

# Critical events in anaesthetised kids undergoing tracheal intubation – a prospective, multi-centre observational study

#### **"CRICKET" STUDY CRF**

Inclusion and exclusion criteria				
<u>Inclusion criteria</u> Age < 16 years Planned for tracheal intubation	□ Yes □ No □ Yes □ No			
<u>Exclusion criteria</u> Age ≥ 16 years Already intubated	☐ Yes ☐ No ☐ Yes ☐ No			
If "ALL YES" for inclusion criteria and "ALL NO" for exclusion criteria, INCLUDE patient				
Study ID – Generated by e-CRF:				
Consent form obtained:				
Date of Informed Consent dd-Mmm-YYYY (Month in English starting with capital lett	er)			

		IDENTIFYING DATA – TO KEEP SEPARATE FROM CRF
А	Date e-CRF created	/     _ /     (dd/Mmm/YYYY)
В	Hospital ID ( For local use only)	Patient Hospital/local Identification Number :



	SECTION 1				
		РА	TIENT DATA &	HISTORY	
1	Child age at the day of anaesthesia	(calcula If age < If age <		onths only	
2	Child weight at the day of anaesthesia		.    Kilograi   cm	ms	
3	Gestational age at birth:		weeks 🗌 Inf	o not available/child older than 2 years	
4	Birth weight:	_ . _	kg [0.00	00-9.999] 🗌 Info not available	
5	Sex:	🗌 Ma	le 🗌 Female 🗌	] Undefined	
6	History of previous difficult intubation	☐ No ☐ Yes ☐ Info	not available/ no	o previous airway management	
8	Has the child any known congenita abnormality/syndrome?	I	□ No □ Yes	If yes, tick all that apply: Known or suspected myopathy Congenital heart disease Chromosomopathy Congenital syndrome or sequence (e.g. Pierre Robin) Other congenital malformation	
9	Has the child any cranio-facial abnormality?		□ No □ Yes	If yes, tick all that apply: Limited mouth opening Macroglossia Micrognathia Limited neck movement Obstructed airway Dysmorphism Facial Asymmetry Cleft lip/palate Neck mass Other cranio-facial abnormality	

	SECTION 2				
	CURRENT CONDITION (THE DAY OF INTUBATION)				
1	Recent Upper Respiratory Tract Infection (<2 weeks):	o - 🗌 Yes			
2	History of laryngitis/croup (last 2 weeks): 🗌 No - 🗌 Yes				
3	History of asthma or bronchiolitis (last 12 months): 🗌 No - [	] Yes			
4	Gastro-esophageal reflux: No - Yes If Yes: treated v	vith proton pump inhibitor: 🗌 No - 🗌 Yes			
5	Known lung pathology (other than asthma) or cardiac pathol	ogy: 🗌 No - 🗌 Yes ( if yes, fill 5.1, (tick all that apply)			
5.1	<ul> <li>Cystic fibrosis</li> <li>Bronchopulmonary Dysplasia</li> <li>Cyanotic congenital heart disorder (right-to-left shunts)</li> <li>Acyanotic congenital heart disorder (left-to-right shunts)</li> <li>Obstructive congenital heart disorder</li> <li>Single ventricle physiology with palliative surgery (any state)</li> <li>Other, specify:</li> </ul>	age)			
6	Degree of surgical planning:  Scheduled -  Unschedule	d (urgency, emergency)			
7	ASA: I (healthy patient) II (mild systemic disease) III (severe systemic disease) IV (life threatening condition) V (not expected to survive, if not surgery)	Pediatric Risk Assessment (PRAm): * +1 Urgent +2 Comorbidity +3 Critically ill (preop. cardio-respiratory support) +3 Age < 12 months +4 Neoplasm Total score (calculated by eCRF)			
8	Location of intubation by anaesthesia team: Operating room Intervention room outside the operating room Cardiac cath lab PICU/NICU Emergency department/ward Radiology department Other, specify:				
9	Specialty of the procedure: General surgery (abdominal, visceral) ENT Cardiac surgery Interventional cardiology Thoracic surgery Neurosurgery Plastic surgery Craniofacial Ophtalmology Orthopaedics Urology Neuroradiology/general radiology Other, specify:				

	SECTION 3
	DATA COLLECTION
Date and time of anaesthesia (induction):	-     -     dd/Mmm/yyyy
	:   HH:MM [0-23]: [0-59]

	Is today's tracheal intubation an anticipated difficult intubation: 🗌 No - 🗌 Yes				
1	Anaesthesia induction	N2   Ot   Intravend   Pr   Mi   Ke   Th   De	nal evoflurane O her		
2. Opic	Dids at induction ☐ No ☐ Yes (fill in 2.1)				
2.1	Fentanyl	2.4	Remifentanyl		
2.2	Sufentanyl	2.5	Morphine		
2.3	Alfentanyl	2.6	Other, specify:		
3	Neuromuscular blocking agent (NMBA) used for intubation No Yes	If yes, specify which NMBA: Succinylcholine Cisatracurium Atracurium Rocuronium Vecuronium			
3.1	Timing of NMBA	<ul> <li>□ Before 1st attemp</li> <li>□ Between1st and 2<sup>nd</sup> attmpt</li> <li>□ After 2<sup>nd</sup> attempt</li> </ul>			
4	Technique of induction (Defined at page 17)	<ul> <li>Intubation</li> <li>Modified</li> <li>Rapid set</li> </ul>	<ul> <li>Standard anaesthesia induction with bag-mask ventilation</li> <li>Intubation of spontaneously breathing patient</li> <li>Modified rapid sequence intubation (includes bag-mask ventilation)</li> <li>Rapid sequence intubation (no bag-mask ventilation)</li> </ul>		
5	Type of anaesthesia	Inhalation Total Intra	nal aVenous Anaesthesia (TIV/	A)	

SECTION 4			
FIRST INTUBATION ATTEMPT			
Degree of operator's experience performing 1 <sup>st</sup> attempt	<ul> <li>Consultant with &gt;/= 5-year experience in pediatric anesthesia</li> <li>Consultant with &lt; 5-year experience in pediatric anesthesia</li> <li>Trainee/registrar</li> <li>Nurse practitioner</li> <li>Medical student</li> </ul>		
Primary speciality of the person perfoming the intubation	<ul> <li>Anesthesia</li> <li>Intensive Care</li> <li>Neonatology</li> <li>Emergency Medicine</li> <li>ENT</li> <li>Other, specify:</li> </ul>		

1	Technique of choice	Oral intubation Nasal intubation
1.1	Position during intubation	Supine Ramping Lateral Other, specify:
2	Type of tracheal tube	Cuffed         Size:           Uncuffed         Size:           Double lumen tube         Size:
3	Pre-oxygenation (FiO <sub>2</sub> >80% for at least 1 min prior to intubation)	□ No □ Yes
4	Supplemental oxygen administered during intubation attempt?	□ No □ Yes
4.1	If yes, how was O <sub>2</sub> given?	<ul> <li>Nasal cannula</li> <li>Via nasopharyngeal tube</li> <li>Via tracheal tube</li> <li>Other, specify:</li> </ul>
4.2	If yes, flow of O <sub>2</sub> given	L/_min
5	Intubation technique / device used. Tick more than 1, if combined technique used	<ul> <li>Direct laryngoscopy with standard blade</li> <li>Direct laryngoscopy with hyper-angulated blade</li> <li>Video-laryngoscopy with standard blade</li> <li>Video-laryngoscopy with hyper-angulated blade</li> <li>Channeled video laryngoscope</li> <li>Flexible optical bronchoscope</li> <li>Rigid scope</li> <li>Other, specify:</li> </ul>
6	Cormack-Lehane score	<ul> <li>1 (full view of the glottis)</li> <li>2a (partial view of glottis)</li> <li>2b (only arytenoid cartilages visualized)</li> <li>3 (only epiglottis visualized, none of the glottis seen)</li> <li>4 (neither glottis of epiglottis seen)</li> </ul>
7	<b>POGO-Score</b> (Percentage of glottic opening for laryngeal grading. The POGO score represents the linear span from anterior commissure to inter-arytenoid notch)	<ul> <li>76-100 (full view of the glottis)</li> <li>51-75 (partial view of glottis)</li> <li>26-50 (only half of vocal cord and arytenoid visible)</li> <li>1-25 (only lower fourth of vocal cord and arytenoid visible)</li> <li>0 (no glottic structure visible)</li> </ul>
8	Preventive additional equipment	□ No □ Yes (complete 8.1)
8.1	<b>Type of additional equipment</b> (tick all that apply)	<ul> <li>Stylet (device in the tube, reinforcing it)</li> <li>Intubation catheter (longer device to railroad the tube into the trachea)</li> <li>Cricoid pressure</li> <li>McGill nipper</li> <li>Other, specify:</li> </ul>

٦

9	Intubation successful	□ No (go to 9.1) □ Yes
9.1	Reason for failure/abandoning attempt (tick all that apply)	<ul> <li>Insufficient view</li> <li>Drop in oxygenation</li> <li>Failure to advance tube</li> <li>Need for extra device</li> <li>Need to change technique</li> <li>Need for help from senior staff or colleague</li> <li>Other, describe:</li> </ul>



SECOND INTUBATION ATTEMPT			
perfori Primar	e of operator's experience ning 2 <sup>nd</sup> attempt y speciality of the person	Consultant with >/= 5-year experience in pediatric anesthesia Consultant with < 5-year experience in pediatric anesthesia Trainee/registrar Nurse practitioner Medical student Anesthesia	
perfoming the intubation		<ul> <li>Intensive Care</li> <li>Neonatology</li> <li>Emergency Medicine</li> <li>ENT</li> <li>Other, specify:</li> </ul>	
	e patient ventilated between the 1 <sup>st</sup> <sup>d</sup> attempt	□ No □ Yes	
1	Change of intubation route	☐ No ☐ Yes	
1.1	Intubation route 2 <sup>nd</sup> attmpt	Oral Nasał	
1.2	Position during intubation	Supine Ramping Lateral Other, specify:	
2	Change type of tracheal tube	□ No □ Yes	
2.1	Type of tracheal tube	Cuffed         Size:           Uncuffed         Size:	
3	Supplemental oxygen (started or continued) during intubation attempt?	□ No □ Yes	
3.1	If yes, how was O₂ given?	<ul> <li>Nasal cannula</li> <li>Via nasopharyngeal tube</li> <li>Via tracheal tube</li> <li>Other, specify:</li> </ul>	
3.2	If yes, flow of O2 given	[ L/min	
4	Intubation technique / device	Direct laryngoscopy with standard blade	
	used. Tick more than 1, if combined technique has been	Direct laryngoscopy with hyper-angulated blade Video-laryngoscopy with standard blade	
	used	Video-laryngoscopy with standard blade	
		Channeled video laryngoscope	
		Flexible optical bronchoscope	
		☐ Rigid scope ☐ Other, specify:	
5	Cormack-Lehane score	□ 1 (full view of the glottis) □ 2a (partial view of glottis)	
		<ul> <li>2b (only arytenoid cartilages visualized)</li> <li>3 (only epiglottis visualized, none of the glottis seen)</li> <li>4 (neither glottis of epiglottis seen)</li> </ul>	
6	POGO-Score (Percentage of glottic	<b>76-100</b> (full view of the glottis)	
	opening for laryngeal grading. The	51-75 (partial view of glottis)	
	POGO score represents the linear span from anterior commissure to	<ul> <li>26-50 (only half of vocal cord and arytenoid visible)</li> <li>1-25 (only lower fourth of vocal cord and arytenoid visible)</li> </ul>	
	inter-arytenoid notch)	$\square$ <b>0</b> (no glottic structure visible)	
7	Need for additional equipment	□ No □ Yes (complete 7.1)	
8.1	Type of additional equipment (tick	Stylet (device in the tube, reinforcing it)	
	all that apply)	Intubation catheter (longer device to railroad the tube into the trachea) Cricoid pressure	



		McGill nipper Other, specify:
9	Intubation successful	□ No (go to 9.1) □ Yes
9.1	Reason for failure/abandoning attempt (tick all that apply)	<ul> <li>Insufficient view</li> <li>Drop in oxygenation</li> <li>Failure to advance tube</li> <li>Need for extra device</li> <li>Need to change technique</li> <li>Need for help from senior staff or colleague</li> <li>Other, describe:</li> </ul>



TH	RD INTUBATION ATTEMPT	
Degree of operator's experience performing 3 <sup>rd</sup> attempt	<ul> <li>Consultant with &gt;/= 5-year experience in pediatric anesthesia</li> <li>Consultant with &lt; 5-year experience in pediatric anesthesia</li> <li>Trainee/registrar</li> <li>Nurse practitioner</li> <li>Medical student</li> </ul>	
Primary speciality of the person perfoming the intubation	<ul> <li>Anesthesia</li> <li>Intensive Care</li> <li>Neonatology</li> <li>Emergency Medicine</li> <li>ENT</li> <li>Other, specify:</li> </ul>	-
Was the patient ventilated between the 2 <sup>nd</sup> and 3 <sup>rd</sup> attempt	□ No □ Yes	

4	Change of intubation routs		
1	Change of intubation route	□ No □ Yes	
1.1	Intubation route 3 <sup>rd</sup> attmpt	☐ Oral ☐ Nasa <del>l</del>	
1.2	Position during intubation	☐ Supine ☐ Ramping ☐ Lateral ☐ Other, specify:	
2	Change type of tracheal tube	□ No □ Yes	
2.1	Type of tracheal tube	Cuffed         Size:           Uncuffed         Size:	
3	Supplemental oxygen (started or continued) during intubation attempt?	□ No □ Yes	
3.1	If yes, how was O <sub>2</sub> given?	<ul> <li>Nasal cannula</li> <li>Via nasopharyngeal tube</li> <li>Via tracheal tube</li> <li>Other, specify:</li> </ul>	
3.2	If yes, flow of O2 given	L/min	
4	Intubation technique / device used. Tick more than 1, if combined technique has been used	<ul> <li>Direct laryngoscopy with standard blade</li> <li>Direct laryngoscopy with hyper-angulated blade</li> <li>Video-laryngoscopy with standard blade</li> <li>Video-laryngoscopy with hyper-angulated blade</li> <li>Channeled video laryngoscope</li> <li>Flexible optical bronchoscope</li> <li>Rigid scope</li> <li>Other, specify:</li> </ul>	
5	Cormack-Lehane score	<ul> <li>1 (full view of the glottis)</li> <li>2a (partial view of glottis)</li> <li>2b (only arytenoid cartilages visualized)</li> <li>3 (only epiglottis visualized, none of the glottis seen)</li> <li>4 (neither glottis of epiglottis seen)</li> </ul>	
6	<b>POGO-Score (</b> Percentage of glottic opening for laryngeal grading. The POGO score represents the linear span from anterior commissure to inter-arytenoid notch <b>)</b>	<ul> <li>76-100 (full view of the glottis)</li> <li>51-75 (partial view of glottis)</li> <li>26-50 (only half of vocal cord and arytenoid visible)</li> <li>1-25 (only lower fourth of vocal cord and arytenoid visible)</li> <li>0 (no glottic structure visible)</li> </ul>	
7	Need for additional help	□ No □ Yes (complete 7.1)	
7.1	<b>Type of additional help</b> (tick all that apply)	<ul> <li>Stylet (device in the tube, reinforcing it)</li> <li>Intubation catheter (longer device to railroad the tube into the trachea)</li> <li>Cricoid pressure</li> </ul>	

		McGill nipper Other, specify:
8	Intubation successful	□ No (go to 9.1) □ Yes
8.1	Reason for failure/abandoning attempt (tick all that apply)	<ul> <li>Insufficient view</li> <li>Drop in oxygenation</li> <li>Failure to advance tube</li> <li>Need for extra device</li> <li>Need to change technique</li> <li>Need for help from senior staff or colleague</li> <li>Other, describe:</li> </ul>



FINAL (IF MORE THAN 3) INTUBATION ATTEMPT		
Degree of operator's experience          Consultant with >/= 5-year experience in pediatric anesthesia         Consultant with < 5-year experience in pediatric anesthesia         Trainee/registrar         Nurse practitioner         Medical student		
Primary speciality of the person perfoming the intubation	<ul> <li>Anesthesia</li> <li>Intensive Care</li> <li>Neonatology</li> <li>Emergency Medicine</li> <li>ENT</li> <li>Other, specify:</li> </ul>	
Was the patient ventilated between the second-to-last and the final attempt	□ No □ Yes	

1	Change of intubation route	□ No	
	-		
1.1	Intubation route final attmpt	□ Oral □ Nasa <del>l</del>	
1.2	Position during intubation	Supine Ramping Lateral Other, specify:	
2	Change type of tracheal tube	□ No □ Yes	
2.1	Type of tracheal tube	Cuffed Size:     Uncuffed Size:	
3	Supplemental oxygen (started or continued) during intubation attempt?	□ No □ Yes	
3.1	If yes, how was O <sub>2</sub> given?	<ul> <li>Nasal cannula</li> <li>Via nasopharyngeal tube</li> <li>Via tracheal tube</li> <li>Other, specify:</li> </ul>	
3.2	If yes, flow of O2 given	_  L/min	
4	Intubation technique / device used. Tick more than 1, if combined technique has been used	<ul> <li>Direct laryngoscopy with standard blade</li> <li>Direct laryngoscopy with hyper-angulated blade</li> <li>Video-laryngoscopy with standard blade</li> <li>Video-laryngoscopy with hyper-angulated blade</li> <li>Channeled video laryngoscope</li> <li>Flexible optical bronchoscope</li> <li>Rigid scope</li> <li>Other, specify:</li> </ul>	
5	Cormack-Lehane score	<ul> <li>1 (full view of the glottis)</li> <li>2a (partial view of glottis)</li> <li>2b (only arytenoid cartilages visualized)</li> <li>3 (only epiglottis visualized, none of the glottis seen)</li> <li>4 (neither glottis of epiglottis seen)</li> </ul>	
6	<b>POGO-Score (</b> Percentage of glottic opening for laryngeal grading. The POGO score represents the linear span from anterior commissure to inter-arytenoid notch <b>)</b>	<ul> <li>76-100 (full view of the glottis)</li> <li>51-75 (partial view of glottis)</li> <li>26-50 (only half of vocal cord and arytenoid visible)</li> <li>1-25 (only lower fourth of vocal cord and arytenoid visible)</li> <li>0 (no glottic structure visible)</li> </ul>	
7	Need for additional help	□ No □ Yes (complete 7.1)	
7.1	Type of additional help (tick all that apply)	<ul> <li>Stylet (device in the tube, reinforcing it)</li> <li>Intubation catheter (longer device to railroad the tube into the trachea)</li> <li>Cricoid pressure</li> </ul>	

		McGill nipper Other, specify:
8	Intubation successful	□ No (go to 9.1) □ Yes
8.1	Reason for failure/abandoning attempt (tick all that apply)	<ul> <li>Insufficient view</li> <li>Drop in oxygenation</li> <li>Failure to advance tube</li> <li>Need for extra device</li> <li>Need to change technique</li> <li>Need for help from senior staff or colleague</li> <li>Other, describe:</li> </ul>



**SECTION 5** 

	OVERALL NUMBER OF ATTEMPTS UNTIL SUCCESSFUL INTUBATION		
1.	Was a successful intubation achieved?	☐ No ☐ Yes	
2.	Decision not to intubate	☐ No ☐ Yes, comment:	
3.	Number of attempts until successful intubation or decision not to intubate	number of attempts	
4.	Time from induction of anaesthesia (page 5) until successful intubation achieved or decision not to intubate	mins	
5.	First measured etCO <sub>2</sub>	mmHg or     kPa (enter only one value)	

**SECTION 6** 

		EXTUBATION DETAILS
1	Reversion of neuromuscular blocking agent (NMBA) No Yes Not applicable (no NMBA used)	If yes, specify which: I Neostigmine Sugammadex
2	Monitoring of neuromuscular paralysis degree prior to extubation	☐ No ☐ Yes ☐ Not applicable (no NMBA used)
3	Technique of extubation	<ul> <li>Deep</li> <li>Awake</li> <li>not extubated – transferred intubated to ICU, PACU, etc.</li> </ul>

#### **CRICKET study CRF**

### Study ID:

#### **SECTION 7**

Did any critical event correlated to the use of a tracheal tube, either at intubation, extubation or both, occur?

#### No (END CRF HERE)

Section Yes (fill in the next pages and follow up the patient)

Critical Event(s)		
	When did the critical event(s) occur? (tick all that apply)         Intubation         Maintainance of anaesthesia         Extubation         PACU/Recovery Room	
	What kind(s) of critical event(s) occurred? Tick all that apply (refer to definition of critical events)	
	Severe hypoxemia (SpO2 < 85%, for at least 1 minute)	
	Severe bradycardia (for at least 1 minute)	
	Cardiac arrest leading to cardiopulmonary resuscitation	
	Esophageal intubation not immediately recognized (accompanied by desaturation and/or bradycardia)	
	Unintended bronchial intubation (accompanied by desaturation and/or bradycardia)	
	Accidental tracheal tube dislocation (after successful tracheal intubation)	
	Laryngospasm with need for treatment	
	Bronchospasm with need for treatment	
	Obstruction of the tracheal tube requiring lavage and/or tracheal tube exchange	
	Acute airway bleeding/ epistaxis	
	Stridor after extubation	
	Pneumothorax/pneumomediastinum	
	Pulmonary aspiration of gastric content	
	Negative pressure pulmonary edema	
	Can't intubate, can't oxygenate (CICO) situation	
	Death correlated to failed airway management	
	Other severe complication(s), describe:	



Treatment/ intervention undertaken in response to the critical event (tick all that apply)	
Intervention       Rescue mask ventilation, with Guedel or other adjuncts         Rescue supraglottic airway device insertion       Tracheal re-intubation/ change of tracheal tube         Post-extubation oxygen administration       CPAP / BiPAP         High-flow nasal oxygen       Chest tube or needle decompression         Pericardial drainage introduction       Kept intubated due to the airway complication         ECMO       Chest compressions         Other, describe:       Other, describe:	
Pharmacological treatment	<ul> <li>Immediate muscle paralysis</li> <li>Deepening anaesthesia by sedative drugs (e.g. propofol)</li> <li>Beta-2 agonists (either IV or nebulized)</li> <li>Atropine</li> <li>Nebulized adrenaline</li> <li>Intravenous adrenaline</li> <li>Corticosteroids</li> <li>Lidocaine</li> <li>Diuretics</li> <li>Other, describe:</li> </ul>
Front of Neck Access (FONA)	<ul> <li>Scalpel technique</li> <li>Needle technique</li> <li>Please briefly describe :</li> </ul>
Other describe:	



2	4-HOUR (or at discharge, if discharged before 24 hours) FOLLOW UP ( <u>if critical event(s) occurred</u> )
1	Follow up at 24 hours/ at discharge completed for critical events         No (END CRF HERE)         Yes (go to the following items)
2	Any sequelae (additional follow-up required) due to the critical event(s)? <ul> <li>No, patient fully recovered</li> <li>Yes (fill in 2.1)</li> </ul>
2.1	Additional treatment/ action Delayed hospital discharge due to the critical event Still intubated due to the critical event Need for re-intubation after extubation within the first 24 hours Still under low flow O <sub>2</sub> or HFNO Other, specify:

#### Note:

If follow-up at 24 h, or at discharge, is performed and the child fully recovered, END CRF HERE

If child had any consequence after complication, follow up until hospital discharge or up to 30 days



	Follow-up until hospital discharge or up to 30 days (fill in if critical event(s) occurred and consequences occurred)		
1	Follow-up completed I No Ves	1.1 If yes, date of final follow-up	
2	Patient status at final follow-up (Tick single most appropriate)	<ul> <li>Discharged to home / Adverse event fully reversed</li> <li>Still in hospital or transferred to another hospital</li> <li>Need for further follow-up</li> <li>Death</li> <li>O Other, describe</li> </ul>	
2.1	Date of discharge (or death):	If death, suspected cause:	
3	Additional comments:		

Study ID:

#### **Definition of Critical Events** Any episode of occurrence during tracheal intubation requiring a medical intervention "Critical Events" in this study from the start of anaesthesia until the end of anaesthesia (defined as handover to either and time frame the postanaesthesia care unit, the paediatric or neonatal intensive care unit, the ward or discharge home straight from anaesthesia care) SpO<sub>2</sub> < 85% or >20 points below initial value, for at least 1 minute Severe hypoxemia Persistent bradycardia for at least 1 minute: 0-3 months old: HR < 80 bpm 4 months - 2 years: HR < 60 bpm Severe bradycardia • 2-10 years old: HR < 40 bpm 10-16 years old: HR < 30 bpm Tracheal tube placed in the esophagus diagnosed by (video-)laryngoscopy, absence of **Esophageal intubation** sustained EtCO<sub>2</sub> trace, absence of lung ventilation (auscultation or absence of chest excursions) causing a drop in oxygenation Complete airway obstruction associated with rigidity of the abdominal and chest walls and leading to unsuccessful child's ventilation, or glottic closure associated with chest movement but silent unsuccessful child's respiratory efforts and assisted ventilation, Laryngospasm unrelieved in both situations with simple jaw thrust and CPAP maneuvers and requiring the administration of medication (propofol, suxamethonium etc.) and/or tracheal (re)intubation Bronchospasm Increased respiratory effort, especially during expiration, and wheeze on auscultation. Episode of bronchospasm requires the administration of a bronchodilator. Severe inspiratory flow limitation with sternal retraction, intrathoracic pressure swing, and potentially cyanosis occurring after extubation with or without the administration of Stridor after extubation oxygen, intravenous steroids and/or epinephrine (nebulization) or tracheal intubation. This can be documented clinically or with diagnostic examination, with persistence of symptoms. **Obstruction of tracheal tube** Obstruction of tracheal tube needing lavage or tube exchange Acute bleeding from nose, arytenoids or pharynx causing obstruction or risk for **Airway bleeding** pulmonary aspiration Situation when there is failed intubation and failure to adequately oxygenate using CICO facemask ventilation or supraglottic airway device resulting in increasing hypoxemia in an anaesthetised and paralysed patient Severe bradycardia/ Cessation of circulation (no pulse) or severe bradycardia (i.e. fibrillation/tachycardia) **Cardiac arrest** requiring chest compressions, during the intubation/extubation maneuvers. Presence of non-respiratory secretions (gastric, particulate, blood) in the airway as **Pulmonary aspiration** evidenced by (video-)laryngoscopy, suctioning, or bronchoscopy or radiologic signs. Pneumothorax/ Air in the thorax and/or mediastinum as consequence of tracheal intubation and Pneumomediastinum ventilation, causing lung collapse or mediastinum dislodgment. Non-cardiogenic pulmonary edema that results from the generation of high negative Negative pulmonary edema intrathoracic pressure needed to overcome upper airway obstruction.

Other Definitions	
Rapid Sequence Intubation (RSI)Intravenous induction and paralysis without face mask ventilation until trached place. Applied as precaution for patients that might have a risk of pulmonary a of any reason.	
modified Rapid Sequence Intubation (m-RSI)Intravenous induction and paralysis with rapid onset medications, gentle face may ventilation and oxygenation until tracheal tube is in place. Applied as precaution f patients that might have a risk of pulmonary aspiration of any reason.	