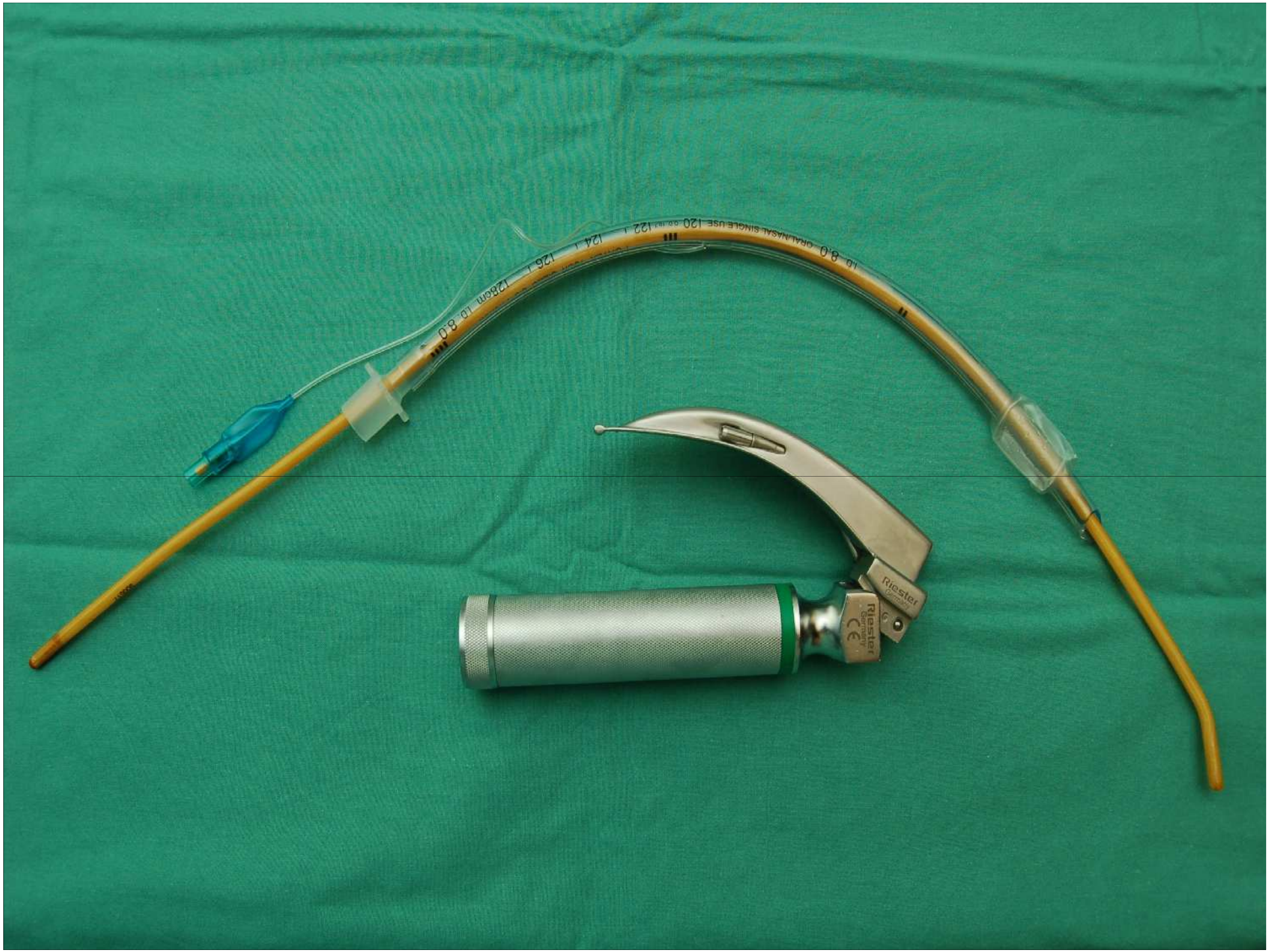
GEB-gum elastic bougie

nepostradatelná pomůcka v neočekávaném

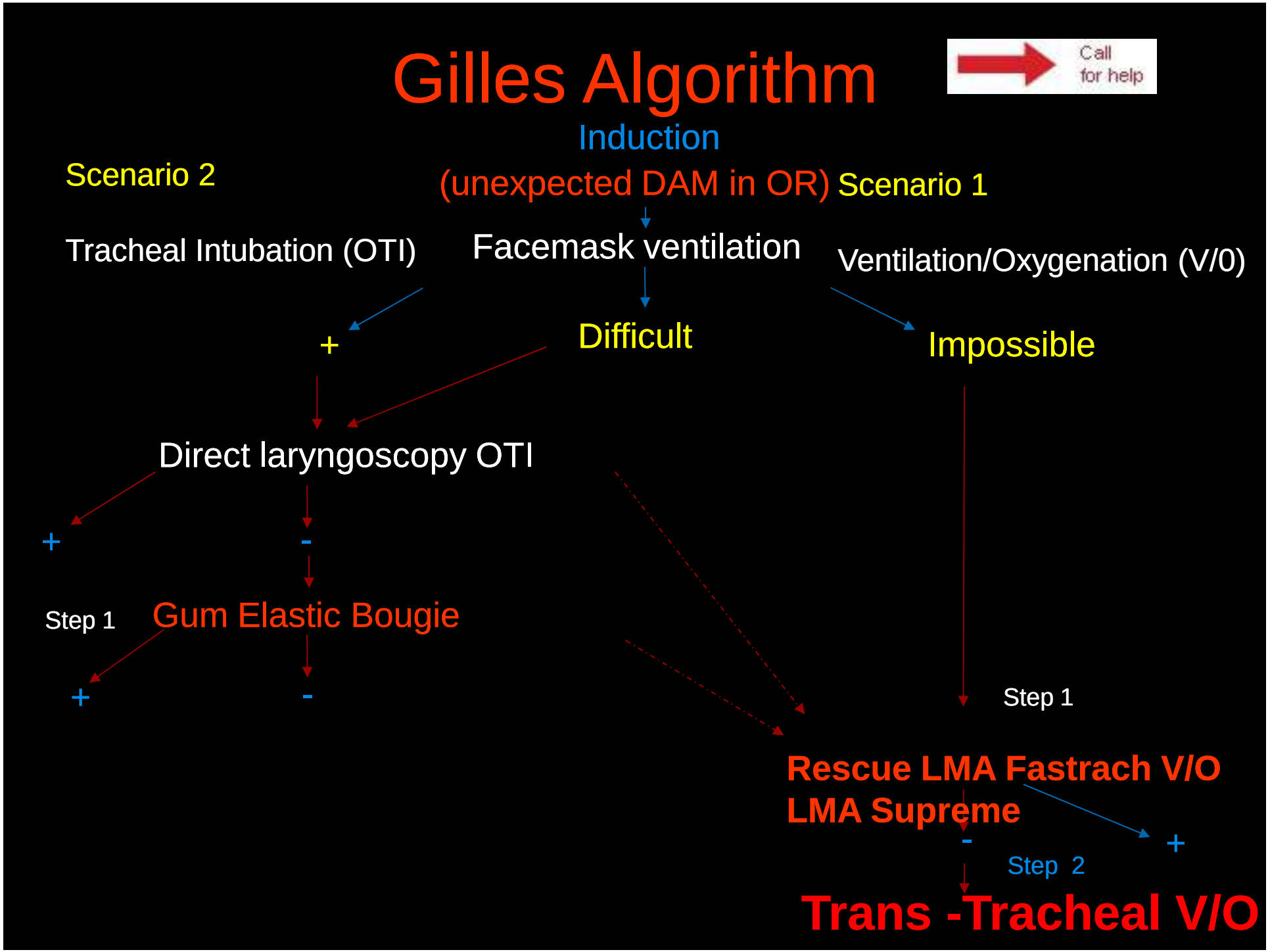


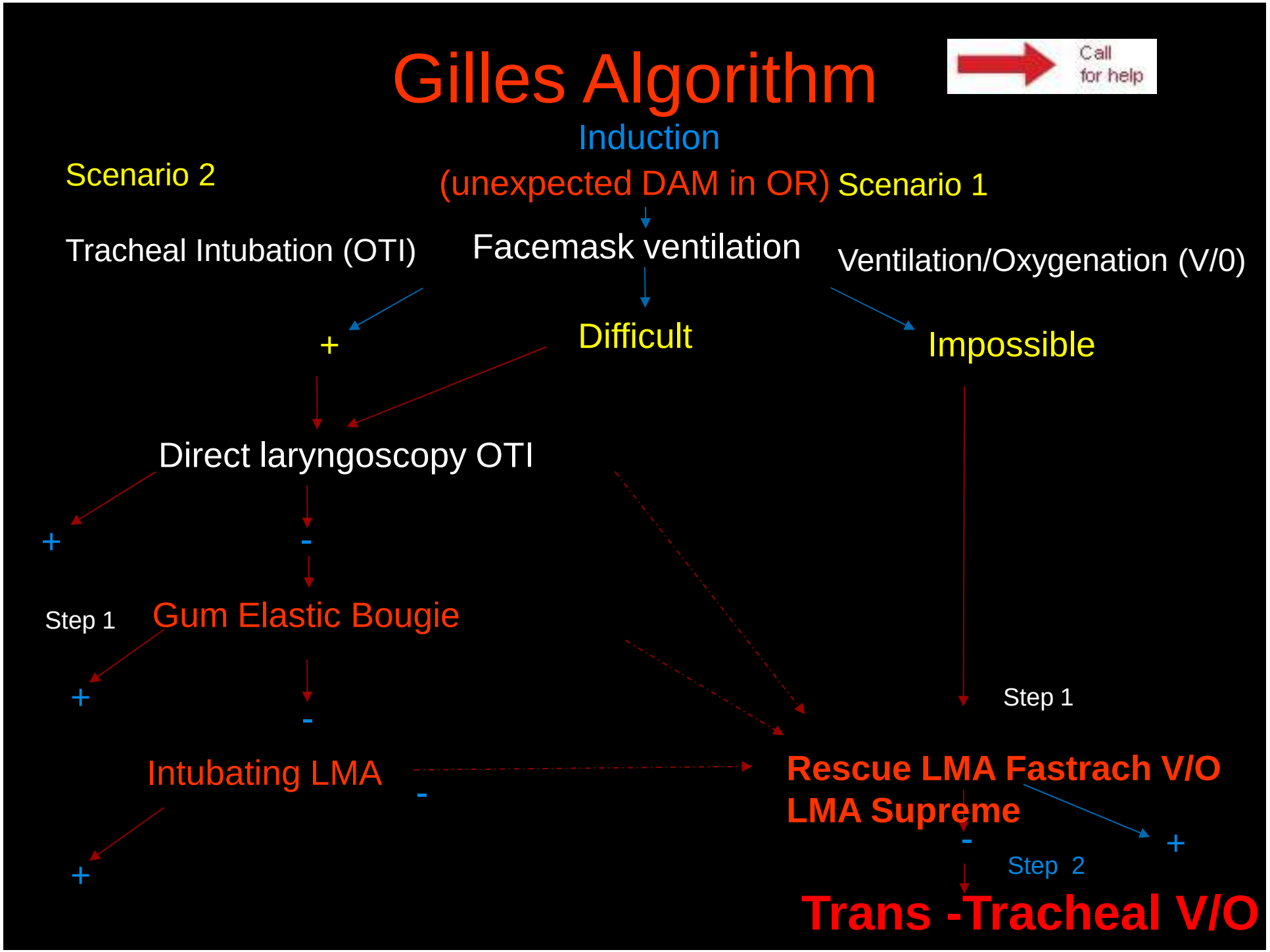
obtížném zabezpečení dýchacích cest

ESCHMANN


Riester
Germany
CE

I.D. 8.0


Gilles Algorithm
Call for help
Induction
(unexpected DAM in OR)
Scenario 2
Scenario 1
Tracheal Intubation (OTI)
Facemask ventilation
Ventilation/Oxygenation (V/0)
+
Difficult
Impossible
Direct laryngoscopy OTI
+
-
Step 1
Gum Elastic Bougie
+
-
Step 1
Rescue LMA Fastrach V/O
LMA Supreme
-
+
Step 2
Trans -Tracheal V/O

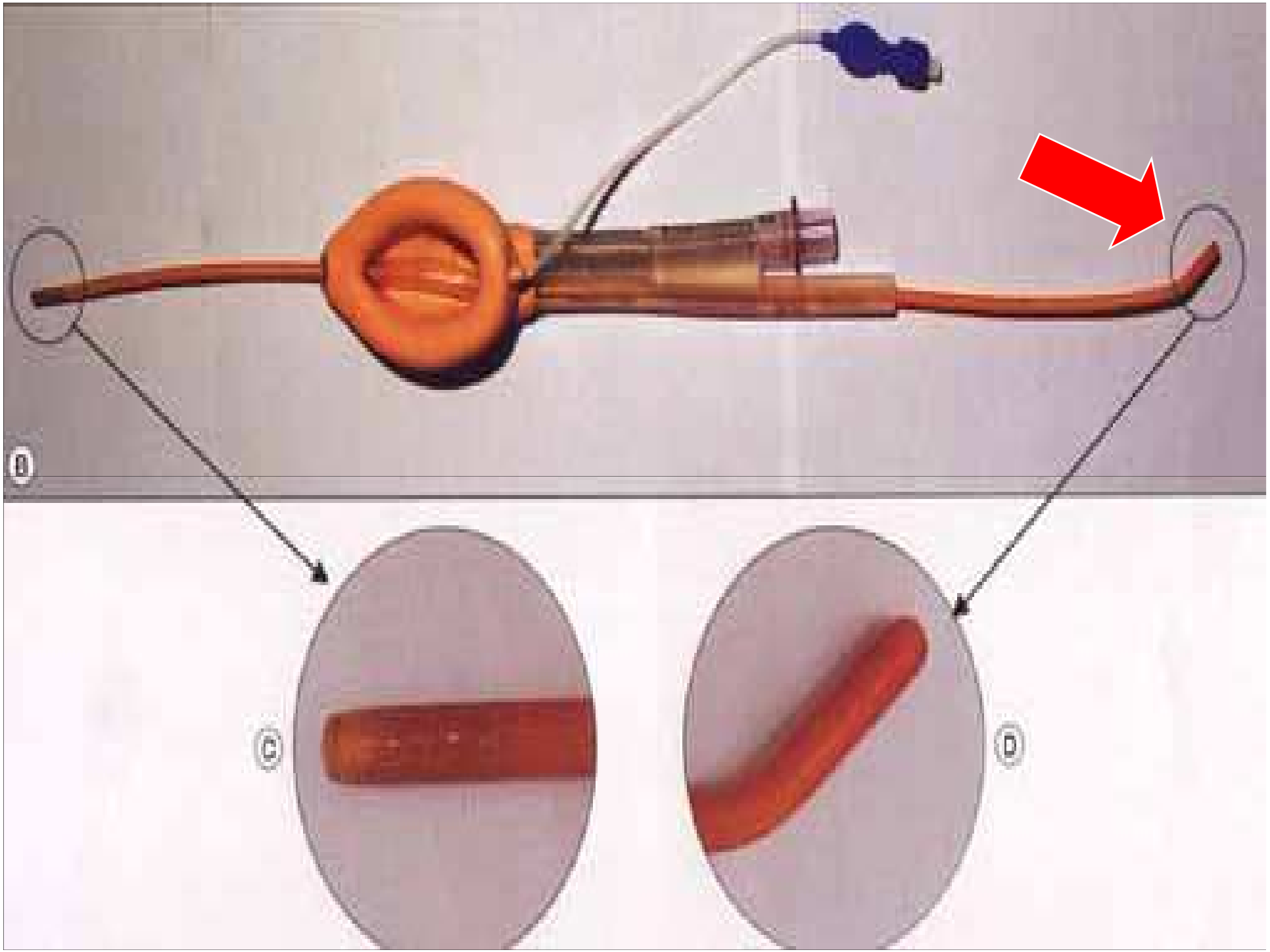

Gilles Algorithm
Call for help
Induction
(unexpected DAM in OR)
Scenario 2
Scenario 1
Tracheal Intubation (OTI)
Facemask ventilation
Ventilation/Oxygenation (V/0)
+
Difficult
Impossible
Direct laryngoscopy OTI
+
-
Step 1
Gum Elastic Bougie
+
-
Step 1
Intubating LMA
-
Rescue LMA Fastrach V/O
LMA Supreme
+
+
-
Step 2
Trans -Tracheal V/O

Metody zavedení LMA

Laryngoscope guided - gum elastic bougie technique:

poprvé popsána v r. 2002:

Howarth A, Brimacombe J, Keller C. Gum elastic bougie guided placement of the ProSeal LMA.Can J Anesth 2002, 49, 528-529


B
C
D

Závěr 1: LMA

- Rychlá, elegantní, bezpečná pomůcka v DAM
- Menší traumatizace pacientů
- Cílem není vždy intubovat, ale vždy oxygenovat

Závěr 2: G.E.B.

- GEB - elegantní pomůcka v DAM
- Menší traumatizace pacientů
- Dostupnost při každém zajištění dýchacích cest
- 4 možnosti použití (2xBATI,1xBALMI,1xBACT)