

International observational study To Understand the impact and BEst practices of airway management in critically ill patients

Study acronym identifier: **INTUBE**

CASE REPORT FORM

Centre ID number: _____ Patient's ID number: _____

Informed consent and admission data

Date of hospital admission: _____(DD)/_____(MM)/_____(YY)

Informed consent applicable? YES NO (Choose no if waived by local EC)

If applicable, was consent obtained? YES NO

If yes, date of informed consent: _____/_____/_____

Date of intubation: _____(DD)/_____(MM)/_____(YY)

Time of intubation: (HH:MM) _____: _____ am pm

Type of hospital: Academic/University Non-University

For intubation performed in the ED:

Admission source:

- Emergency Medical Service/Helicopter Emergency Medical Service
- Home (with private vehicle transport)
- Long-term care facility
- Other hospital
- Other, please specify: _____

For intubation performed in the ICU:

Admission source:

- Emergency Department (ED)
- Medical ward
- Surgical Ward
- Operating room/recovery room

- Other ICU from the same hospital
- Other hospital
- Other, please specify: _____

For intubation performed in a ward:

Please specify if medical ward surgical ward

Admission source:

- Emergency Department
- Other ward
- Operating room
- ICU
- Other, please specify _____

Demographic and clinical characteristics

Sex: M F Age: _____

Height: _____ inch cm Weight: _____ lbs Kg

Comorbidities (check all that apply):

- Asthma
- COPD
- Diabetes Mellitus
- Solid neoplasm
 - Metastatic Non-metastatic Unknown
- Hematologic malignancy
- Heart failure (NYHA III-IV)
- Ischemic heart disease
- Arterial hypertension
- Renal failure
- Chronic liver failure
- Neuromuscular disease
- OSAS (with use of nocturnal CPAP ; without use of nocturnal CPAP)
- Interstitial lung disease
- Respiratory infection < 30 days ago
- Other, please specify _____

Reason for intubation

Intubation performed in: ICU Emergency Department Ward

Did you transfer the patient from another place to perform intubation?

YES NO

New Intubation

Reintubation*

Extubation performed in OR? YES NO

***Please consider an intubation a “reintubation” if performed during the same hospital admission**

Reason for new intubation (check all that apply):

- Need for airway protection (GCS \leq 8)
- Acute intracranial hemorrhage
- Head trauma
- Thoracic trauma
- Hemodynamic instability
- Sepsis
- Respiratory failure needing respiratory support
- Other, please specify _____

Reason for reintubation (check all that apply):

Specify the date of extubation: ____/____/____

- Development of respiratory failure
- Airway obstruction
- Self-extubation
- Congestive heart failure
- Acute coronary syndrome
- Aspiration
- Ineffective cough
- Neurological impairment
- Sepsis development
- Inadequate reversal of neuromuscular block
- Other, please specify _____

Do you have a protocol for intubation of critically ill patients?

YES NO

Monitoring selected during the intubation procedure (check all that apply):

- ECG (3 or 5 leads)
- SpO₂
- NIBP

- IBP
- EtCO₂
- Temperature

Ongoing respiratory support before intubation

Is the patient breathing oxygen before intubation?

YES NO

If yes, please specify the oxygen flow: _____ L/min

And the delivery system:

- Nasal cannula
- High-flow nasal cannula (Specify total flow _____ L/min; Specify FiO₂: _____ %)
- Facemask
 - with O₂ reservoir without O₂ reservoir
- Venturi system (Specify O₂ flow _____ L/min; Specify FiO₂: _____ %)
- Other, please specify _____

Is the patient receiving **CPAP**?

YES NO

If yes, specify the CPAP level: _____ cmH₂O

Specify the FiO₂: _____ %

Specify the interface:

- Helmet
- Oronasal
- Full face
- Nasal
- Other, please specify _____

Is the patient receiving **NPPV**?

YES NO

If YES, Please specify the pressure support administered: PS _____ cmH₂O

Specify the PEEP level: _____ cmH₂O

Specify the FiO₂: _____ %

Specify the interface:

- Helmet
- Oronasal
- Full face
- Nasal
- Other, please specify _____

Chest X-ray or CT scan available?

YES NO

If YES, Chest X-ray or CT scan findings (check all that apply):

- Normal lung fields
- Pleural effusion
- Monolateral lung opacity
- Bilateral lung opacities
- Pulmonary contusion
- Rib fracture
- Pneumothorax
- Hemothorax
- Other, please specify: _____

Patient's parameters and gas exchange before intubation (*last available*)

Parameters before intubation (specify all the available):

SAP: _____ DAP: _____ HR: _____ RR: _____ SpO₂: _____

Need of vasopressor/inotrope support?

YES NO

Specify all inotropes/vasopressors that apply:

- Norepinephrine; rate of infusion: _____
- Epinephrine; rate of infusion: _____
- Dopamine; rate of infusion: _____
- Dobutamine; rate of infusion: _____
- Other; please specify: _____ rate of infusion: _____

Fluid load administered in the last 30 minutes before intubation?

YES NO

Specify total volume _____ ml

Blood gas analysis (if available):

Specify FiO₂: _____%

PaO₂: _____ PCO₂: _____ pH: _____ HCO₃⁻: _____ BE: _____

Lactate: _____

GCS

Eye opening response: _____ (1-4)

Best verbal response: _____ (1-5)

Best motor response: _____ (1-6)

Platelet count available?

YES NO

If YES, specify _____

Bilirubin level available?

YES NO

If YES, specify _____ mmol/L mg/dL

Creatinine level available?

YES NO

If YES, specify _____ mmol/L mg/dL

BUN level available?

YES NO

If YES, specify _____ mmol/L mg/dL

Urine output available?

YES NO

If YES, specify _____ ml/Kg/h

Sodium level available?

YES NO

If YES, specify _____ mEq/L

Potassium level available?

YES NO

If YES, specify _____ mEq/L

Operator's training

Specify the total number of operators involved in the procedure: _____

Operator performing the 1st attempt :	
Resident	<input type="checkbox"/> Anesthesia and Intensive Care <input type="checkbox"/> Intensive Care <input type="checkbox"/> Emergency Medicine <input type="checkbox"/> Other, please specify _____
Consultant	<input type="checkbox"/> Anesthesia and Intensive Care <input type="checkbox"/> Intensive Care <input type="checkbox"/> Emergency Medicine <input type="checkbox"/> Other, please specify _____
How many intubations do you approximately perform in a week?	<input type="checkbox"/> < 1 intubation/week <input type="checkbox"/> < 5 intubations/week <input type="checkbox"/> 5 – 10 intubations/week <input type="checkbox"/> 10 – 20 intubations/week
Duty hours before the current procedure	<input type="checkbox"/> < 6 hours <input type="checkbox"/> 6 – 12 hours <input type="checkbox"/> 12 – 24 hours <input type="checkbox"/> > 24 hours

Operator performing the 2nd attempt :	
Resident	<input type="checkbox"/> Anesthesia and Intensive Care <input type="checkbox"/> Intensive Care <input type="checkbox"/> Emergency Medicine <input type="checkbox"/> Other, please specify _____
Consultant	<input type="checkbox"/> Anesthesia and Intensive Care <input type="checkbox"/> Intensive Care <input type="checkbox"/> Emergency Medicine <input type="checkbox"/> Other, please specify _____
How many intubations do you approximately perform in a week?	<input type="checkbox"/> < 1 intubation/week <input type="checkbox"/> < 5 intubations/week <input type="checkbox"/> 5 – 10 intubations/week <input type="checkbox"/> 10 – 20 intubations/week

Duty hours before the current procedure	<input type="checkbox"/> < 6 hours <input type="checkbox"/> 6 – 12 hours <input type="checkbox"/> 12 – 24 hours <input type="checkbox"/> > 24 hours
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Anticipated difficult airway management?

YES NO Evaluation not performed

(check all that apply)

- Mallampati score III-IV
- Reduced mouth opening (< 3 cm)
- Reduced thyro-mental distance
- Prognathism
- Retrognathia
- Neck stiffness
- Need of cervical spine immobilization
- Beard
- High-risk of full stomach
- Obesity

Degree of emergency

- Intubation required without any delay
- Intubation required in < 1 hour
- Intubation required in ≥ 1 hour

Start of pre-oxygenation*

***Preoxygenation coincides (and starts) with the respiratory support in place when the first induction drug is administered**



____: ____ (HH:MM)

Intubation procedure

Patient position during preoxygenation

- Supine position
- Beach chair position
- Head-elevation (30 – 45°)
- Ramp position
- Anti-Trendelenburg position
- Trendelenburg position
- Other, please specify: _____

Rapid sequence induction applied?

YES NO

Sellick maneuver applied?

YES NO

Preoxygenation method used for the first attempt

Device used for preoxygenation (check all that apply):

Bag valve mask.
O₂ flow _____ L/min. O₂ reservoir available YES NO

Facemask
O₂ flow _____ L/min. O₂ reservoir available YES NO

Venturi mask
O₂ flow _____ L/min. FiO₂ _____%

Nasal cannula (standard)
O₂ flow _____ L/min

High-flow oxygen nasal cannula
Total flow _____ L/min. FiO₂ _____%

CPAP
CPAP level _____ cmH₂O. FiO₂ _____%

Specify the interface:

- Helmet
- Oronasal
- Full face
- Nasal
- Other, please specify _____

NPPV

PS _____ cmH₂O. PEEP _____ cmH₂O. FiO₂ _____ %

Specify the interface:

- Helmet
- Oronasal
- Full face
- Nasal
- Other, please specify _____

Other, please specify _____
O₂ _____ L/min

O₂ administration during laryngoscopy/fiberoscopy?

YES NO

If YES, please specify the method:

- Standard nasal cannula
- High flow nasal cannula
- Facemask (with fiberoptic port)
- Helmet (with fiberopetic port)

End of preoxygenation



____: ____ (HH:MM)

SpO₂ at the end of preoxygenation: _____ %

Drugs used (check all that apply):

- Awake intubation
- Lidocaine spray

Propofol _____ mg

Thiopental _____ mg

Midazolam _____ mg

Ketamine _____ mg

Etomidate _____ mg

Succinylcholine _____ mg

Rocuronium _____ mg

Vecuronium _____ mg

Cisatracurium _____ mg

Fentanyl _____ mg µg

Remifentanyl _____ mg µg

Sufentanyl _____ mg µg

Alfentanyl _____ mg µg

Others, please specify: _____

Start of laryngoscopy



_____ : _____ (HH:MM)

Laryngoscopy

Elective method/device for laryngoscopy:

- Direct laryngoscopy with Macintosh blade
- Direct laryngoscopy with Miller blade
- Videolaryngoscopy
- Fiberoptic
 - standard
 - through the CPAP/NIV interface
- Use of intubating supraglottic device
 - with blinded intubation
 - fiberoptic-guided intubation

Method/device used for the second attempt:

- Direct laryngoscopy with Macintosh blade
- Direct laryngoscopy with Miller blade
- Videolaryngoscopy
- Fiberoptic
 - standard
 - through the CPAP/NIV interface
- Use of intubating supraglottic device
 - with blinded intubation
 - fiberoptic-guided intubation

Intubation

- Orotracheal
- Nasotracheal

EtCO₂ monitor available?

YES NO

First EtCO₂ value read _____ kPa mmHg

End of laryngoscopy



_____ : _____ (HH:MM)

Duration of laryngoscopy registered?

YES NO

_____ seconds minutes

Outcome of endotracheal intubation

Success Failure

Method used for adequate tube confirmation (check all that apply):

- Capnography
- Capnometry at monitor
- Calorimetric CO₂ detection
- Chest auscultation
- Chest X-ray
- Fiberoscopy
- Other, please specify _____

Total number of attempts _____ (including also the resident's attempt)

If failure:

- LMA insertion
- Emergent tracheostomy
- Cannot ventilate cannot intubate scenario

Preoxygenation performed between multiple attempts:

YES NO

Laryngoscopic view (Cormack-Lehane):

I II III IV

Minimum SpO₂ during laryngoscopy: _____%

Arterial blood gas after intubation available?

YES NO

Specify timing (HH:MM) _____:

Specify FiO₂: _____%

PaO₂: _____ PCO₂: _____ pH: _____ HCO₃⁻: _____ BE: _____

Lactate: _____

Need of new vasopressor/inotrope support after intubation (< 30 minutes after endotracheal tube placement confirmation)?

YES NO

Specify all inotropes/vasopressors that apply:

- Norepinephrine; rate of infusion: _____
- Epinephrine; rate of infusion: _____
- Dopamine; rate of infusion: _____
- Dobutamine; rate of infusion: _____
- Other; please specify: _____ rate of infusion: _____

Fluid load administered after intubation (< 30 minutes after endotracheal tube placement confirmation)?

YES NO

Specify total volume _____ ml

- Cardiac arrest (< 30 minutes from intubation)
 - with ROSC with death

Severe cardiovascular collapse (SAP < 65 mmHg recorded 1 time or SAP < 90 mmHg for > 30 minutes or new need/increase of vasopressor and/or fluid load > 15 ml/kg)

Supraventricular arrhythmia (< 30 minutes from intubation)

- Ventricular arrhythmia (with pulse) (< 30 minutes from intubation)
- Aspiration of gastric contents (< 30 minutes from intubation)
- Oesophageal intubation
 - Recognized Unrecognized
- Dental injury
- Airways injury, please specify: _____
- Pneumothorax/Pneumo-mediastinum (recognized < 30 minutes from intubation)

Long-term outcome

Status at ICU discharge

- Dead
- Alive

Date of death _____(DD)/_____(MM)/_____(YY)

NOTES