

PEAL

Prevalence of **P**ulmonary complications after **E**mergency **A**bdominal **L**aparo-tomy/scopy. An international prospective multicentre observational cohort study.

Identifier	
HOSPITAL	
PATIENT IDENTIFICATION	
RESEARCHER 1	
RESEARCHER 2	

CASE REPORT FORM (CRF)
Version 01.0 05-12-2022

CONFIDENTIAL

HOSPITAL		SUBJECT	
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PREOPERATIVE DATA

DEMOGRAPHIC DATA								
Age (years):			<input type="checkbox"/> Male <input type="checkbox"/> Female			Height(cm):		
weight (kg):			IMC (kg/m ²):			Ideal body weight (kg/m ²):		
Admission date (dd/mm/yyyy):			Surgery date (dd/mm/yyyy):			Date of hospital discharge (dd/mm/yyyy):		
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Inclusion criteria	YES		NO	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Age equal to or older than 18 years	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Emergency laparo-tomy/scopy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Informed consent	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Exclusion criteria	None
	<input type="checkbox"/>

Informed Consent
<input type="checkbox"/> Yes Indicate date/time of getting the informed consent. ____/____/____ (dd/mm/yyyy) hour ____:____
<input type="checkbox"/> No Specify the reason:
<input type="checkbox"/> Waived by local ethics committee
<input type="checkbox"/> Rejected by patient or relatives <input type="checkbox"/> Rejected by the physician <input type="checkbox"/> Absence of investigator

CO-MORBIDITIES	YES	NO	CO-MORBIDITIES	YES	SI
Arterial hypertension	<input type="checkbox"/>	<input type="checkbox"/>	Dyslipemia	<input type="checkbox"/>	<input type="checkbox"/>
Ischemic cardiopathy	<input type="checkbox"/>	<input type="checkbox"/>	OSA	<input type="checkbox"/>	<input type="checkbox"/>
Diabetes mellitus II	<input type="checkbox"/>	<input type="checkbox"/>	COPD	<input type="checkbox"/>	<input type="checkbox"/>
smoker	<input type="checkbox"/>	<input type="checkbox"/>	Chronic renal failure	<input type="checkbox"/>	<input type="checkbox"/>
Ex smoker (> 3 months)	<input type="checkbox"/>	<input type="checkbox"/>	Chronic liver failure	<input type="checkbox"/>	<input type="checkbox"/>
Alcohol consumption (more than two drinks per day)	<input type="checkbox"/>	<input type="checkbox"/>	Oncological	<input type="checkbox"/>	<input type="checkbox"/>
Neuromuscular disease	<input type="checkbox"/>	<input type="checkbox"/>	Inmunosuppression	<input type="checkbox"/>	<input type="checkbox"/>

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Surgery	
Surgery time	starts: ___h:___min (24h) ends: ___h:___min(24h)
Type of surgery	
<input type="checkbox"/> Laparotomy	<input type="checkbox"/> Laparoscopy
General Surgery	
<input type="checkbox"/> Appendectomy	<input type="checkbox"/> Colectomy
<input type="checkbox"/> Hemoperitoneum (gastrointestinal, gynecological, urological, vascular)	<input type="checkbox"/> Adhesiolysis
<input type="checkbox"/> Colorectal resection	<input type="checkbox"/> Small bowel resection
<input type="checkbox"/> Gastrectomy	<input type="checkbox"/> Gastrointestinal perforation
<input type="checkbox"/> Abdominal abscess	<input type="checkbox"/> Hysterectomy
<input type="checkbox"/> Gastrointestinal obstruction	<input type="checkbox"/> Gastrointestinal ischaemia
<input type="checkbox"/> Gastrointestinal dehiscence	<input type="checkbox"/> Incarcerated hernia
<input type="checkbox"/> Other Gastrointestinal: _____	<input type="checkbox"/> Other Urological: _____
<input type="checkbox"/> Other Vascular: _____	<input type="checkbox"/> Other Gynecological: _____
<input type="checkbox"/> Other: _____	

PREOPERATIVE DATA			
Primary diagnosis:			
ASA <input type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> III <input type="checkbox"/> IV			
SpO₂ (FIO₂ 0.21)	%	Preoperative Hb (g/dl)	
Lung infection during the last month <input type="checkbox"/> yes <input type="checkbox"/> No			
Clinical Frailty Scale (from 1 to 9):		Charlson:	

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INTRAOPERATIVE DATA

INTRAOPERATIVE DATA			
VARIABLE	T0 (10 min after intubation)	T1 (60 min after intubation)	T2 (pre-extubation)
PEEP (cmH ₂ O)			
FR			
VT (ml)			
FiO ₂ (%)			
*PaO ₂ (mmHg)			
*PaO ₂ /FiO ₂ (mmHg)			
*PaCO ₂ (mmHg)			
*pH			
Plateau pressure (cmH ₂ O)			
Cdyn (ml/cmH ₂ O)			
PAM (mmHg)			
IC (ml/min/m ²)			
Air-Test (0.21 FiO₂ during 5 min or SpO₂ 97%)			
SpO ₂ (%) a FiO ₂ 21%			

**Only if arterial catheterization*

Fluids (ml)			
Crystalloids		Red blood cells	
Colloids		Others outputs	
Estimated blood loss		Urinary output	
Other inputs			
Additional information			
Duration of surgery (min)		Duration of MV (min)	
Surgical position.	Supine <input type="checkbox"/>	Trend <input type="checkbox"/>	Reverse trend <input type="checkbox"/>
Surgical incision.	Periferic <input type="checkbox"/>	Superior Abdominal <input type="checkbox"/>	Intra-thoracic <input type="checkbox"/>
Use of vasoactive drugs	<input checked="" type="checkbox"/> Yes No <input type="checkbox"/> Drug/dose : (separated with commas):		
Dose of vasoactive drugs: (in the same order as previously listed, separated with commas):			
Pneumoperitoneum pressure (mmHg):			

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Calculate ARISCAT (Automatic calculated field in online CRF):			
Anesthetic management			
Hypnotic maintenance	<input checked="" type="checkbox"/> Intravenous	<input checked="" type="checkbox"/> Halogenated	Antibiotic prophylaxis. Yes <input type="checkbox"/> No <input type="checkbox"/>
Neuromuscular blockade	Yes <input type="checkbox"/> No <input type="checkbox"/>		Epidural Analgesia Yes <input type="checkbox"/> No <input type="checkbox"/>
Quantitative Neuromuscular Monitorization	Yes <input type="checkbox"/> No <input type="checkbox"/>		Temperature monitoring Yes <input type="checkbox"/> No <input type="checkbox"/>
NMB reversion	Yes <input type="checkbox"/> No <input type="checkbox"/>		Depth of anesthesia monitoring Yes <input type="checkbox"/> No <input type="checkbox"/>
Recruitment maneuvers	Yes <input type="checkbox"/> No <input type="checkbox"/>		Individualized PEPP Yes <input type="checkbox"/> No <input type="checkbox"/>
TOFr >0,9 before extubation	Yes <input type="checkbox"/> No <input type="checkbox"/>		

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POSTOPERATIVE DATA

NOTE: Before the Air-Test a VAS < 4 must be guaranteed

Air Test after 15-30 min at PACU	SpO2: %
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POSTOPERATIVE DATA	
Acute postoperative respiratory failure at PACU	
Yes <input type="checkbox"/> No <input type="checkbox"/> If yes, indicate treatment: <input type="checkbox"/> Increase in FIO ₂ <input type="checkbox"/> HFNT <input type="checkbox"/> CPAP <input checked="" type="checkbox"/> NIMV <input checked="" type="checkbox"/> IMV	
Was the patient extubated in the OR*	
Yes <input type="checkbox"/> No <input type="checkbox"/> If not, indicate: <input checked="" type="checkbox"/> Respiratory <input checked="" type="checkbox"/> Hemodynamic <input checked="" type="checkbox"/> Neurological <input checked="" type="checkbox"/> Others:	
¿ICU due to MV requirement? Yes <input type="checkbox"/> No <input type="checkbox"/> If yes, indicate: Time until extubation (min):	

OUTCOMES

Day 1		
Does the patient have any pulmonary complication until the first day after surgery? <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
<input type="checkbox"/> Mild acute respiratory failure	<input type="checkbox"/> Severe acute respiratory failure	<input type="checkbox"/> Weaning failure
<input type="checkbox"/> ARDS mild. <input type="checkbox"/> ARDS moderate. <input type="checkbox"/> ARDS severe	<input type="checkbox"/> Respiratory infection	<input type="checkbox"/> Pleural effusion
<input type="checkbox"/> Atelectasis	<input type="checkbox"/> Pneumothorax	<input type="checkbox"/> Bronchoespasm
<input type="checkbox"/> Aspiration pneumonitis	<input type="checkbox"/> Pulmonary edema	<input type="checkbox"/> Pulmonary embolism
Imaging technique:		
<input type="checkbox"/> Chest X-ray	<input type="checkbox"/> LUS	<input type="checkbox"/> CT
Does the patient have any systemic complication? <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
<input type="checkbox"/> Surgical site infection	<input type="checkbox"/> Urinary infection	
<input type="checkbox"/> Septic shock. <input type="checkbox"/> Sepsis	<input type="checkbox"/> AKI I <input type="checkbox"/> AKI II <input type="checkbox"/> AKI III	
<input type="checkbox"/> Cardiac failure	<input type="checkbox"/> Myocardial ischemia	
<input type="checkbox"/> De novo Arrythmia	<input type="checkbox"/> Delirium	
<input type="checkbox"/> Multiorgan failure	<input type="checkbox"/> Paralytic ileus	
<input type="checkbox"/> Postoperative hemorrhage	<input type="checkbox"/> Anastomotic leakage	

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ICU admission?		<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Yes <input type="checkbox"/> No		
<input type="checkbox"/> Per protocol	<input type="checkbox"/> Respiratory	
<input type="checkbox"/> Septic shock. <input type="checkbox"/> Sepsis	<input type="checkbox"/> Multiorgan failure	
<input type="checkbox"/> renal failure	<input type="checkbox"/> Hemodynamic failure	
<input type="checkbox"/> Others:	ICU length of stay (hours):	
Re-intervention		<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Bleeding	<input type="checkbox"/> Anastomotic leakage	
<input type="checkbox"/> Infection	<input type="checkbox"/> Others:	

OUTCOMES

Day 3			
Does the patient have any pulmonary complication until the first day after surgery?			<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Mild acute respiratory failure	<input type="checkbox"/> Severe acute respiratory failure	<input type="checkbox"/> Weaning failure	
<input type="checkbox"/> ARDS mild. <input type="checkbox"/> ARDS moderate. <input type="checkbox"/> ARDS severe	<input type="checkbox"/> Respiratory infection	<input type="checkbox"/> Pleural effusion	
<input type="checkbox"/> Atelectasis	<input type="checkbox"/> Pneumothorax	<input type="checkbox"/> Bronchoespasm	
<input type="checkbox"/> Aspiration pneumonitis	<input type="checkbox"/> Pulmonary edema	<input type="checkbox"/> Pulmonary embolism	
Imaging technique:			
<input type="checkbox"/> Chest X-ray	<input type="checkbox"/> LUS	<input type="checkbox"/> CT	
Does the patient have any systemic complication?			<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Surgical site infection	<input type="checkbox"/> Urinary infection		
<input type="checkbox"/> Septic shock. <input type="checkbox"/> Sepsis	<input type="checkbox"/> AKI I	<input type="checkbox"/> AKI II	<input type="checkbox"/> AKI III
<input type="checkbox"/> Cardiac failure	<input type="checkbox"/> Myocardial ischemia		
<input type="checkbox"/> De novo Arrhythmia	<input type="checkbox"/> Delirium		
<input type="checkbox"/> Multiorgan failure	<input type="checkbox"/> Paralytic ileus		
<input type="checkbox"/> Postoperative hemorrhage	<input type="checkbox"/> Anastomotic leakage		
ICU admission?			<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Per protocol	<input type="checkbox"/> Respiratory		

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<input type="checkbox"/> Septic shock. <input type="checkbox"/> Sepsis	<input type="checkbox"/> Multiorgan failure
<input type="checkbox"/> Fallo renal	<input type="checkbox"/> Hemodynamic failure
<input type="checkbox"/> Others:	ICU length of stay (hours):
Re-intervention <input type="checkbox"/> Yes <input type="checkbox"/> No	
<input type="checkbox"/> Bleeding	<input type="checkbox"/> Anastomotic leakage
<input type="checkbox"/> Infection	<input type="checkbox"/> Others:

OUTCOMES

Day 5		
Does the patient have any pulmonary complication until the first day after surgery? <input type="checkbox"/> Yes <input type="checkbox"/> No		
<input type="checkbox"/> Mild acute respiratory failure	<input type="checkbox"/> Severe acute respiratory failure	<input type="checkbox"/> Weaning failure
<input type="checkbox"/> ARDS mild. <input type="checkbox"/> ARDS moderate. <input type="checkbox"/> ARDS severe	<input type="checkbox"/> Respiratory infection	<input type="checkbox"/> Pleural effusion
<input type="checkbox"/> Atelectasis	<input type="checkbox"/> Pneumothorax	<input type="checkbox"/> Bronchoespasm
<input type="checkbox"/> Aspiration pneumonitis	<input type="checkbox"/> Pulmonary edema	<input type="checkbox"/> Pulmonary embolism
Imaging technique:		
<input type="checkbox"/> Chest X-ray	<input type="checkbox"/> LUS	<input type="checkbox"/> CT
Does the patient have any systemic complication? <input type="checkbox"/> Yes <input type="checkbox"/> No		
<input type="checkbox"/> Surgical site infection	<input type="checkbox"/> Urinary infection	
<input type="checkbox"/> Septic shock. <input type="checkbox"/> Sepsis	<input type="checkbox"/> AKI I <input type="checkbox"/> AKI II <input type="checkbox"/> AKI III	
<input type="checkbox"/> Cardiac failure	<input type="checkbox"/> Myocardial ischemia	
<input type="checkbox"/> De novo Arrhythmia	<input type="checkbox"/> Delirium	
<input type="checkbox"/> Multiorgan failure	<input type="checkbox"/> Paralytic ileus	
<input type="checkbox"/> Postoperative hemorrhage	<input type="checkbox"/> Anastomotic leakage	
ICU admission? <input type="checkbox"/> Yes <input type="checkbox"/> No		
<input type="checkbox"/> Per protocol	<input type="checkbox"/> Respiratory	
<input type="checkbox"/> Septic shock. <input type="checkbox"/> Sepsis	<input type="checkbox"/> Multiorgan failure	
<input type="checkbox"/> Fallo renal	<input type="checkbox"/> Hemodynamic failure	
<input type="checkbox"/> Others:	ICU length of stay (hours):	

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Re-intervention		<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<input type="checkbox"/> Bleeding	<input type="checkbox"/> Anastomotic leakage	
<input type="checkbox"/> Infection	<input type="checkbox"/> Others:	

OUTCOMES

Day 7		
Does the patient have any pulmonary complication until the first day after surgery?		
		<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<input type="checkbox"/> Mild acute respiratory failure	<input type="checkbox"/> Severe acute respiratory failure	<input type="checkbox"/> Weaning failure
<input type="checkbox"/> ARDS mild. <input type="checkbox"/> ARDS moderate. <input type="checkbox"/> ARDS severe	<input type="checkbox"/> Respiratory infection	<input type="checkbox"/> Pleural effusion
<input type="checkbox"/> Atelectasis	<input type="checkbox"/> Pneumothorax	<input type="checkbox"/> Bronchoespasm
<input type="checkbox"/> Aspiration pneumonitis	<input type="checkbox"/> Pulmonary edema	<input type="checkbox"/> Pulmonary embolism
Imaging technique:		
<input type="checkbox"/> Chest X-ray	<input type="checkbox"/> LUS	<input type="checkbox"/> CT
Does the patient have any systemic complication?		
		<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<input type="checkbox"/> Surgical site infection	<input type="checkbox"/> Urinary infection	
<input type="checkbox"/> Septic shock. <input type="checkbox"/> Sepsis	<input type="checkbox"/> AKI I <input type="checkbox"/> AKI II <input type="checkbox"/> AKI III	
<input type="checkbox"/> Cardiac failure	<input type="checkbox"/> Myocardial ischemia	
<input type="checkbox"/> De novo Arrhythmia	<input type="checkbox"/> Delirium	
<input type="checkbox"/> Multiorgan failure	<input type="checkbox"/> Paralytic ileus	
<input type="checkbox"/> Postoperative hemorrhage	<input type="checkbox"/> Anastomotic leakage	
ICU admission?		
		<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<input type="checkbox"/> Per protocol	<input type="checkbox"/> Respiratory	
<input type="checkbox"/> Septic shock. <input type="checkbox"/> Sepsis	<input type="checkbox"/> Multiorgan failure	
<input type="checkbox"/> Fallo renal	<input type="checkbox"/> Hemodynamic failure	
<input type="checkbox"/> Others:	ICU length of stay (hours):	
Re-intervention		
		<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<input type="checkbox"/> Bleeding	<input type="checkbox"/> Anastomotic leakage	
<input type="checkbox"/> Infection	<input type="checkbox"/> Others:	

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Signed (Local investigator):

Name and family name:

Data:

NOTE:

At the end of the study, a copy of the CRF will be collected on paper completed and signed by the Investigator.