Le kinésithérapeute à l'extubation

CONTRE

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Conflits d’intérêts

- Conférencier pour Fisher&Paykel Healthcare

Liens d’intérêts

- Kinésithérapeute de réanimation
- Thématique de recherche = sevrage ventilatoire et réhabilitation précoce

Ce dont ne parlera pas ce topo

⇒ De sevrage ventilatoire

SEVRAGE ≠ EXTUBATION

BOLES ERJ 2007

Succès de sevrage

Extubation sans support ventilatoire pendant 48 heures

Echec de sevrage

1. Echec à l'épreuve de sevrage
2. Ré-intubation ou Support ventilatoire dans les 48 heures post extubation
3. Décès dans les 48 heures

BEDUNEAU AJRCCM 2017
PHAM LANCET RESPIR MED 2023

Succès de sevrage

Patient intubés

Extubation sans réintubation ou décès dans les 7 jours suivants l'extubation (VNI ou non)

Patients Trachéo

VS sur canule sans VM pendant 7 jours consécutifs ou sortie de réa en VS (premier des 2)

Separation attempt from MV

=> EVS avec ou sans extubation

OU

=> extubation directe sans EVS identifiée (extubation prevue ou non).

ETAPES CLÉS DU SEVRAGE

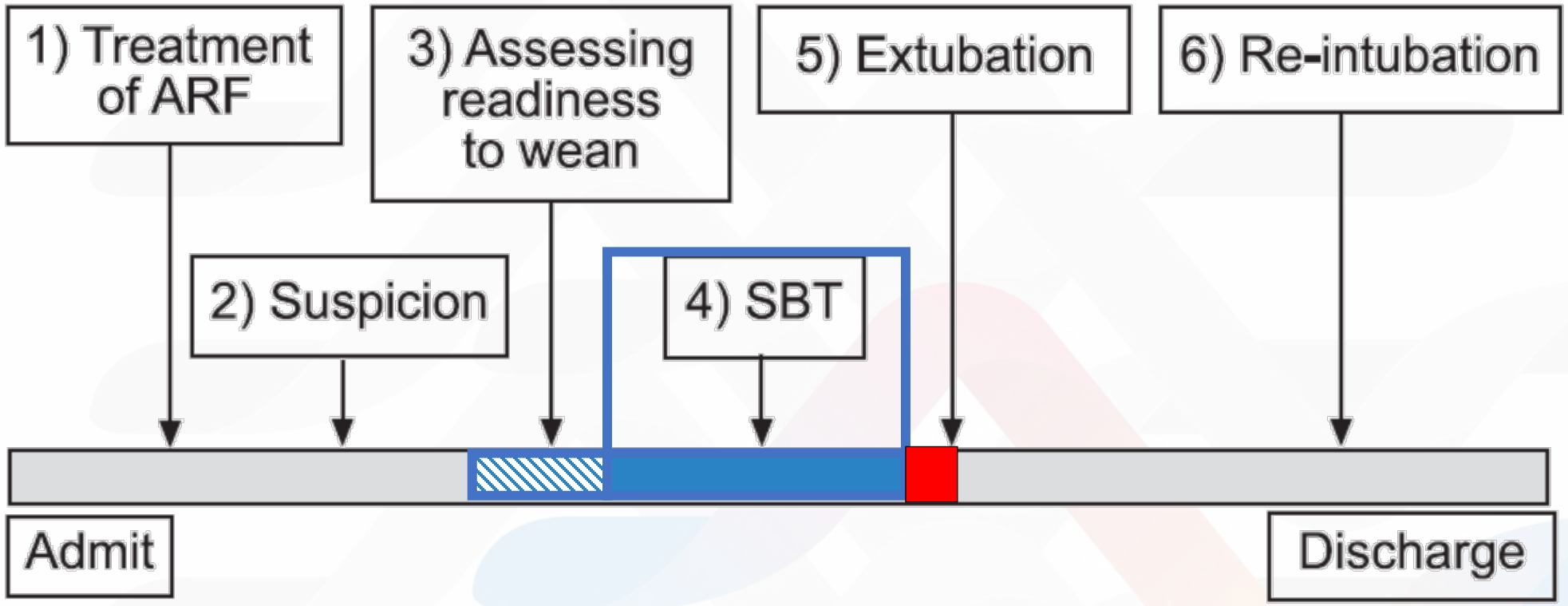


FIGURE 1. Schematic representation of the different stages occurring in a mechanically ventilated patient. ARF: acute respiratory failure; SBT: spontaneous breathing test.

Les nurses font très bien le sevrage!

The New England Journal of Medicine

EFFECT ON THE DURATION OF MECHANICAL VENTILATION OF IDENTIFYING PATIENTS CAPABLE OF BREATHING SPONTANEOUSLY

1996

E. Wesley Ely, M.D., M.P.H., Albert M. Baker, M.D., Donnie P. Dunagan, M.D., Henry L. Burke, M.D., Allen C. Smith, M.D., Patrick T. Kelly, M.D., Margaret M. Johnson, M.D., Rick W. Browder, M.D., David L. Bowton, M.D., and Edward F. Haponik, M.D.

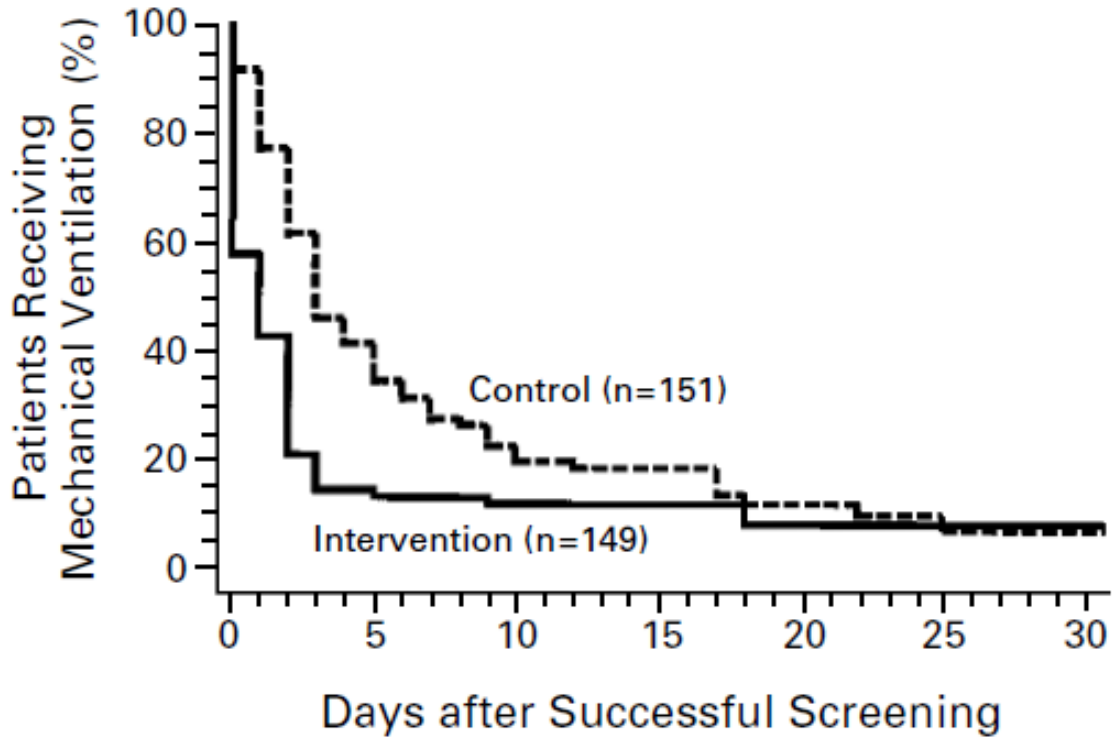


Figure 1. Kaplan–Meier Analysis of the Duration of Mechanical Ventilation after a Successful Screening Test.

Table 2. Comparison of Outcomes between Study Groups.

End Point	Intervention Group (N = 149)	Control Group (N = 151)	P Value
	median no. of days (interquartile range)		
Weaning time*	1 (0–2)	3 (2–7)	<0.001
Mechanical ventilation	4.5 (2–9)	6 (3–11)	0.003
Intensive care	8 (4–18)	9 (5–16)	0.17
Hospital care	14 (9–26)	15.5 (6–30)	0.93

*Weaning time was defined as the number of days from the time the patient had a successful screening test to the discontinuation of mechanical ventilation.

Table 3. Complications of Respiratory Failure.

Complication	Intervention Group (N = 149)	Control Group (N = 151)	P Value
	no. of patients (%)		
Any	30 (20)	62 (41)	0.001
Reintubation within 48 hr	5 (3)	12 (8)	0.08
Any reintubation	6 (4)	15 (10)	0.04
Self-extubation	2 (1)	5 (3)	0.25
Tracheostomy	13 (9)	22 (15)	0.10
Mechanical ventilation for >21 days	9 (6)	20 (13)	0.04

Reprenons

Kinésithérapeute et extubation ?

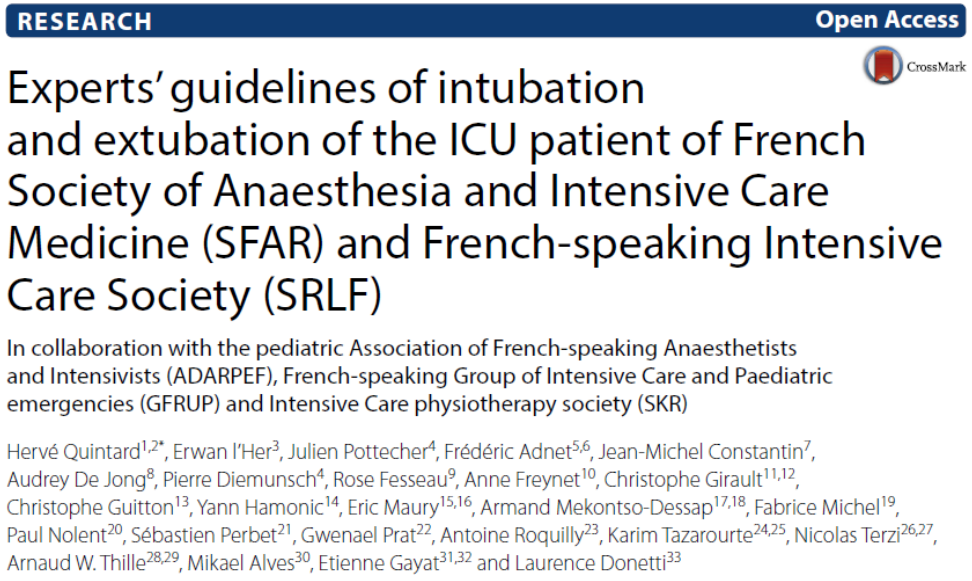
SEVRABILITE ≠ EXTUBABILITE

Qui aimerait être toujours présent?

Ou qu’un kiné soit toujours présent?

POURQUOI UN KINESITHERAPEUTE A L'EXTUBATION?

Parce que c'est recommandé



RESEARCH Open Access

CrossMark

Experts' guidelines of intubation and extubation of the ICU patient of French Society of Anaesthesia and Intensive Care Medicine (SFAR) and French-speaking Intensive Care Society (SRLF)

In collaboration with the pediatric Association of French-speaking Anaesthetists and Intensivists (ADARPEF), French-speaking Group of Intensive Care and Paediatric emergencies (GFRUP) and Intensive Care physiotherapy society (SKR)

Hervé Quintard[1,2*], Erwan l'Her[3], Julien Pottecher[4], Frédéric Adnet[5,6], Jean-Michel Constantin[7], Audrey De Jong[8], Pierre Diemunsch[4], Rose Fesseau[9], Anne Freynet[10], Christophe Girault[11,12], Christophe Guitton[13], Yann Hamonic[14], Eric Maury[15,16], Armand Mekontso-Dessap[17,18], Fabrice Michel[19], Paul Nolent[20], Sébastien Perbet[21], Gwenael Prat[22], Antoine Roquilly[23], Karim Tazarourte[24,25], Nicolas Terzi[26,27], Arnaud W. Thille[28,29], Mikael Alves[30], Etienne Gayat[31,32] and Laurence Donetti[33]

R 7.6– Treatment from a physiotherapist is probably required before and after endotracheal extubation following mechanical ventilation for more than 48 h to reduce the duration of weaning and the failure of extubation. (Grade 2+) Strong agreement.

R 7.7– A physiotherapist should probably attend endotracheal extubation, to limit immediate complications such as bronchial obstruction in patients with high risk of extubation failure. (Grade 2+) Strong agreement.

Aucune explication et Pas de RCT avec et sans kiné!

Que dit la littérature ?

National Library of Medicine
National Center for Biotechnology Information

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(((extubation) AND (physioth*)) AND (ICU))

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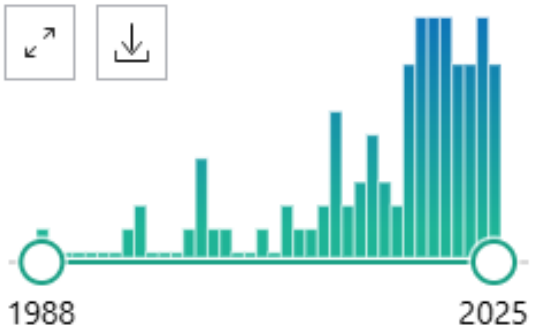
MY CUSTOM FILTERS

99 results

Page 1 of 10

RESULTS BY YEAR



Pas grand chose

Pourquoi?

ROUTINE

Réussite => 90-85% (80% patients à risques)

1. Thille JAMA 2019

Le kinésithérapeute à l'extubation

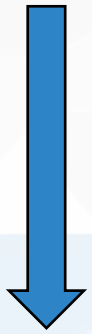
15:45 - 16:45 Jeudi 12 Juin 2025 Salle 252 A

Modérateurs

Modérateur(trice): Matthieu REFFIENNA (matthieu.reffienna@gmail.com)

Interventions

15:45 16:15	**Pour**	Anne FREYNET-LORILLARD lorillard.anne@hotmail.fr



Sans kiné on extube pas

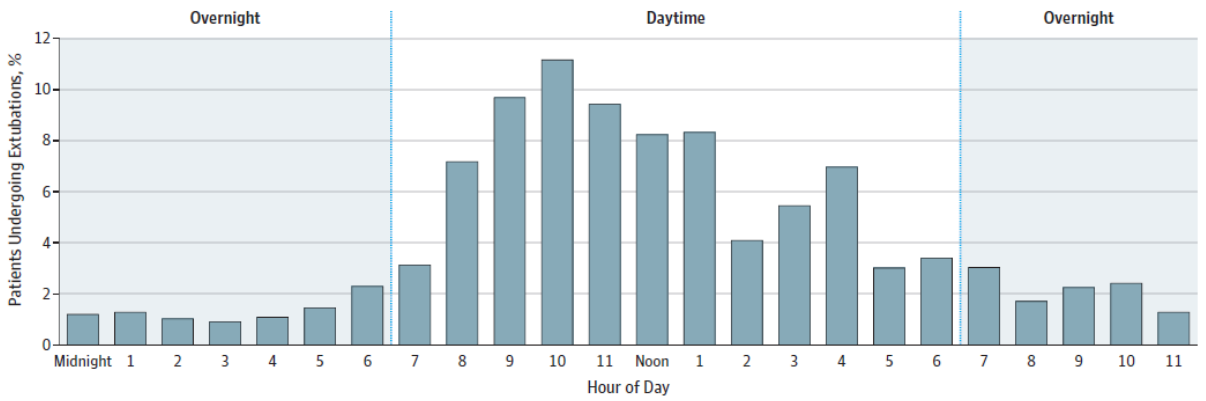
Extubation de nuit?

JAMA Internal Medicine | Original Investigation

Association Between Overnight Extubations and Outcomes in the Intensive Care Unit

Hayley B. Gershengorn, MD; Damon C. Scales, MD, PhD; Andrew Kramer, PhD; Hannah Wunsch, MD, MSc

Figure 1. Distribution of Time-of-Day of Extubations



Overnight extubation was defined as occurring from 7 PM to 6:59 AM. Of the primary cohort of 97 844, in total, 79.9% of extubations occurred during the daytime and 20.1% occurred overnight.

80 % vs 20%

› *Eur J Anaesthesiol* (IF: 4.33; **Q2**). 2021 Aug 4. doi: 10.1097/EJA.0000000000001579.
Online ahead of print.

Association between night-time extubation and clinical outcomes in adult patients: A systematic review and meta-analysis

Mariachiara Ippolito [1], Giulia Catalisano, Pasquale Iozzo, Santi Maurizio Raineri, Cesare Gregoretti, Antonino Giarratano, Sharon Einav, Andrea Cortegiani

Affiliations + expand

PMID: 34352806 DOI: 10.1097/EJA.0000000000001579

Extubation de nuit?

Results: Seven retrospective studies were included in the systematic review and meta-analysis, for a total of 293 663 patients. All the studies were performed in United States (USA). All the studies were judged at moderate risk of bias for reintubation and mortality. The analyses were conducted with random effects models. The analyses from adjusted estimates demonstrated no association between night-time extubation and increased risk of either reintubation (OR 1.00; 95% CI 0.88 to 1.13; P = 1.00; I2 = 66%; low-certainty evidence) or all-cause mortality at the longest available follow-up (OR 1.11; 95% CI 0.87 to 1.42; P = 0.39; I2 = 79%; low-certainty evidence), in comparison with daytime extubation. Analyses from unadjusted data for reintubation, mortality and ICU or in-hospital length of stay showed no significant association with night-time extubation. Analyses based on type of admission, number of centres or duration of mechanical ventilation showed no significant subgroup effects.

Conclusion: Night-time extubation of adult patients was not associated with higher adjusted risks for reintubation or death, in comparison with daytime extubation, but the certainty of the evidence was low.

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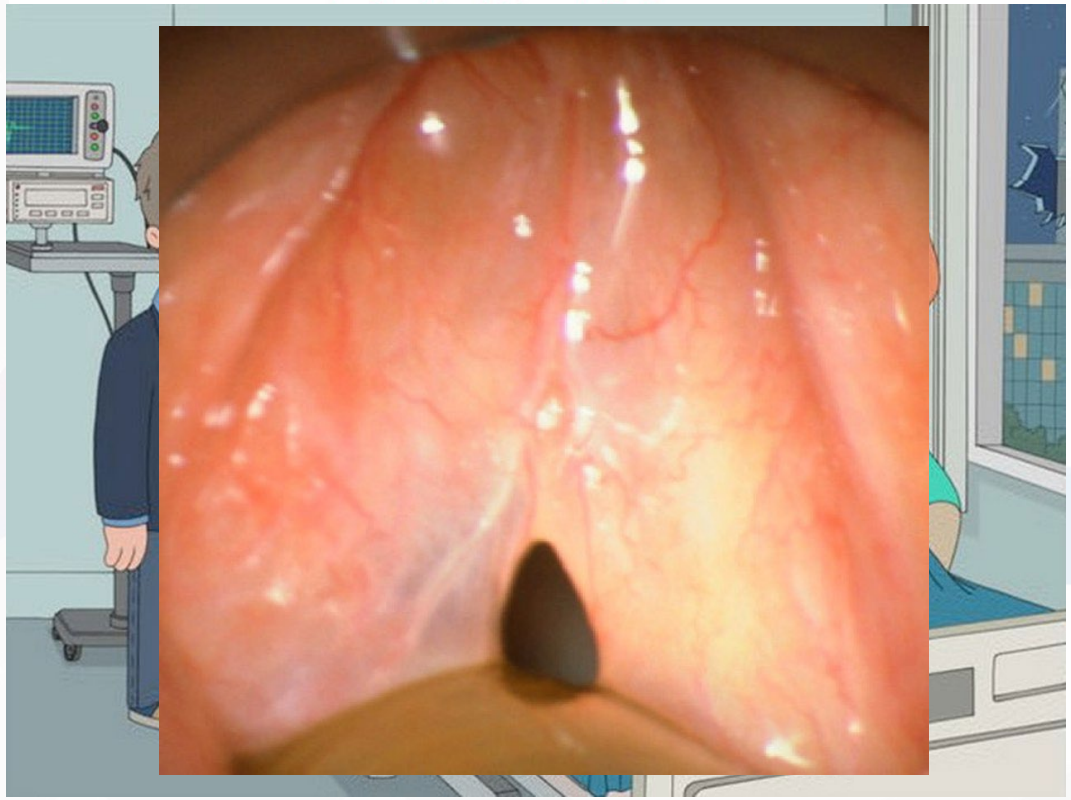
Causes d’échec d’extubation

Echec d'extubation

- Insuffisance respiratoire Aigue (musculaire)
- Insuffisance cardiaque
- Encombrement Bronchique/Toux inefficace
- Tb neurologique
- Obstruction des VA sup



1. Thille, Am J Respir Crit Care Med, 2013
2. Wittekamp, Crit Care, 2009

Le kinésithérapeute peut-il prévenir l'insuffisance respiratoire aigue post extubation ?

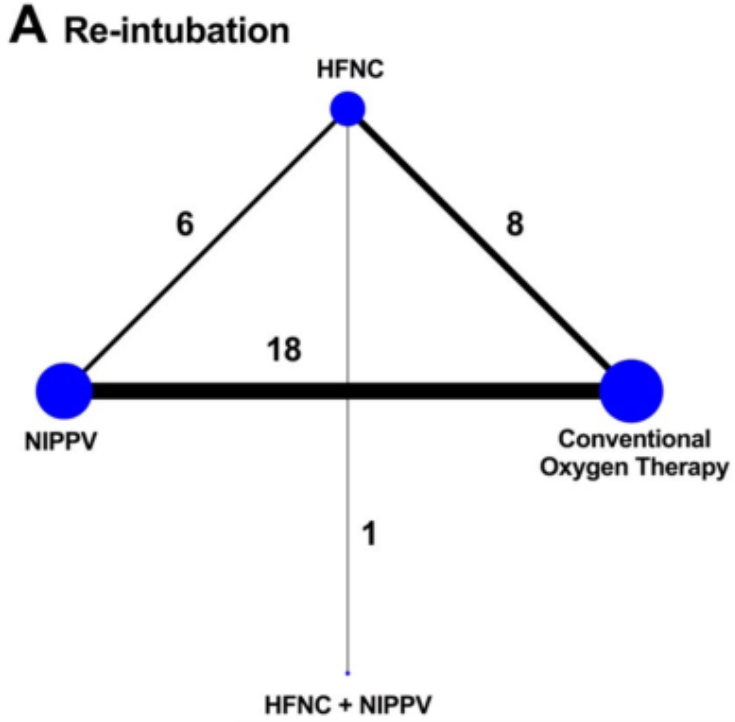
Prévention de l'échec d'extubation?

Intensive Care Med (2022) 48:137–147
https://doi.org/10.1007/s00134-021-06581-1

SYSTEMATIC REVIEW

Noninvasive respiratory support following extubation in critically ill adults: a systematic review and network meta-analysis

Shannon M. Fernando[1,2*], Alexandre Tran[1,3,4], Behnam Sadeghirad[5,6], Karen E. A. Burns[6,7,8], Eddy Fan[7,9,10,11], Daniel Brodie[12,13], Laveena Munshi[7,9,10], Ewan C. Goligher[7,9,10,11], Deborah J. Cook[6,14], Robert A. Fowler[7,9,15], Margaret S. Herridge[7,9,10,11], Pierre Cardinal[1], Samir Jaber[16,17], Morten Hylander Møller[18], Arnaud W. Thille[19,20], Niall D. Ferguson[7,9,10,11], Arthur S. Slutsky[7,8], Laurent J. Brochard[7,8], Andrew J. E. Seely[1,3,4,21] and Bram Rochwerg[6,14]



	OR (CI 95%)	Différence de risque absolue	Nb à traiter
VNI vs O2	0,65 (0,52-0,82)	-5,18	20 (13-45)
OHD vs O2	0,63 -0,45-0,87)	- 3,84	26 (15-102)
VNI vs OHD	1,04 (0,78-1,38)	-1,34	-
VNI+OHD vs O2	0,38 (0,19-0,74)	-10,25	10 (6-50)

Tous les patients présentent-ils une faiblesse de toux ?

Force de toux

[Original Research Critical Care]

CHEST

Inability of Diaphragm Ultrasound to Predict Extubation Failure

A Multicenter Study

Emmanuel Vivier, MD; Michel Muller, MD; Jean-Baptiste Putegnat, MD; Julie Steyer, MD; Stéphanie Barrau, MD; Florence Boissier, MD, PhD; Gaël Bourdin, MD; Armand Mekontso-Dessap, MD, PhD; Albrice Levrat, MD; Christian Pommier, MD; and Arnaud W. Thille, MD, PhD

Extubation failure rates were 7%, 22%, and 46% in patients with effective, moderate, and ineffective cough, respectively ($P < .01$) (Fig 3). Multivariate logistic regression analysis showed that effective cough was the only factor independently associated with extubation success at day 7: OR, 0.30; 95% CI, 0.14-0.67; $P < .01$ (e-Table 3).

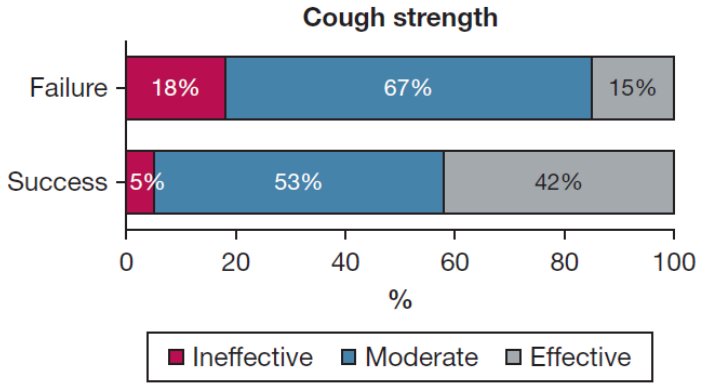


Figure 3 – *Cough strength according to extubation outcome at day 7. Patients who failed extubation were more likely to have ineffective cough than the others (18% vs 5%; P < .01) and less likely to have effective cough (15% vs 42%: P < .01).*

Clinical assessment			
MRC score, points	46 ± 14	38 ± 15	< .01
MRC score < 48	66/146 (45%)	23/32 (72%)	< .01
Abundant sputum	27/147 (18%)	6/32 (19%)	.96
Cough strength			< .01
Ineffective (0-1)	7/148 (5%)	6/33 (18%)	
Moderate (2-3)	79/148 (53%)	22/33 (67%)	
Effective (4)	62/148 (42%)	5/33 (15%)	
Spirometric measurements			
Respiratory rate, min^{-1}	27 ± 7	29 ± 9	.43
Tidal volume, mL	375 ± 134	354 ± 104	.73
Vital capacity, mL	1142 ± 522	978 ± 480	.09
Maximal inspiratory pressure, cm H_2O	−42 ± 16	−44 ± 19	.80
Maximal expiratory pressure, cm H_2O	50 ± 24	50 ± 26	.98
Cough peak expiratory flow, L/min	61 ± 24	58 ± 22	.41
CPEF ≤ 35	12/132 (9%)	2/28 (7%)	.74
CPEF ≤ 60	74/132 (56%)	18/28 (64%)	.42
Rapid shallow breathing index, breaths/min/mL	81 ± 43	88 ± 49	.51
$f/V_T > 105$	32/112 (29%)	10/28 (36%)	.46

Semiquantitative Cough Strength Score for Predicting Reintubation After Planned Extubation

By Jun Duan, MD, Lintong Zhou, MD, Meiling Xiao, RN, Jinhua Liu, RN, and Xiangmei Yang, RN

0 = no cough on command,
1 = audible movement of air through the endotracheal tube but no audible cough,
2 = weakly (barely) audible cough,
3 = clearly audible cough,
4 = stronger cough
5 = multiple sequential strong coughs.

Table 4
Relationship between semiquantitative cough strength score (SCSS) and cough peak flow (CPF)[a]

SCSS	CPF, L/min
0	38.36 (11.57)
1	39.51 (11.34)
2	44.67 (18.70)
3	57.54 (20.98)
4	78.96 (32.62)
5	113.69 (35.68)

[a] Comparison of CPF between different SCSS groups used 1-way analysis of variance ($P < .001$).

Table 5
Relative risk of reintubation in patients with different semiquantitative cough strength scores (SCSSs)

SCSS	Total No.	No. (%)	Relative risk (95%CI)
5	49	2 (4)	1.0 (Reference)
4	38	5 (13)	3.2 (0.7-15.7)
3	31	5 (16)	4.0 (0.8-19.1)
2	31	6 (19)	4.7 (1.0-22.0)
1	20	5 (25)	6.1 (1.3-29.0)
0	17	5 (29)	7.2 (1.5-33.8)

Table 2
Data collected when the patients passed a spontaneous breathing trial indicating readiness for extubation[a]

Variable	Extubation success (n = 158)	Reintubation (n = 28)	*P*
Respiratory rate, breaths/min	23 (5)	23 (4)	.96
Tidal volume, mL	444 (135)	383 (110)	.02
Minute ventilation, L	9.8 (2.8)	8.8 (2.7)	.08
Respiratory rate/tidal volume	60 (24)	64 (21)	.33
Heart rate, beats/min	95 (15)	99 (18)	.18
Systolic blood pressure, mm Hg	127 (18)	122 (20)	.21
Diastolic blood pressure, mm Hg	75 (11)	70 (10)	.02
pH	7.44 (0.48)	7.42 (0.07)	.15
$Paco_2$, mm Hg	45 (12)	48 (15)	.18
Pao_2, mm Hg	92 (25)	97 (31)	.38
Fraction of inspired oxygen (Fio_2)	0.41 (0.05)	0.42 (0.05)	.08
Pao_2/Fio_2	233 (79)	232 (73)	.93
Cough peak flow, L/min	74.3 (40.0)	51.7 (29.4)	.005
Semiquantitative cough strength score	3.2 (1.6)	2.2 (1.6)	.002

[a] Values in second and third column are expressed as mean (SD).

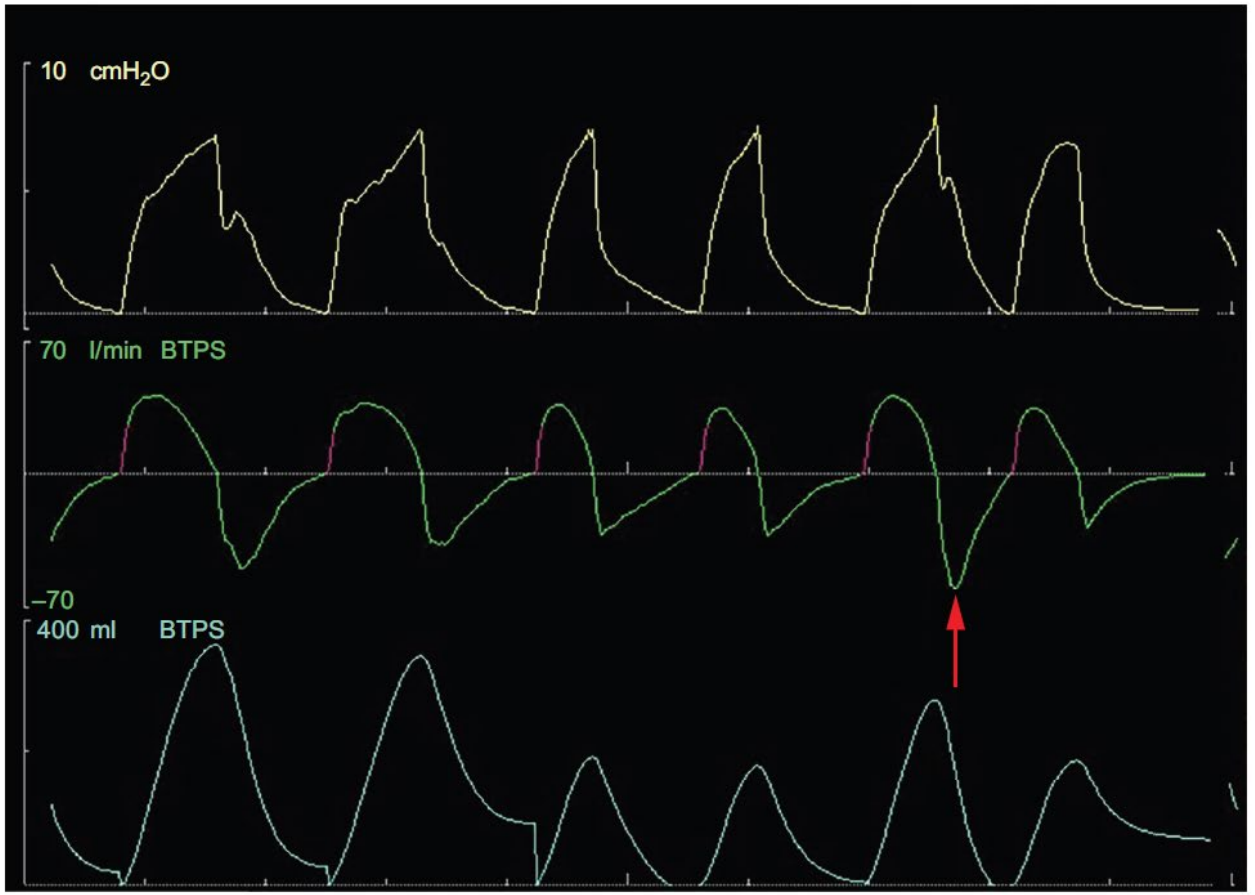


Fig. 2. On this ventilator screen, the central curve displays the inspiratory and expiratory flow. The red arrow shows the peak expiratory flow.

Faut-il désencombrer tous les patients en post-extubation immédiate ?

Cochrane Library

Cochrane Database of Systematic Reviews

Cough augmentation techniques for extubation or weaning critically ill patients from mechanical ventilation (Review)

Rose L, Adhikari NKJ, Leasa D, Fergusson DA, McKim D

Conclusions

Very low-quality evidence from single trial findings suggests that cough-promoting techniques might increase successful removal of the breathing tube and decrease the time spent on mechanical ventilation, while not causing harm. The limited participant numbers made it difficult to determine the likelihood of harms.

Kinésithérapie de désencombrement

- SBT
- MIE avant extubation (3 séries)
- MIE pendant 48 heures (3 séries 3x par jour)

=> Diminution du taux de réintubation (48% versus 17%)

Gonçalves et al. Critical Care 2012, 16:R48
http://ccforum.com/content/16/2/R48

CRITICAL CARE

RESEARCH Open Access

Effects of mechanical insufflation-exsufflation in preventing respiratory failure after extubation: a randomized controlled trial

Miguel R Gonçalves[1,2*], Teresa Honrado[2], João Carlos Winck[1] and José Artur Paiva[2]

Table 2 Postextubation outcomes data

	Group A (n = 40)	Group B (MI-E) (n = 35)
NIV application, n (%)	20 (50%)	14 (40%)
Reasons for NIV (n)		
Respiratory rate > 35 beats/min	5 (25%)	9 (64%)
SpO_2 < 90%	4 (20%)	1 (7%)
20% variation of HR or BP	1 (5%)	-
PaO_2 < 60; $PaCO_2$ >45	10 (50%)	4 (29%)
Total period of MV (days)	17.8 ± 6.4[a]	11.7 ± 3.5[a]
Patients reintubated (n, %)	19 (48%)[a]	6 (17%)[a]
Causes of reintubation (n)		
Respiratory pauses with loss of consciousness	-	1
Respiratory distress after 2-h NIV	6	2
Decreasing level of consciousness	2	-
Intolerance to NIV	2	-
Hypotension (systolic BP < 90 mm Hg for > 30 minutes)	-	1
Secretion encumbrance associated with severe hypoxemia	9	2
NIV failure rate, n (%)	13 (65%)[a]	2 (14%)[a]
Total ICU length of stay	19.3 ± 8.1	16.9 ± 11.1
Postextubation ICU length of stay	9.8 ± 6.7[a]	3.1 ± 2.5[a]

Kinésithérapie de désencombrement

ORIGINAL ARTICLE

Philippe Wibart[1], Thomas Réginault[1], Margarita Garcia-Fontan[1], Bérangère Barbrel[1], Clement Bader[1], Antoine Benard[2], Verônica Franco Parreira[3], Daniel Gonzalez-Antón[1], Nam H. Bui[1], Didier Gruson[1], Gilles Hilbert[1], Roberto Martinez-Alejos[4], Frédéric Vargas[1]

Effects of mechanical in-exsufflation in preventing postextubation acute respiratory failure in intensive care acquired weakness patients: a randomized controlled trial

- 123 patients avec ICUAW
- Techniques classiques vs Techniques classiques + MIE
- ARF 48h post extubation :
  - ❖Etude stoppée
  - ❖11,5% vs 16,4%
  - ❖Peu d'ARF post extubation
  - ❖Plus d'aspiration dans le groupe contrôle

Table 2 - Primary and secondary outcome data

Outcomes	Control Group (n = 61)	MI-E Group (n = 61)*	p value
Primary outcome			
Acute respiratory failure on 48 hours after extubation	7 (11.5)	10 (16.4)	0.602
Secondary outcomes			
Reintubation on 48 hours after extubation	2 (3.6)	6 (10.7)	0.271
Postextubation ICU length of stay (days)	3 (2 - 7)	4 (2 - 7)	0.329
Patients needing at least one airway suctioning during session	19 (31.1)	7 (11.7)	0.010†
Patients needing at least one additional session	9 (14.8)	7 (11.7)	0.789
VAS comfort	5.5 (5.0 - 7.0)	5.9 (5.0 - 7.5)	0.641

MI-E Group - conventional chest physiotherapy + mechanical insufflation-exsufflation; ICU - intensive care unit; VAS - visual analog scale. * Data was completely missing for one patient after 61 were included in this group for analyzing the secondary outcomes; † $p < 0.05$. Results expressed as n (%) or median (interquartile range 25% - 75%).

Wibart Crit Care Sci 2023

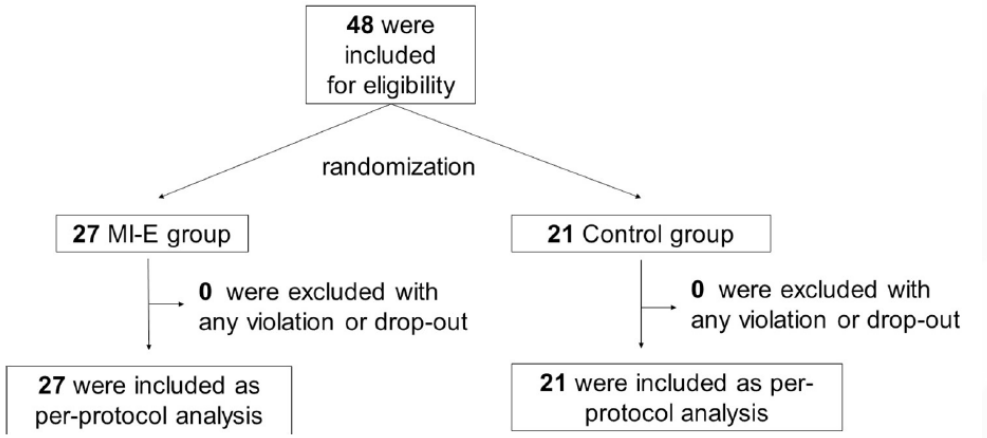


Fig 1. Subject flowchart.

Inclusion :

VM > 24h

≥ 1 AET par heure sécrétions abondantes

Intervention :

MI/E juste avant chaque AET jusqu'à l'extubation

≥ 1 AET par heure sécrétions abondantes

Table 2. Clinical outcomes of subjects in MI-E and control groups.

Results	Control (n = 21)	MI-E (n = 27)	p-value
Primary outcome			
Ventilator-free days by day 28, median (IQR)	18 (0–23)	21 (13–24)	0.38
Secondary outcomes			
duration of mechanical ventilation in surviving subjects, median (IQR)	8 (4–14)	6 (3–9)	0.19
ICU length of stay in surviving subjects, median (IQR)	12 (6–15)	10 (7–12)	0.31
28-day mortality, no./total (%)	3/21 (14.2)	6/27 (22.2)	0.71
Tracheostomy in surviving subjects, no./total (%)	4/18 (22.2)	3/21 (14.3)	0.68

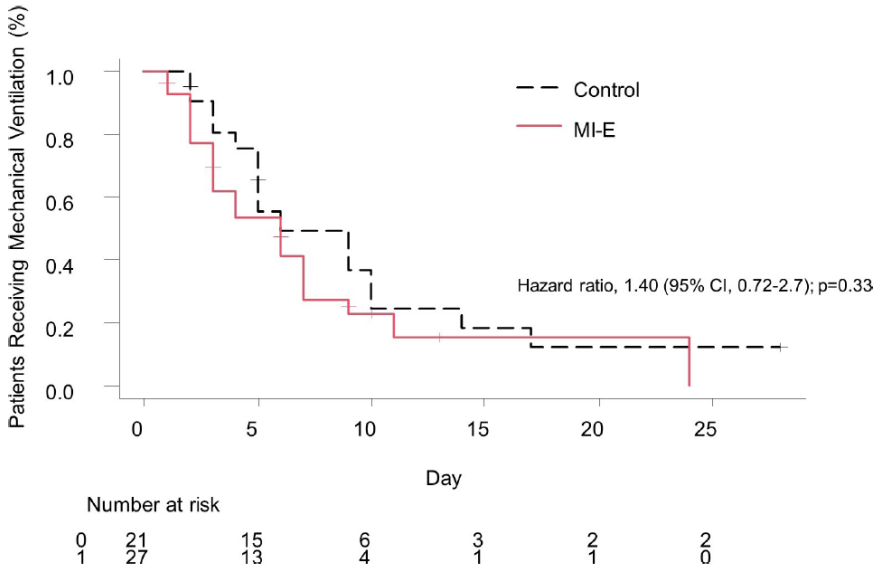


Fig 2. Kaplan–Meier analysis of the duration of mechanical ventilation.

Des troubles de la déglutition immédiats ?

Dysphagie post extubation

Table 1
Characteristics of included studies.

Study	Sample size	Country	Design	Study population	Dysphagia assessment method	Median duration intubation (days)	Incidence (%)
Ajemian, 2010	48	USA	Prospective	Mixed medical and surgical ICU	FEES	Not stated	56
Ambika, 2019	41	India	Prospective	Adult ICU	FEES	6	17
Barker, 2009	254	Canada	Retrospective	Cardiac	CSE	4.8	51
Borders, 2019	103	USA	Prospective	Respiratory	FEES	Not stated	34
Brodsky, 2014	132	USA	Prospective	Respiratory	Patient report	8	34
Brodsky, 2017	115	USA	Prospective	Respiratory	Patient report	8	32
Daly, 2016	126	New Zealand	Retrospective	Cardiac	CSE	6.6	10
El Solh, 2003	84	USA	Prospective	Medical ICU	FEES	Not stated	44
Fernandez, 2015	44	USA	Prospective	Not stated	CSE	Not stated	30
Gee, 2015	50	USA	Prospective	Cardiac	Bedside dysphagia screen	Not stated	20
Hafner, 2008	295	Austria	Prospective	Mixed medical and surgical ICU	FEES	Not stated	39
Johnson, 2018	66	USA	Prospective	Mixed medical and surgical ICU	Bedside dysphagia screen	Not stated	56
Kallesen, 2016	106	New Zealand	Prospective	Mixed medical and surgical ICU	FEES	0.5	12
Kowk, 2013	270	USA	Prospective	Trauma	CSE	Not stated	53
Leaton, 2014	93	USA	Prospective	Mixed medical and surgical ICU	Bedside dysphagia screen	Not stated	83
Leder, 1998	20	USA	Prospective	Trauma	FEES	13	45
Leder, 2019	202	USA	Prospective	Mixed medical and surgical ICU	Screen	Not stated	13
Lisker, 2009	65	USA	Retrospective	Not stated	FEES	Not stated	78
Lynch, 2017	45	USA	Prospective	Respiratory	FEES	3.3	31
Macht, 2011	368	USA	Retrospective	Mixed medical and surgical ICU	CSE	Not stated	81
Martino, 2017	100	Canada	Prospective	Cardiac	VFSS	Not stated	60
Marvin, 2018	68	USA	Prospective	Mixed medical and surgical ICU	FEES	4.9	57
Medeiros, 2016	150	Brazil	Prospective	Mixed medical and surgical ICU	CSE	Not stated	73
Megarbane, 2010	209	France	Prospective	Poisoned	Self-report	1	56
Mukdad, 2019	50	USA	Prospective	Liver transplant	Bedside dysphagia screen	Not stated	40
Nakanishi, 2018	104	Japan	Prospective	Mixed medical and surgical ICU	FEES	7	24
Nizolek, 2014 a	70	USA	Retrospective	Mixed medical and surgical ICU	FEES	6.8	47
Nizolek, 2014 b	70	USA	Prospective	Mixed medical and surgical ICU	FEES or VFSS	7.6	26
Oliveira, 2018	181	Brazil	Retrospective	Mixed medical and surgical ICU	CSE	6.3	36
Omura, 2019	216	Japan	Prospective	Mixed medical and surgical ICU	Bedside dysphagia screen	Not stated	12
Padovani, 2013	35	Brazil	Prospective	Mixed medical and surgical ICU	CSE	Not stated	37
Park, 2017	19	Korea	Prospective	Mixed medical and surgical ICU	VFSS	Not stated	68
Regala, 2019	111	USA	Retrospective	Mixed medical and surgical ICU	CSE	2	41
Scheel, 2016	59	USA	Prospective	Mixed medical and surgical ICU	FEES	9.4	58
Skoretz, 2014	909	Canada	Retrospective	Cardiac	CSE	Not stated	6
Takeuchi, 2011	102	Japan	Prospective	ICU	Not adequately described	Not stated	30
Turra, 2014	240	Brazil	Prospective	Not stated	Not adequately described	Not stated	17
Zhou, 2017	578	China	Prospective	Cardiac	Bedside dysphagia screen	Not stated	8

CSE, clinical swallowing examination; FEES, fiberoptic endoscopic evaluation of swallowing; ICU, intensive care unit; VFSS, videofluoroscopy swallowing study.

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Review Paper

Post-extubation dysphagia incidence in critically ill patients: A systematic review and meta-analysis☆

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Des incidences hétérogènes

6-68%

Récupération spontanée ?

Dysphagia (2019) 34:210–219
https://doi.org/10.1007/s00455-018-9926-3

ORIGINAL ARTICLE

Post-extubation Dysphagia: Does Timing of Evaluation Matter?

Stevie Marvin[1] · Susan Thibeault[2] · William J. Ehlenbach[3]

Table 1 Ratings of airway invasion

Description	PAS	Airway invasion
Material does not enter airway	1	Normal
Material enters airway, remains above the vocal folds, and is ejected	2	
Material enters airway, remains above the vocal folds, and is not ejected	3	Penetration
Material enters the airway, contacts the vocal folds, and is ejected	4	
Material enters the airway, contacts the vocal folds, and is not ejected	5	
Material enters the airway, below the vocal folds, and is ejected	6	Aspiration
Material enters the airway, below the vocal folds, and is not ejected despite effort	7	
Material enters the airway, below the vocal folds, and is not ejected, no effort	8	

- Reprise alimentaire
  - ❖69% entre 2-4 heures
  - ❖76% entre 28-48 heures

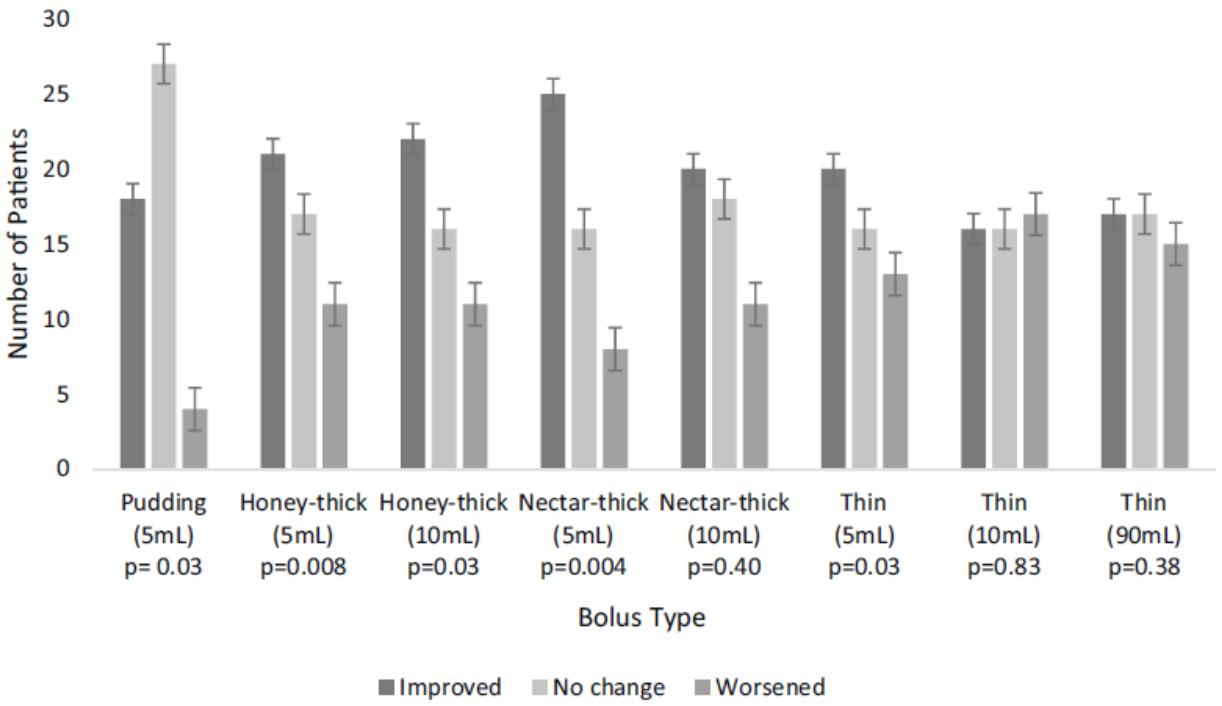


Fig. 1 Change in airway invasion score (normal, penetration, aspiration) between first and second FEES (improved, no change, worsened) in each consistency trial

L’œdème laryngé ?

Œdème laryngé?

- Test de fuite (10-13% ou <110 ml)
  - =>Kuriyama Crit Care 2020
  - => Sen 0,66 (95% CI 0.46–0.81) and Spe 0.88 (95% CI 0.83–0.92) sur le risque de réintubation
- Administration de corticoïdes 12h avant chez le patient ventilé > 36 heures [1]

	Placebo (n=343)	Methylprednisolone (n=355)	Total (n=698)	p
Laryngeal oedema				<0·0001
No	267 (78%)	344 (97%)	611 (88%)	
Yes	76 (22%)	11 (3%)	87 (12%)	
Severity of oedema				0·68
Minor	62 (82%)	10 (91%)	72 (83%)	
Major	14 (18%)	1 (9%)	15 (17%)	
Delay of occurrence*				0·83
≤5 min	36 (47%)	5 (45%)	41 (47%)	
6–30 min	26 (34%)	3 (27%)	29 (33%)	
>30 min	14 (18%)	3 (27%)	17 (20%)	
Reintubation				0·02
No	317 (92%)	342 (96%)	659 (94%)	
Yes	26 (8%)	13 (4%)	39 (6%)	
Context of reintubation				0·007
No laryngeal oedema	9 (35%)	11 (85%)	20 (51%)	
Laryngeal oedema				
Reintubation linked to oedema	14 (54%)	1 (8%)	15 (38%)	
Reintubation not linked to oedema	3 (12%)	1 (8%)	4 (10%)	

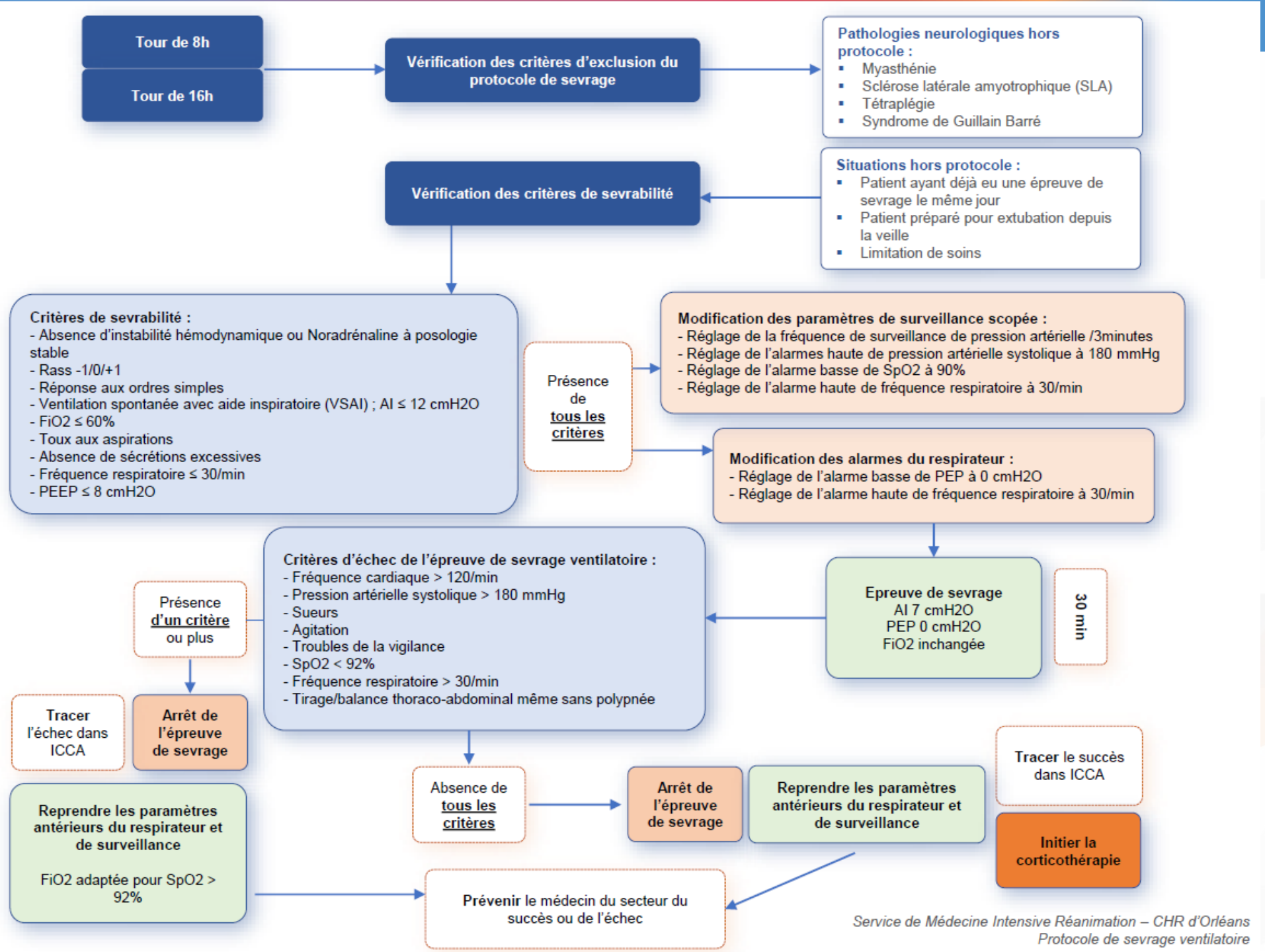
Data are number (%). Comparisons between groups were done with χ^2 test (or Fisher's exact test, when necessary). Minor laryngeal oedema=stridor defined as audible high-pitched inspiratory wheeze associated with respiratory distress needing medical intervention. Major laryngeal oedema=severe respiratory distress needing tracheal reintubation secondary to upper-airway obstruction visualised during laryngoscopy. *Delay of occurrence relative to extubation.

Table 2: **Main and secondary endpoints**

1. François, LANCET, 2007

En pratique

Exemple de la MIR d’Orléans



Service de Médecine Intensive Réanimation – CHR d'Orléans
Protocole de sevrage ventilatoire

Réussite de l'épreuve de sevrage

Corticothérapie?

sur prescription médicale dès la réussite de l'EVS

VM < 48h
Absence de FDR
= PAS de corticoïde

FDR d'œdème laryngé
= 20mg x 4 de méthylprednisolone (12 h avant l'extubation)

1 heure

Reventiler le patient avec les mêmes paramètres avant l'EVS

FDR d'œdème laryngé:

- *Durée de VM ≥ 48 heures*
- *Sonde d'IOT ≥8,5 mm pour un homme et ≥8mm pour une femme*
- *Femme avec un IMC ≥ 35 kg/m²*
- *Œdème cervical*
- *IOT difficile ou traumatique*
- *Réintubation sur dyspnée laryngée = méthylprednisolone 1mg/kg +test de fuite par kinésithérapeute*

Avec kinésithérapeute dans l'heure si:
- Toux inefficace
- Patient encombré
- Trouble déglutition / hypersialorrhée

Arrêt Nutrition Entérale / Aspiration SNG
EXTUBATION *(1 IDE, 1 AS)*

Support d'oxygénation post-extubation?

FDR d'échec d'extubation:

- *BPCO ou SAOS*
- *Insuffisance cardiaque*
- *Hypercapnie avec $PaCO_2$ >45 mmHg avant extubation*
- *Antécédent d'échec d'extubation*
- *Obésité*

Absence de FDR
O2 standard

Absence de FDR
Et
Etiologie respiratoire ou
FiO_2≥ 50% avant extubation
OHD

FDR
VNI + OHD
(VNI 2h/4h et la nuit)

VM: Ventilation mécanique; FDR: Facteur de risque; EVS: Epreuve de ventilation spontanée; IOT: Intubation orotrachéale; VNI: Ventilation non invasive; OHD: Oxygénothérapie à haut débit; BPCO: Bronchopneumopathie chronique obstructive; SAOS: Syndrome d'apnée obstructive du sommeil

Merci

chu Orléans

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