

Helene kommt nicht

Thierry Girard, Basel



# Atemlos





E35 2



Gotthard

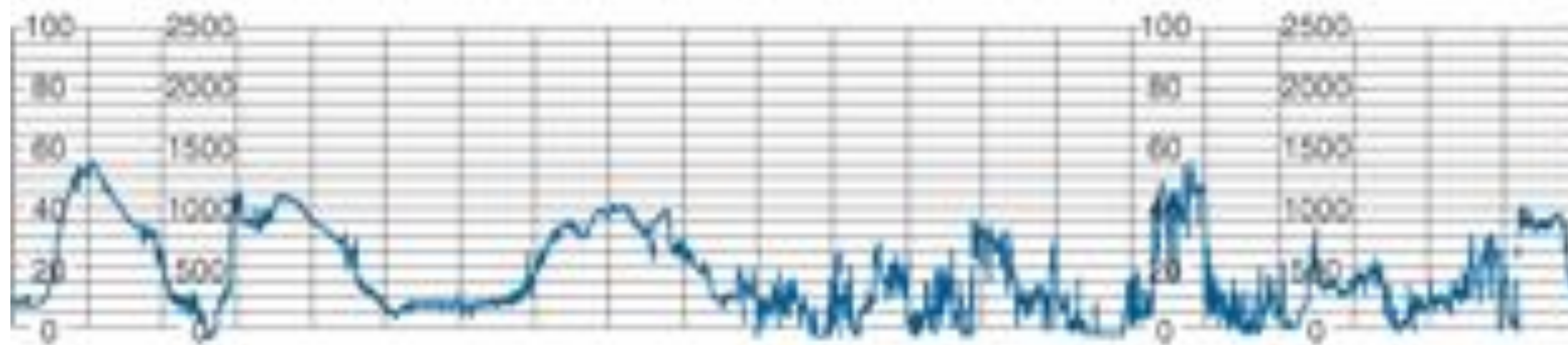
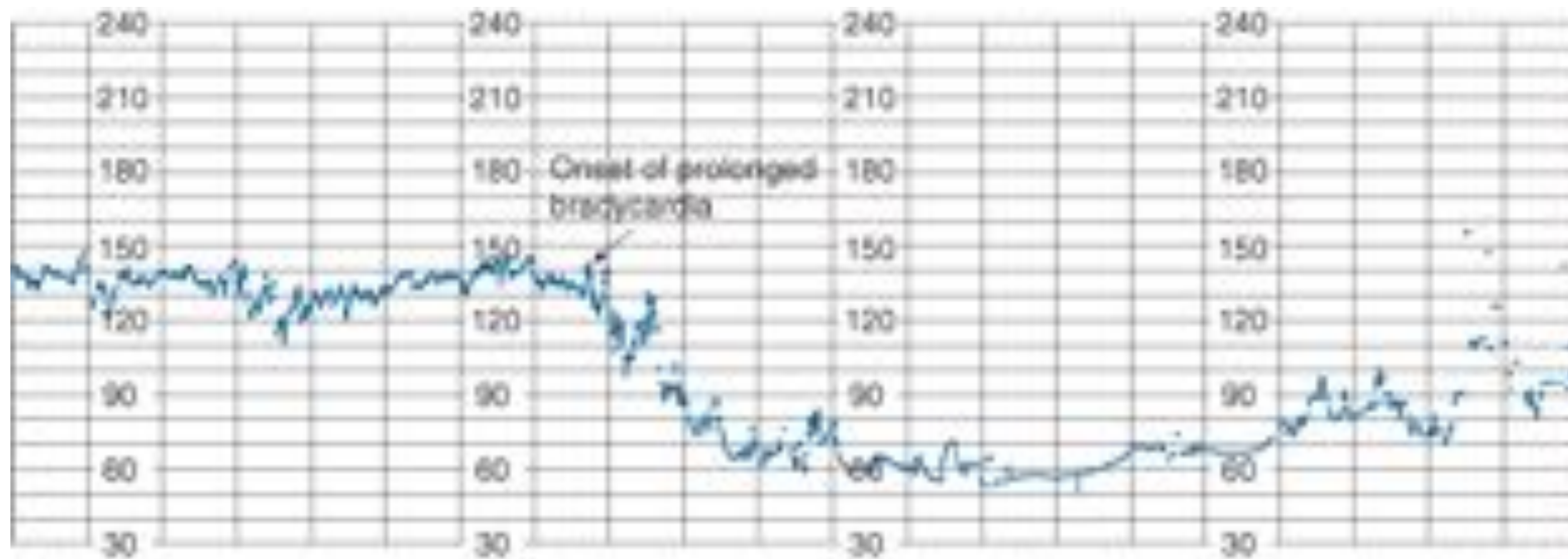
Gotthardpass

offen  
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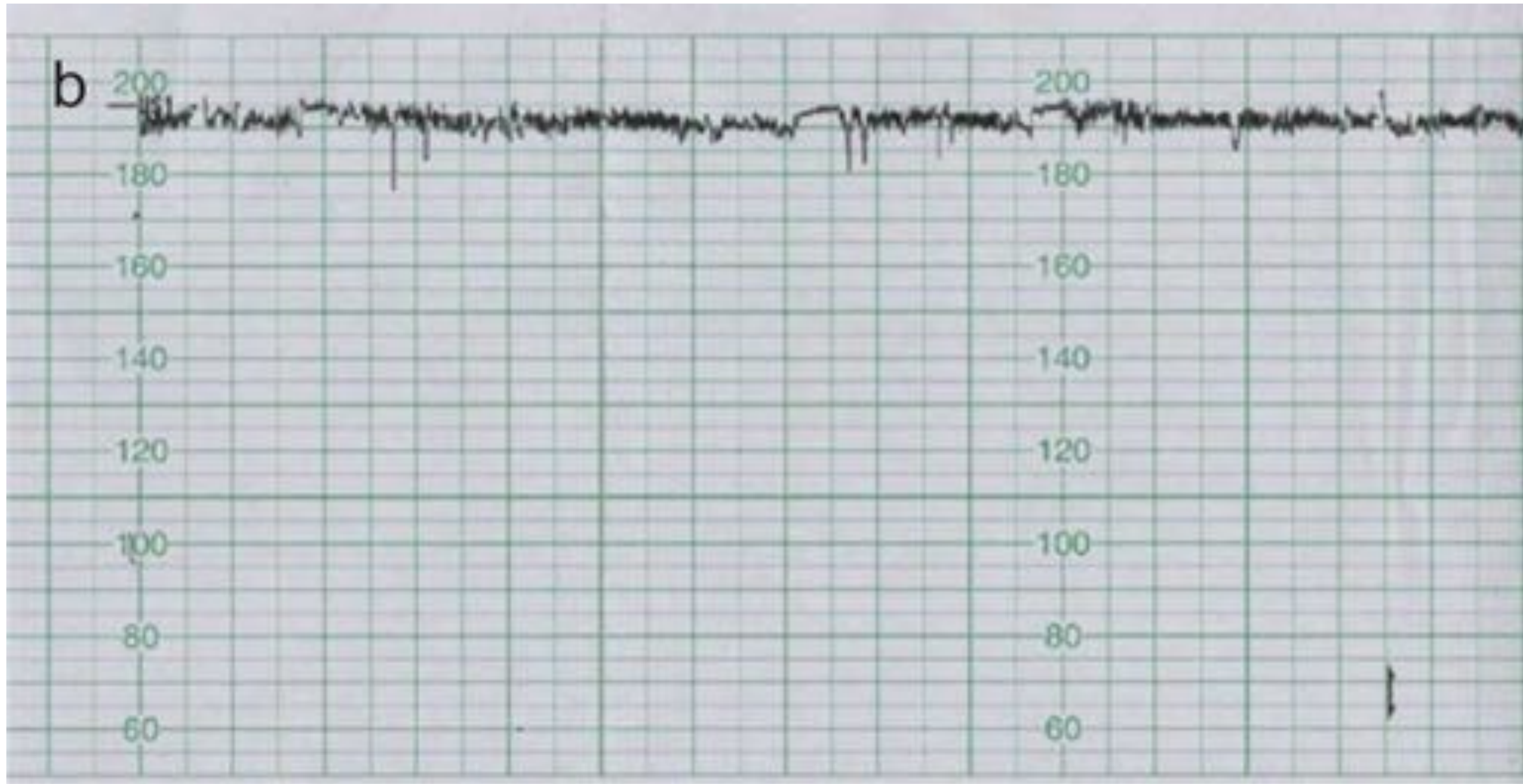
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Eine interdisziplinäre Zusammenarbeit für die Sicherheit der werdenden Mütter und Neugeborenen

# Neonatale Erstversorgung – interdisziplinäre Empfehlungen

**Mitglieder der multidisziplinären Arbeitsgruppe: Prof. Dr. med. Thierry Girard<sup>a</sup>, Dr. med. Christof Heim<sup>b</sup>, Prof. Dr. med. René Hornung<sup>c</sup>, Prof. Dr. med. Irene Hösli<sup>d</sup>, Dr. med. Sebastian Kraye<sup>e</sup>, Dr. med. Marc-Alain Panchard<sup>f</sup>, PD Dr. med. Riccardo Pfister<sup>g</sup>, Prof. Dr. med. Gabriel Schär<sup>h</sup>, Sabrina Schipani<sup>i</sup>**

<sup>a</sup> Präsident SAOA, Basel, <sup>b</sup> Generalsekretär SGAR, Bern/Chur, <sup>c</sup> Past Präsident Chefärztekonzferenz gynécologie suisse, St. Gallen,

<sup>d</sup> gynécologie suisse, Basel, <sup>e</sup> Vorstandsmitglied SGAR, Zürich, <sup>f</sup> Vorstandsmitglied SGP, Vevey, <sup>g</sup> SGN, Genève,

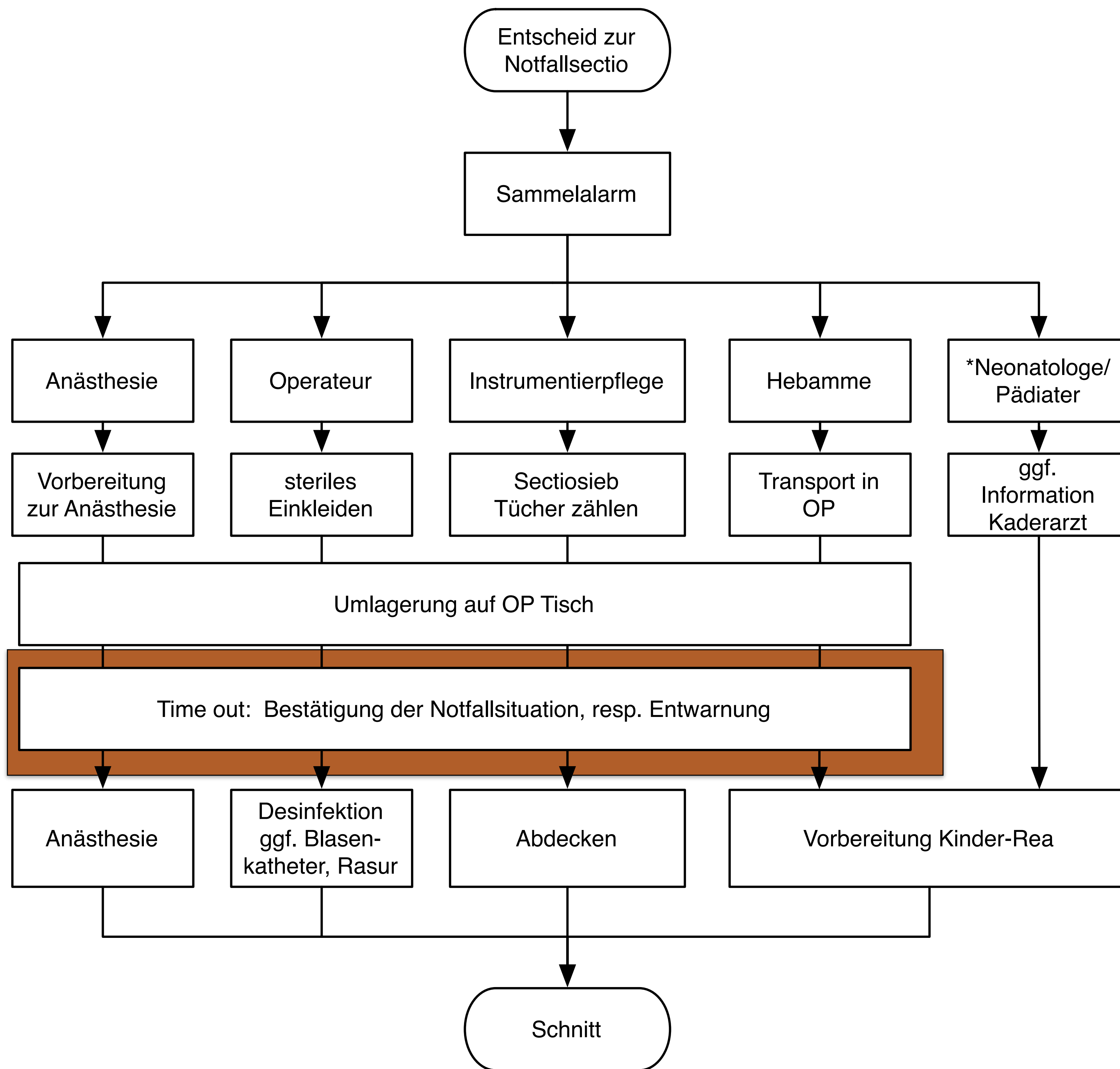
<sup>h</sup> Past Präsident gynécologie suisse, Aarau, <sup>i</sup> Zentralvorstandsmitglied SHV, Uster

# Vier Stufen der Dringlichkeit

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**Tabelle 1:** Vier Stufen der Dringlichkeit zur Durchführung eines Kaiserschnitts [2].

<b>Grad</b>	<b>Begriff</b>	<b>Definition</b>	<b>Entscheid – Entbindungszeit</b>
1	Notfall (= Blitzsectio oder Notsectio)	Lebensbedrohlicher Notfall, für Mutter/Kind (z.B. schwere Bradykardie, Uterusruptur)	So schnell wie möglich
2	Dringend	Maternale oder fetale Beeinträchtigung, die nicht direkt lebensbedrohlich ist (z.B. Geburtsstillstand mit maternaler oder fetaler Beeinträchtigung)	Innerhalb 60 Minuten
3	Ungeplant, nicht dringlich (Sectio «ohne Eile»)	Keine Beeinträchtigung von Mutter/Kind, aber Sectioindikation gegeben (z.B. Geburtsstillstand ohne maternale oder fetale Beeinträchtigung)	Nach Absprache, bei Geburtsstillstand in der Regel innerhalb 2 Stunden
4	Geplant	Geplanter Eingriff	Spätestens am Vortag im OP-Programm eingeplant





# Indikation für präpartale Verlegung

**Tabelle 3:** Indikationen für eine präpartale Verlegung [1].

	<b>Absolute Indikationen</b>	<b>Relative Indikationen</b>
<b>Kindliche Faktoren</b>	<ul style="list-style-type: none"><li>– Drohende Frühgeburt vor 32 0/7 SSW</li><li>– Vorausssehbare schwere Anpassungsstörungen, die intensivmedizinische Massnahmen erfordern</li><li>– Höhergradige Mehrlinge (Drillinge und mehr)</li><li>– Pränatal diagnostizierte, versorgungsbedürftige Fehlbildungen</li></ul>	<ul style="list-style-type: none"><li>– Intrauterine Infektion</li><li>– Hämolytische Erkrankung des Feten</li><li>– Fetale Rhythmusstörungen</li><li>– Intrauterine Mangelentwicklung (fetales Gewicht &lt;5. Perzentile)</li><li>– Fetus mit letalen Fehlbildungen, wenn intensivmedizinische Massnahmen nicht als sinnvoll erachtet</li></ul>
<b>Mütterliche Faktoren</b>		<p>Chronische oder instabile Erkrankung der Mutter (Hypertonie, Präeklampsie, HELLP-Syndrom, Diabetes mellitus, Zustand nach Transplantation, Autoimmunopathien usw.)</p> <p>Mütterlicher Suchtmittelkonsum</p>
<b>Strukturelle Faktoren</b>	Falls keine Neonatologie-Abteilung: <34 0/7–35 0/7 SSW oder <2000 g	

# Checkliste zur präpartalen Anästhesievorstellung

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**Tabelle 6:** Checkliste zur präpartalen Anästhesievorstellung.

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## **Anästhesie**

- Probleme bei früheren Anästhesien
- Maligne Hyperthermie
- Pseudocholinesterase-Mangel
- Poly-Allergien (Medikamente, Latex)

## **Mütterliche Systemerkrankungen**

(mit relevanten Symptomen und Therapien)

- Pulmonale Erkrankung
- Kardiovaskuläre Erkrankung
- Gefäßmissbildungen
- Gerinnungsstörung (inkl. Medikation mit niedermolekularem Heparin)
- Neuromuskuläre Erkrankung
- Psychiatrische Erkrankung
- Ablehnung von Blutprodukten (z.B. Zeugin Jehovas)

## **Mütterliche Anatomie**

- Pathologie der Wirbelsäule und des Beckens
- Krankheiten des Zentralnervensystems
- Kraniofaziale Abnormalität
- Adipositas Grad  $\geq$ III (ab ca. BMI >40)

## **Schwangerschaftsrisiken**

- Plazentationsstörungen (praevia, accreta, increta, percreta)
  - Fetale Fehlbildungen
  - Präeklampsie
  - Mehrlinge
-





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# Diagnosis and Management of Arrest Disorders: Duration to Wait

Yasser Y. El-Sayed, MD

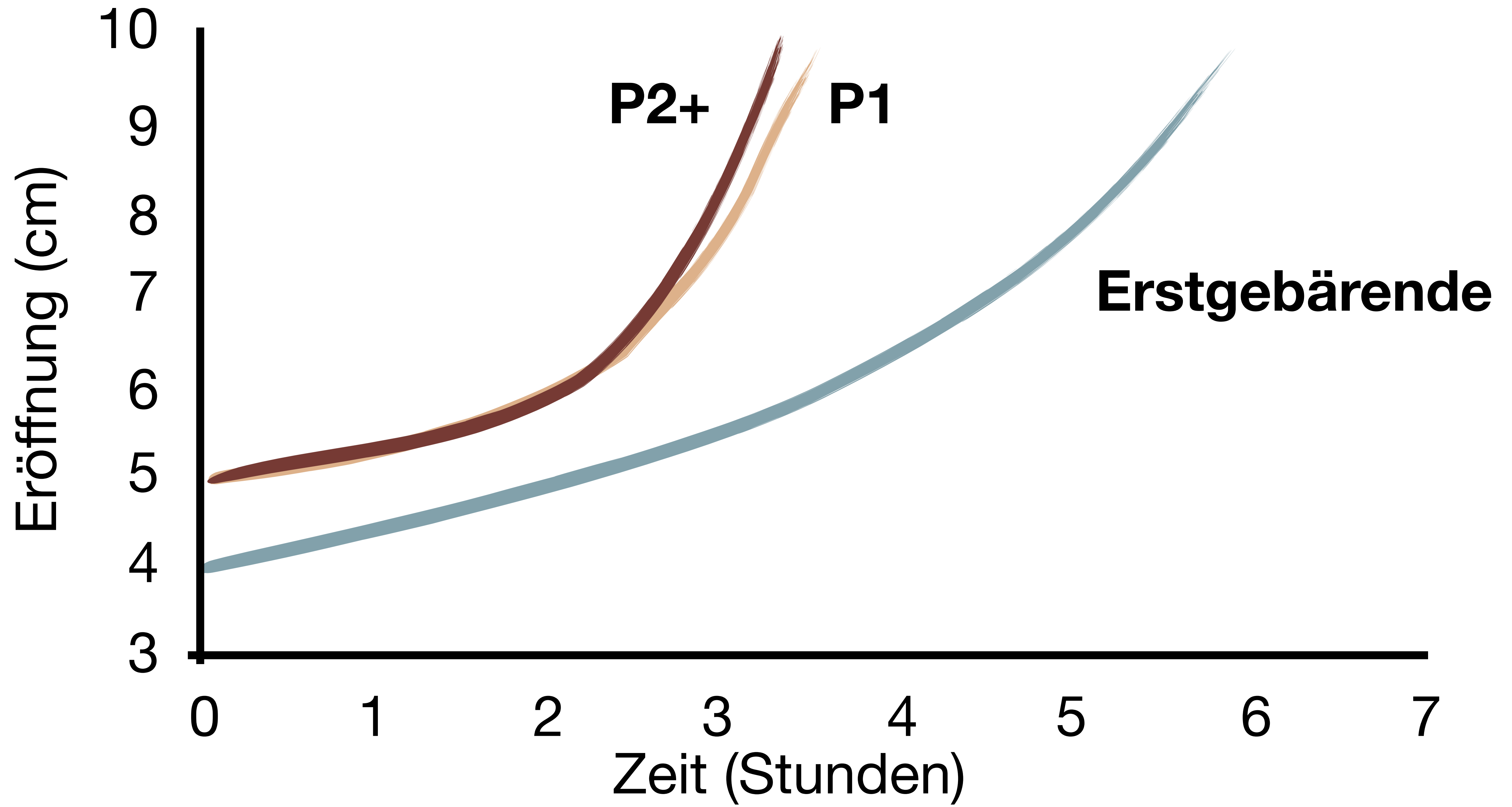
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To assess the thresholds of normal and protracted labor in contemporary US parturients. Select studies addressing first- and second-stage labor duration among contemporary cohorts of women in the United States were reviewed. Particular emphasis was placed on the work of the Consortium on Safe Labor. Duration of labor appears longer today than in the past. For both nulliparous and multiparous women, labor may take >6 hours to progress from 4 to 5 cm and >3 hours to progress from 5 to 6 cm of dilation. A cervical dilation of 6 cm appears to be a better landmark for the start of the active phase. The 95th percentile for duration of the second stage in a nulliparous woman with conduction anesthesia is closer to 4 hours. Current data on first and second stages of labor allow for an opportunity to reconsider traditionally accepted thresholds of normal and protracted labor, and thus affect consequent labor management paradigms.

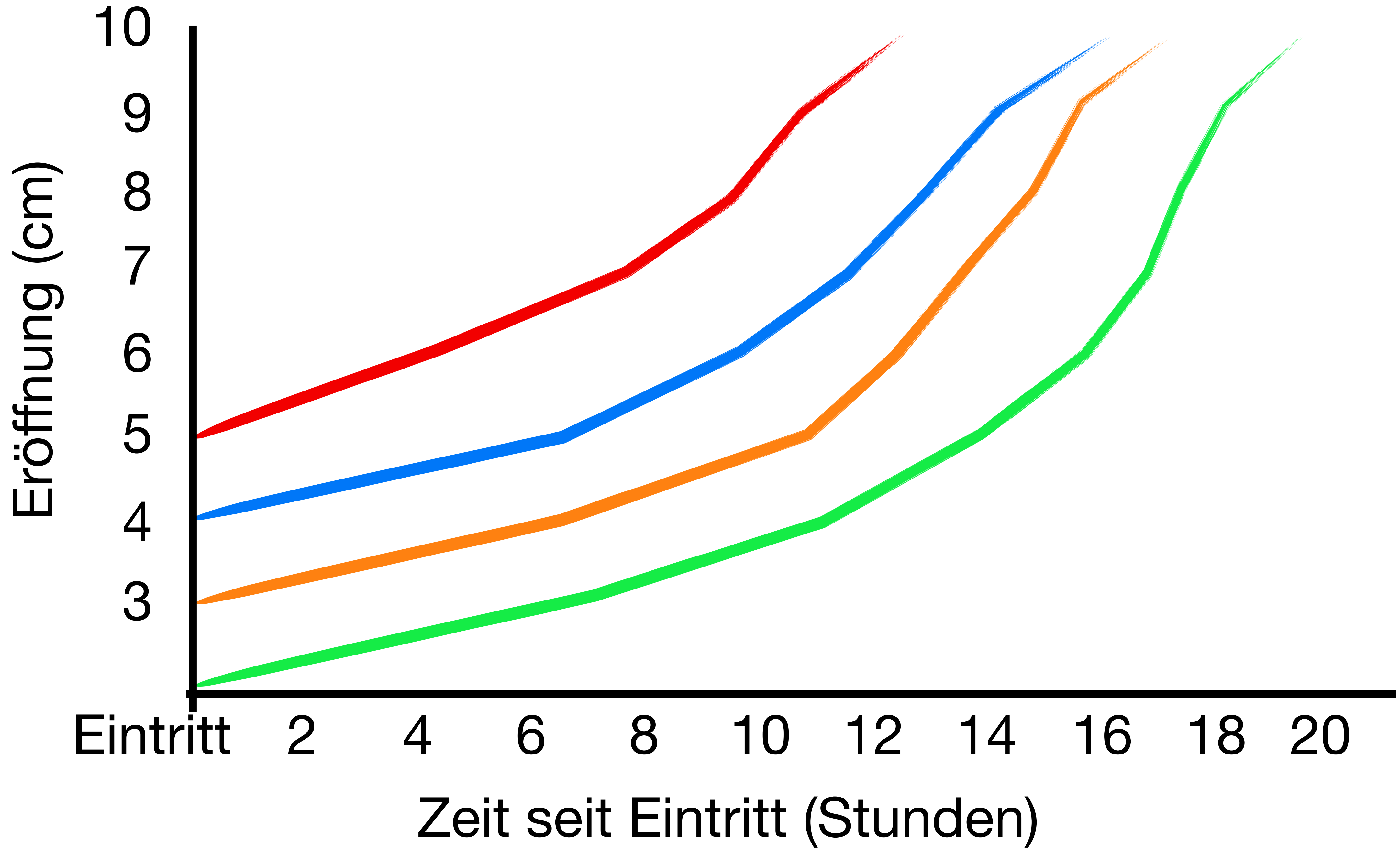
Semin Perinatol 36:374-378 © 2012 Elsevier Inc. All rights reserved.

**KEYWORDS** labor, arrest, first and second stage

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Contents lists available at [ScienceDirect](#)

# European Journal of Obstetrics & Gynecology and Reproductive Biology

journal homepage: [www.elsevier.com/locate/ejogrb](http://www.elsevier.com/locate/ejogrb)



Review

## First versus second stage C/S maternal and neonatal morbidity: a systematic review and meta-analysis

Vasileios Pergialiotis<sup>\*</sup>, Dimitrios G. Vlachos, Alexandros Rodolakis,  
Dimitrios Haidopoulos, Nikolaos Thomakos, Georgios D. Vlachos

*1st Department of Obstetrics and Gynecology, Athens University, Medical School, Alexandra Hospital, 80, Vasilisis Sofias Avenue, Greece*





# Comparison of techniques used to deliver a deeply impacted fetal head at full dilation: a systematic review and meta-analysis

**YB Jeve,<sup>a</sup> OB Navti,<sup>a</sup> JC Konje<sup>a,b,c</sup>**

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Correspondence: Dr YB Jeve, Department of Obstetrics and Gynaecology, University Hospitals of Leicester, Leicester, LE25 WW, UK.  
Email [drybjeve@gmail.com](mailto:drybjeve@gmail.com)

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Geburt aus 'Umgekehrter Beckenendlage'



Hochschieben





# Fetal pillow





# C-Snorkeel



# Anästhesie zur Sectio

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- Regional- vs. Allgemeinanästhesie
- Spinalanästhesie
- Epiduralanästhesie
- Allgemeinanästhesie

# Regional- vs. Allgemeinanästhesie

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- Mortalität
- Blutverlust
- Wundinfekt
- Geburtserlebnis



# Anesthesia-Related Maternal Mortality in the United States: 1979–2002

Joy L. Hawkins, MD, Jeani Chang, MPH, Susan K. Palmer, MD, Charles P. Gibbs, MD, and William Callaghan, MD

**Table 3. Case Fatality Rates and Rate Ratios of Anesthesia-Related Deaths During Cesarean Delivery by Type of Anesthesia in the United States, 1979–2002**

Year of Death	Case Fatality Rates*		Rate Ratios
	General Anesthetic	Regional Anesthetic	
1979–1984	20.0	8.6	2.3 (95% CI 1.9–2.9)
1985–1990	32.3	1.9	16.7 (95% CI 12.9–21.8)
1991–1996	16.8	2.5	6.7 (95% CI 3.0–14.9)
1997–2002	6.5	3.8	1.7 (95% CI 0.6–4.6)

CI, confidence interval.

\* Deaths per million general or regional anesthetics.

# Anästhesie zur Sectio

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- Regional- vs. Allgemeinanästhesie
- Spinalanästhesie
- Epiduralanästhesie
- Allgemeinanästhesie

# Spinalanästhesie

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- Medikamente
- Dosierung
- Blutdruck Management
  - Volume loading
  - Vasopressoren



**10**

**10**

**100**

**5000**



# **Efficacy of low-dose bupivacaine in spinal anaesthesia for Caesarean delivery: systematic review and meta-analysis**

C. Arzola<sup>1\*</sup> and P. M. Wieczorek<sup>2</sup>

<sup>1</sup> Department of Anesthesia and Pain Management, Mount Sinai Hospital and University of Toronto, 600 University Avenue, Room 1514, Toronto, ON, Canada M5G 1X5

<sup>2</sup> SMBD-Jewish General Hospital and McGill University, 3755 Côte Ste-Catherine Road, Room A335, Montreal, QC, Canada H3T 1E2

\* Corresponding author. E-mail: carzola@mtsinai.on.ca

# Niedrig dosiertes Lokalanästhetikum

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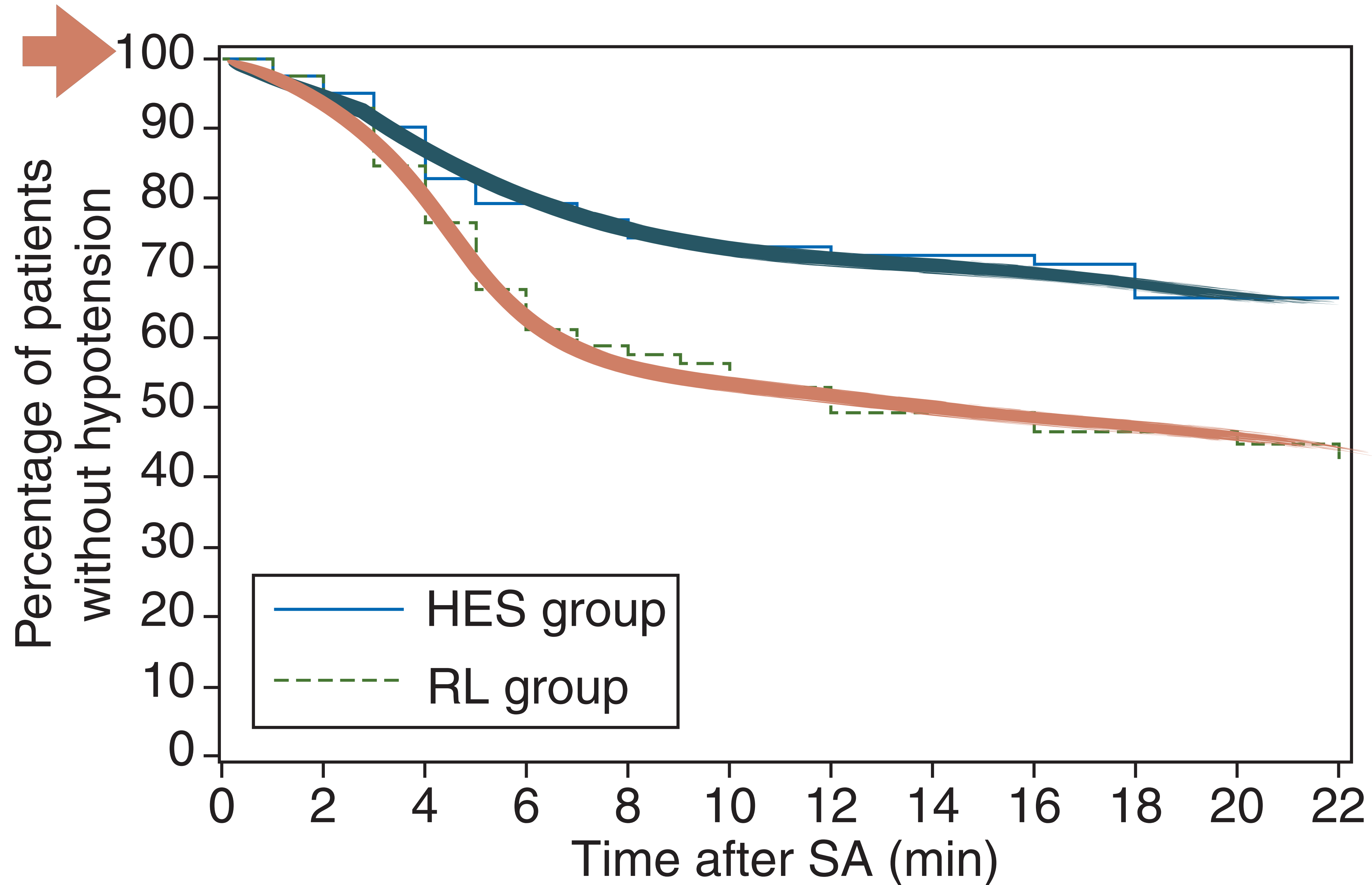
- Weniger Blutdruckabfall
- Weniger Übelkeit & Erbrechen
- Mehr Schmerzen



**OBSTETRICS**

**6% Hydroxyethyl starch (130/0.4) vs Ringer's lactate preloading before spinal anaesthesia for Caesarean delivery: the randomized, double-blind, multicentre CAESAR trial<sup>‡</sup>**

F. J. Mercier<sup>1\*</sup>, P. Diemunsch<sup>2</sup>, A.-S. Ducloy-Bouthors<sup>3</sup>, A. Mignon<sup>4</sup>, M. Fischler<sup>5</sup>, J.-M. Malinovsky<sup>6</sup>, F. Bolandard<sup>7</sup>, A. G. Aya<sup>8</sup>, M. Raucoules-Aimé<sup>9</sup>, D. Chassard<sup>10</sup>, H. Keita<sup>11</sup>, A. Rigouzzo<sup>12</sup> and A. Le Gouez<sup>1</sup>, the CAESAR Working Group<sup>†</sup>



# **Vasopressors for the management of hypotension after spinal anesthesia for elective caesarean section. Systematic review and cumulative meta-analysis**

M. VEESER<sup>1</sup>, T. HOFMANN<sup>1</sup>, R. ROTH<sup>1</sup>, S. KLÖHR<sup>1</sup>, R. ROSSAINT<sup>2</sup> and M. HEESEN<sup>1</sup>

<sup>1</sup>Department of Anaesthesiology, Klinikum am Bruderwald Sozialstiftung Bamberg, Bamberg, Germany and <sup>2</sup>Department of Anaesthesiology, University of Aachen, Aachen, Germany



Phenylephrin

# Anästhesie zur Sectio

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- Regional- vs. Allgemeinanästhesie
- Spinalanästhesie
- Epiduralanästhesie
- Allgemeinanästhesie

# Epiduralanästhesie

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# 20 ml

Chloroprocain 3%

Lidocain 2% + Bikarbonat + Adrenalin

Ropivacain 0.75 %

International Journal of Obstetric Anesthesia (2012) 21, 294–309  
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<http://dx.doi.org/10.1016/j.ijoa.2012.05.007>



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ORIGINAL ARTICLE

# **Risk factors for failed conversion of labor epidural analgesia to cesarean delivery anesthesia: a systematic review and meta-analysis of observational trials**

M.E. Bauer,<sup>a</sup> J.A. Kountanis,<sup>a</sup> L.C. Tsen,<sup>b</sup> M.L. Greenfield,<sup>a</sup> J.M. Mhyre<sup>a</sup>

<sup>a</sup> *Department of Anesthesiology, University of Michigan Health System, Ann Arbor, MI, USA*

<sup>b</sup> *Department of Anesthesiology, Brigham and Women's Hospital, Boston, MA, USA*

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## Risikofaktoren für Allgemeinanästhesie

OR

95% CI

Anzahl top-up im Gebärsaal

3.2

1.83 - 5.46

Notfallsituation

40.4

8.8 - 185

nicht-geburtshilfliche/r Anästhesist/in

4.6

1.81 - 11.54



# Master algorithm – obstetric general anaesthesia and failed tracheal intubation

**Algorithm 1**  
Safe obstetric  
general anaesthesia

**Pre-induction planning and preparation**  
Team discussion

**Rapid sequence induction**  
Consider facemask ventilation ( $P_{max} 20 \text{ cmH}_2\text{O}$ )

**Laryngoscopy**  
(maximum 2 intubation attempts; 3<sup>rd</sup> intubation attempt only by experienced colleague)

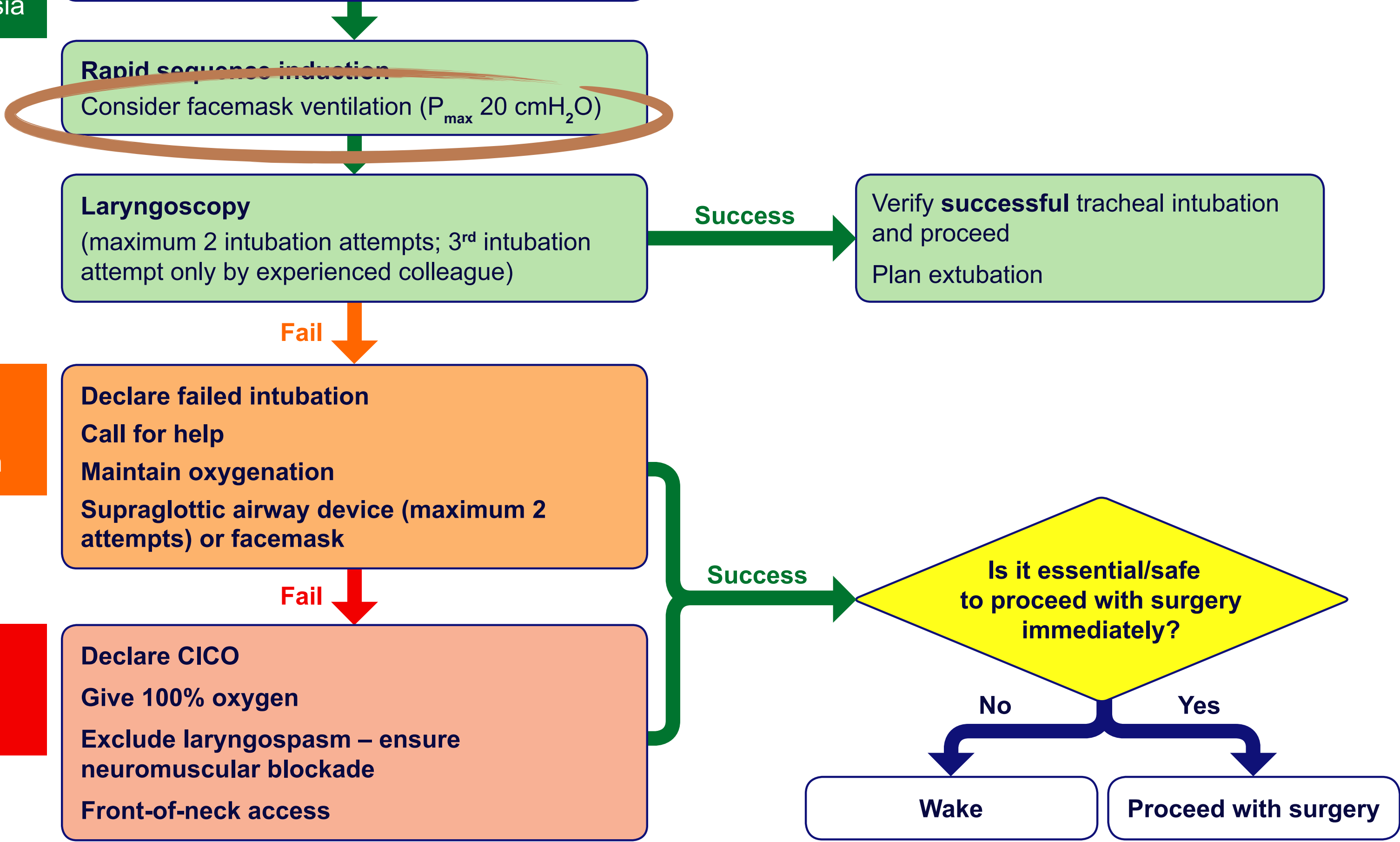
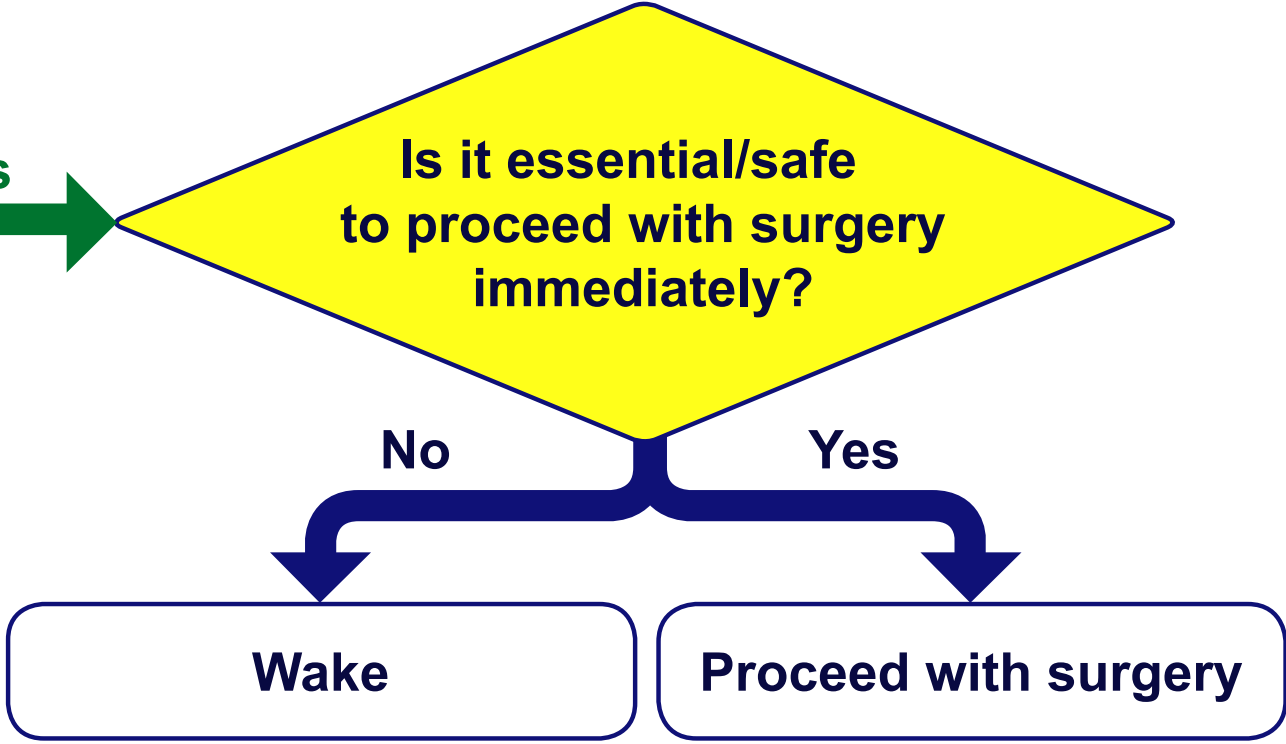
Verify **successful** tracheal intubation and proceed  
Plan extubation

**Algorithm 2**  
Obstetric failed  
tracheal intubation

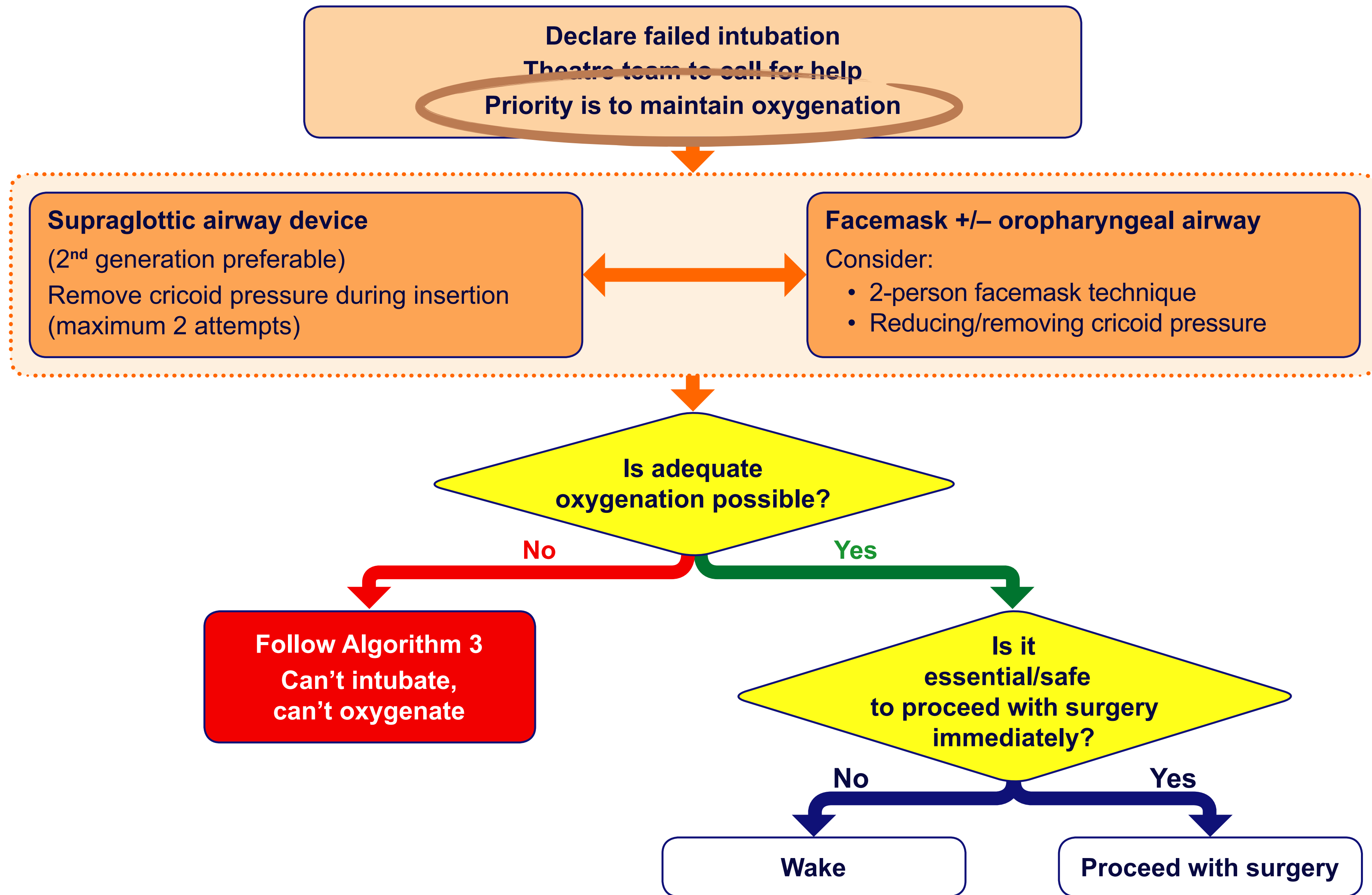
**Declare failed intubation**  
**Call for help**  
**Maintain oxygenation**  
**Supraglottic airway device (maximum 2 attempts) or facemask**

**Algorithm 3**  
Can't intubate,  
can't oxygenate

**Declare CICO**  
**Give 100% oxygen**  
**Exclude laryngospasm – ensure neuromuscular blockade**  
**Front-of-neck access**



# Algorithm 2 – obstetric failed tracheal intubation



## Table 2 – management after failed tracheal intubation

### Wake

- Maintain oxygenation
- Maintain cricoid pressure if not impeding ventilation
- Either maintain head-up position or turn left lateral recumbent
- If rocuronium used, reverse with sugammadex
- Assess neuromuscular blockade and manage awareness if paralysis is prolonged
- Anticipate laryngospasm/can't intubate, can't oxygenate

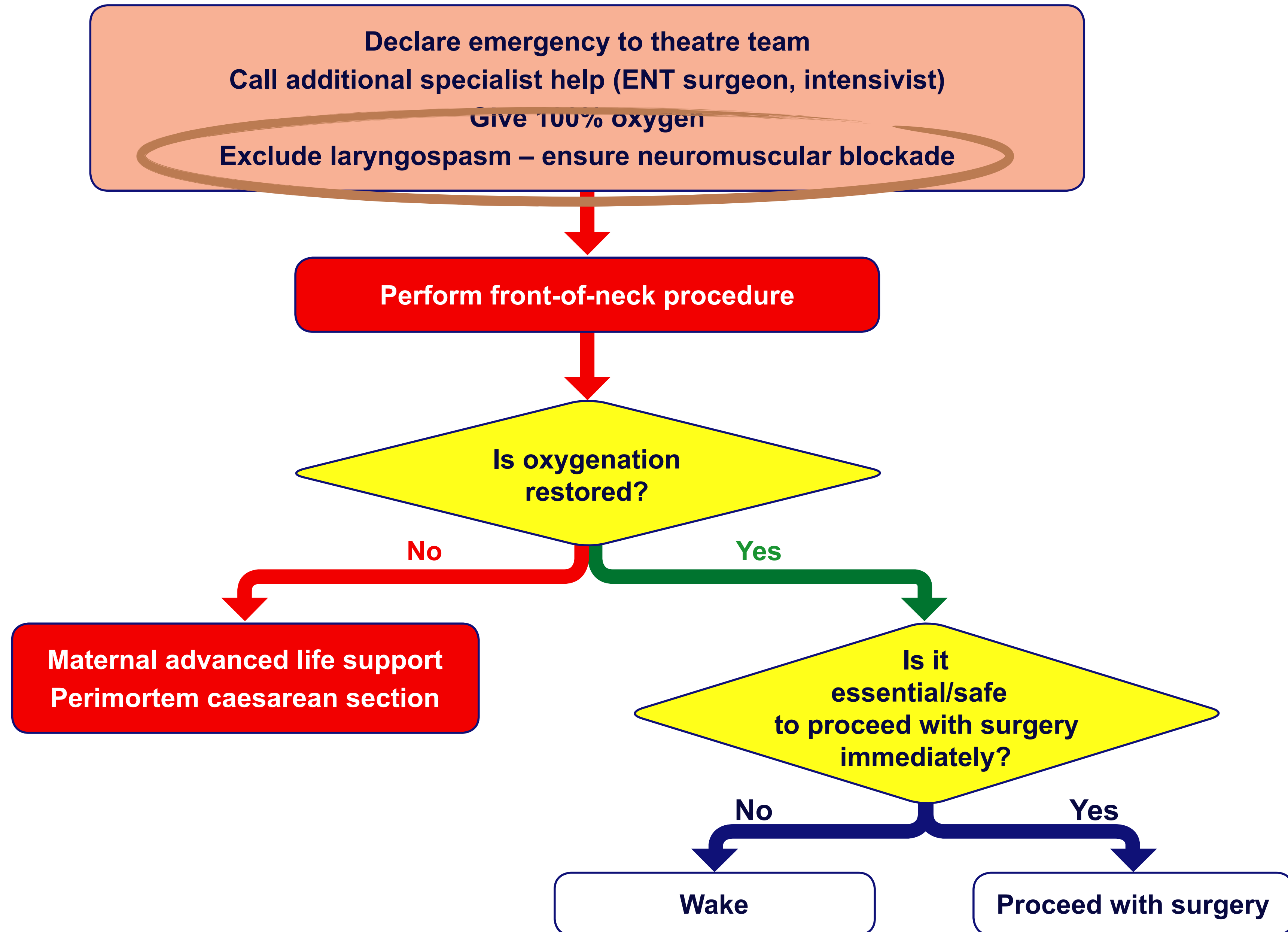
### After waking

- Review urgency of surgery with obstetric team
- Intrauterine fetal resuscitation as appropriate
- For repeat anaesthesia, manage with two anaesthetists
- Anaesthetic options:
  - Regional anaesthesia preferably inserted in lateral position
  - Secure airway awake before repeat general anaesthesia

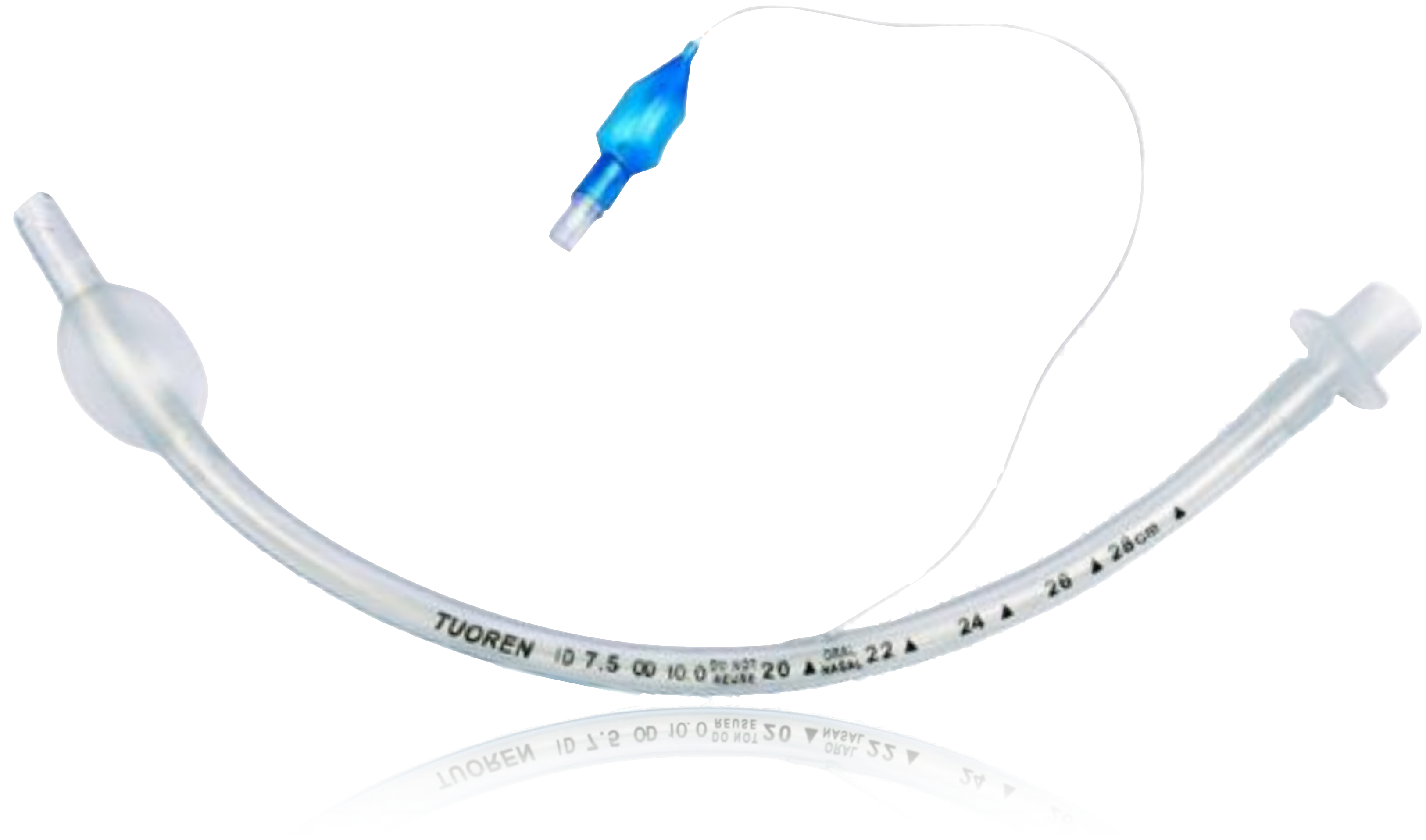
### Proceed with surgery

- Maintain anaesthesia
- Maintain ventilation - consider merits of:
  - controlled or spontaneous ventilation
  - paralysis with rocuronium if sugammadex available
- Anticipate laryngospasm/can't intubate, can't oxygenate
- Minimise aspiration risk:
  - maintain cricoid pressure until delivery (if not impeding ventilation)
  - after delivery maintain vigilance and reapply cricoid pressure if signs of regurgitation
  - empty stomach with gastric drain tube if using second-generation supraglottic airway device
  - minimise fundal pressure
  - administer H<sub>2</sub> receptor blocker i.v. if not already given
- Senior obstetrician to operate
- Inform neonatal team about failed intubation
- Consider total intravenous anaesthesia

# Algorithm 3 – can't intubate, can't oxygenate







TUOREN ID 7.5-00 10.0 DO NOT REUSE ORAL NASAL 22 24 26 28cm

TUOREN ID 7.5-00 10.0 DO NOT REUSE ORAL NASAL 22 24 26 28cm

# Helene kommt nicht

Thierry Girard, Basel

