



« Gestion moderne » de la sédation et de la douleur en Réanimation

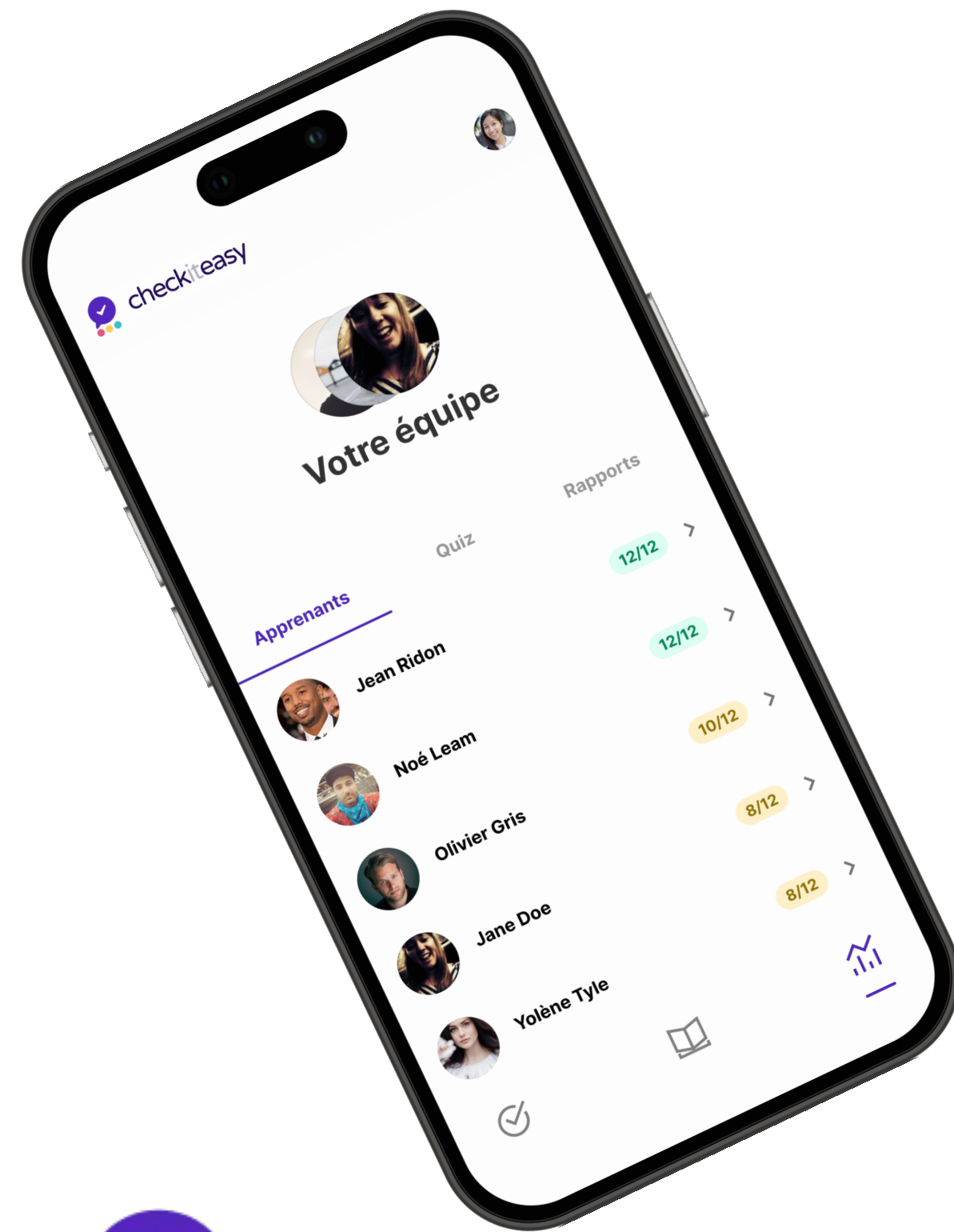
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GH Pitié-Salpêtrière - Paris



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Liens d'intérêt



Sédation

C'est l'affaire de tous ...

Révolution



1995



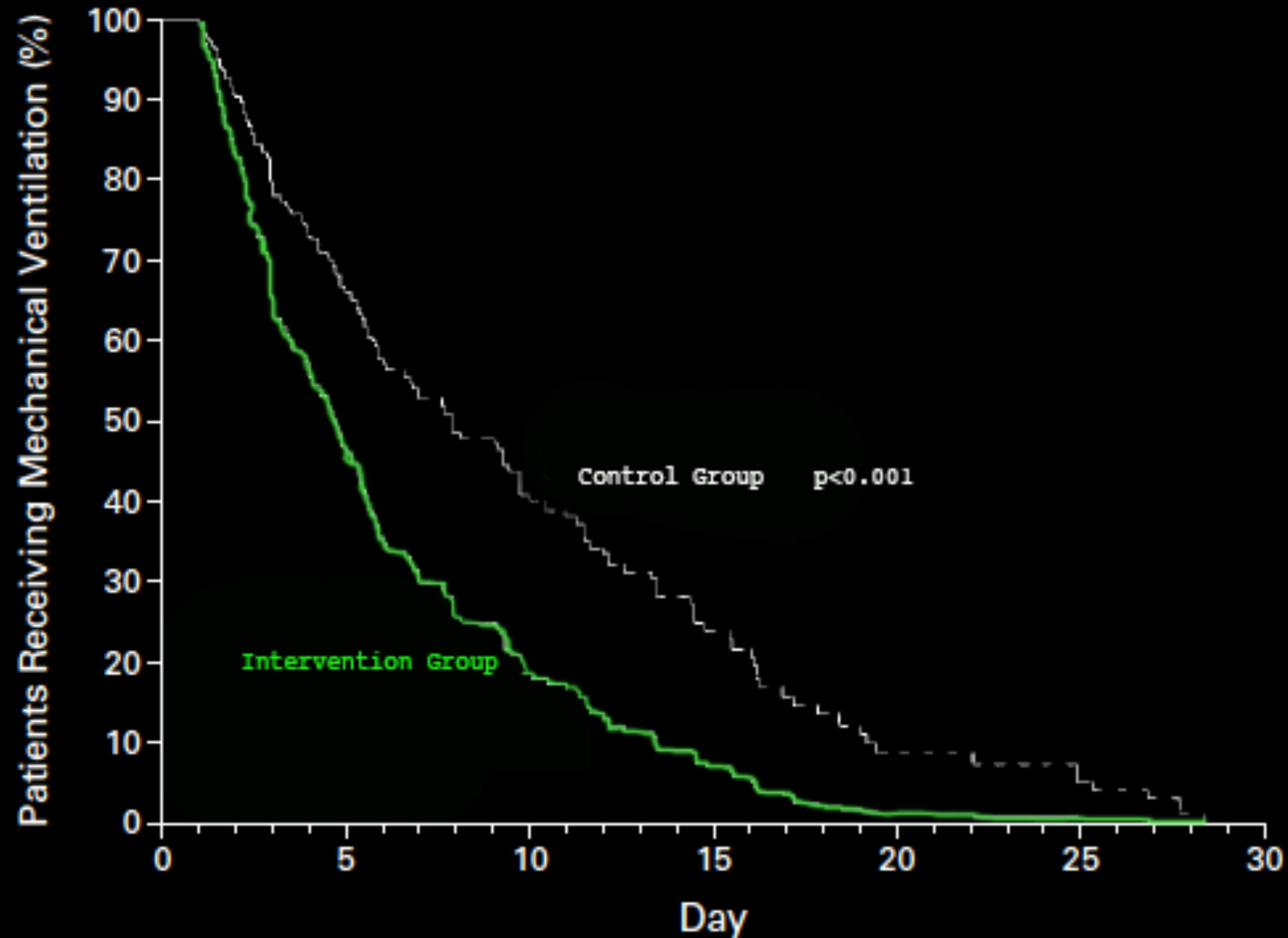
2023

Révolution

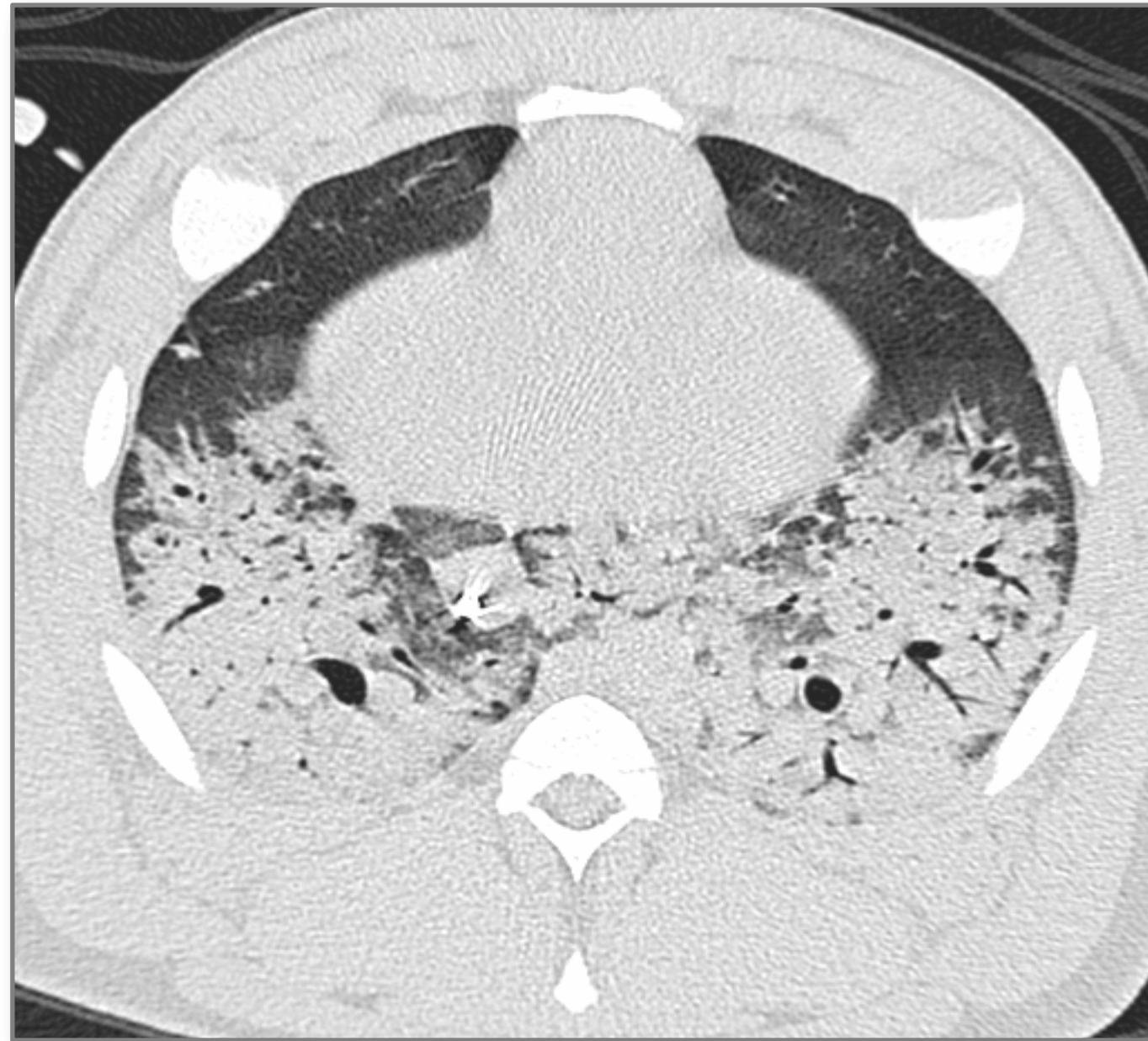


DAILY INTERRUPTION OF SEDATIVE INFUSIONS IN CRITICALLY ILL PATIENTS UNDERGOING MECHANICAL VENTILATION

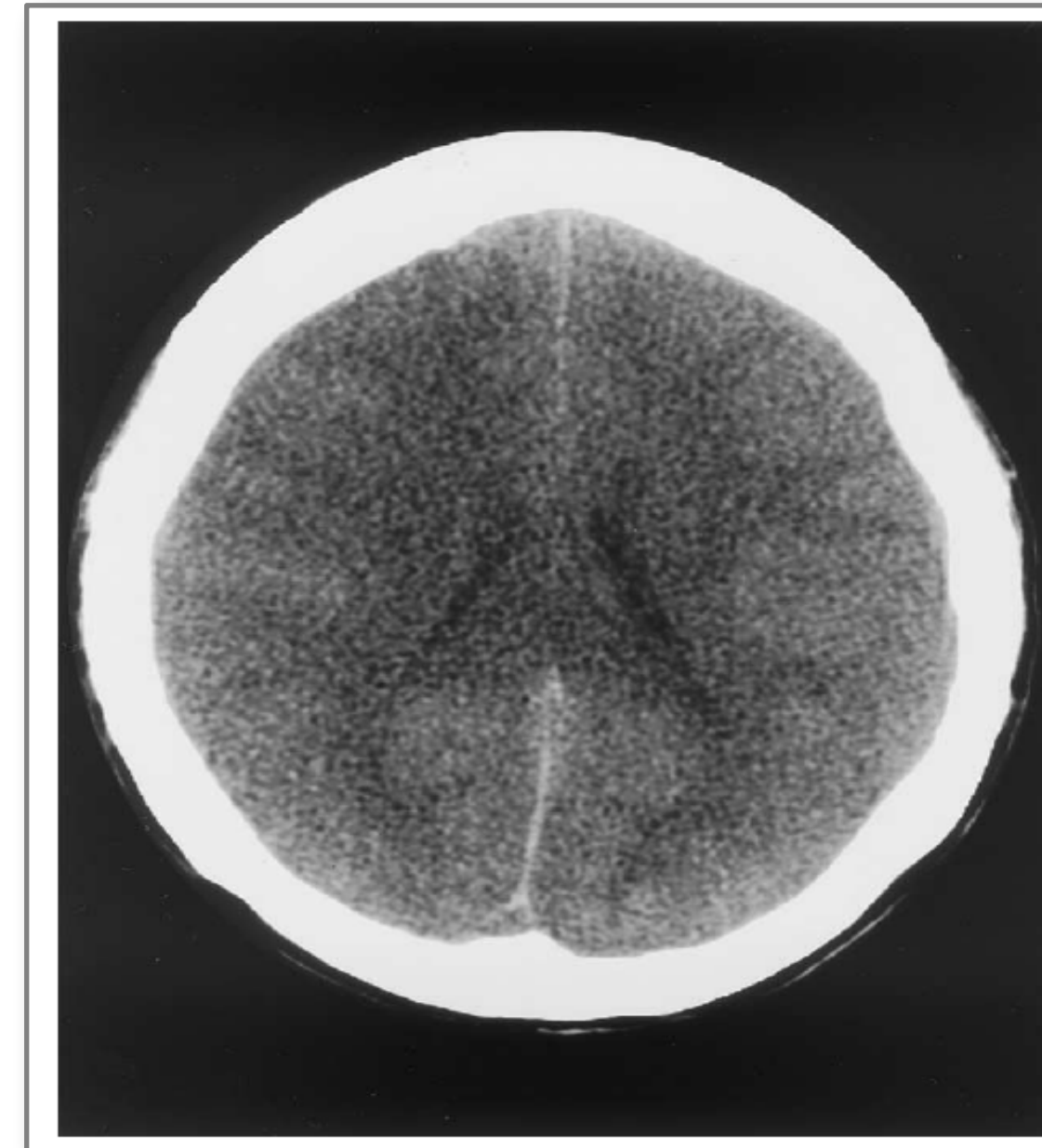
JOHN P. KRESS, M.D., ANNE S. POHLMAN, R.N., MICHAEL F. O'CONNOR, M.D., AND JESSE B. HALL, M.D.



Les 2 seules indications de sédation profonde sont ...



**SDRA à la
phase aigue**



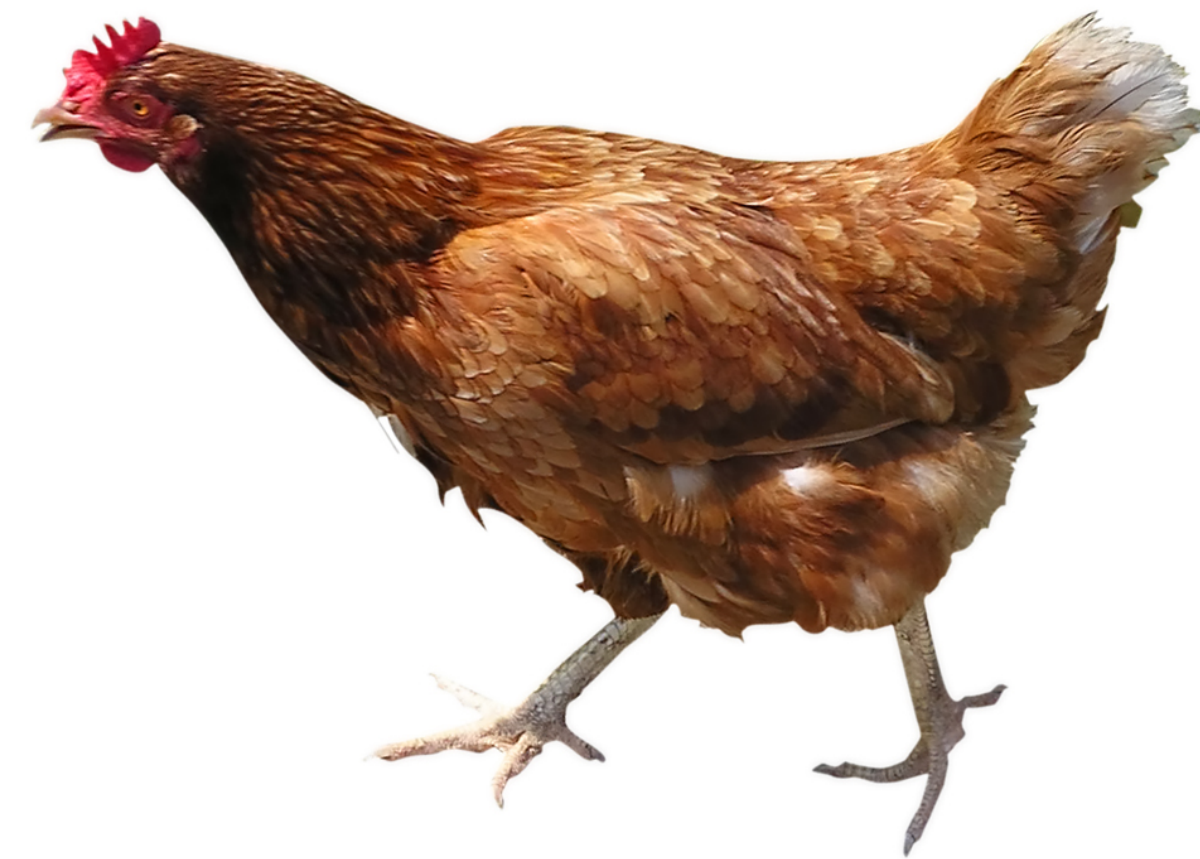
**Cerebrolésé
avec HTIC**

Tous les autres ne
nécessitent pas de sédation

Revolution

Ventilation ?

Sedation



Ventilation

**Adapter le patient au
ventilateur**

**Adapter le ventilateur
au patient !**

objectif premier

Sédation légère

**Si on ne le « Sédate pas »...
il a mal !**

21 ans de la loi Kouchner

LOI n° 2002-303 du 4 mars 2002 relative aux droits des malades et à la qualité du système de santé (1)

Toute personne a le droit de recevoir des soins visant à soulager sa douleur.

Celle-ci doit être en toute circonstance prévenue, évaluée, prise en compte et traitée.

Les professionnels de santé mettent en oeuvre tous les moyens à leur disposition pour assurer à chacun une vie digne jusqu'à la mort.

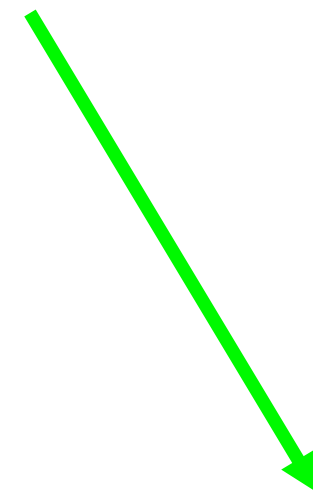
TABLE 1. Sources of Pain in the ICU

Disease process
Acute illness
Trauma
Surgical incision
Chronic illness and pain
Invasive therapy
Presence of endotracheal, nasogastric, and chest tubes
Invasive monitoring catheters
Urinary catheter
Other penetrating drains and catheters
Immobility
Ongoing mechanical ventilation
Insertion and removal of catheters and tubes
Daily care
Tracheal suctioning
Turning in bed
Wound dressing changes
Exacerbating factors
Altered sensorium or delirium
Impaired communication
Sleep deprivation
Preexisting chronic pain

TABLE 2. Barriers to Effective Pain Management in the ICU

Provider
Knowledge deficits regarding the pathophysiologic effects of pain and pain management principles
Assignment of a low priority to pain management
Failure to assess and acknowledge the existence of pain
Failure to evaluate the effect of treatment
Failure to adjust management in a timely fashion
Inappropriate attitudes regarding the use of opioids
Lack of knowledge of the types and appropriate dosages of analgesics
Overconcern about the development of tolerance to analgesic medications
Subconscious reactions to “drug-seeking” behavior
Personal and cultural biases
Communication difficulties between the patient and the healthcare team
Healthcare system
Inadequate quality improvement process for pain management
Lack of accountability for unsatisfactory outcomes related to poorly managed pain
Logistical hurdles to timely analgesic administration (e.g., increased nursing burdens)
Underemphasized use of multidisciplinary approaches for pain management
Patient
Inability to report pain
Feelings that pain should be tolerated or is an inevitable part of the disease process
Fear of the consequences of reporting pain
Fear of side effects related to analgesic drugs

Evaluer la douleur



Patient (ventilé)
communicant

Patient (ventilé)
non communicant

Patient
non communicant

BPS

Score comportemental de douleur (BPS) *Payen et al, CCM 01*

BPS (patient intubé)

BPS-NI (patient non intubé)

1

2

3

4

1

2

3

4

Expression du visage

Expression du visage

1



Détendue

Partiellement tendue
= plissement du frontTrès tendue
= paupières crispéesGrimace
= joues crispées

=



Détendue

Partiellement tendue
= plissement du frontTrès tendue
= paupières crispéesGrimace
= joues crispées

Mouvements des membres supérieurs

Mouvements des membres supérieurs

2



Aucun mouvement



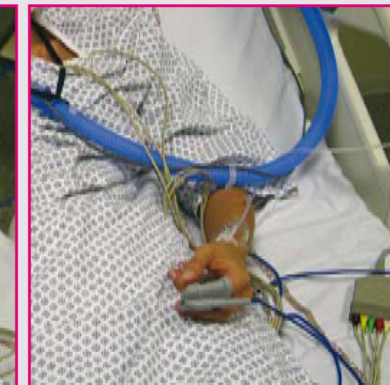
Partiellement pliés

Très pliés
(flexion des doigts)Rétraction complète,
opposition aux soins

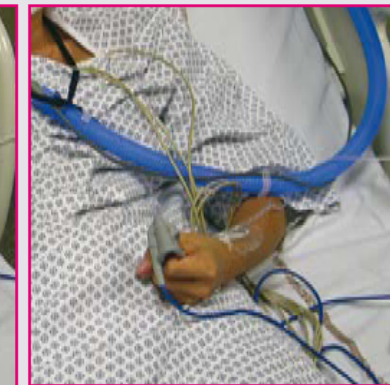
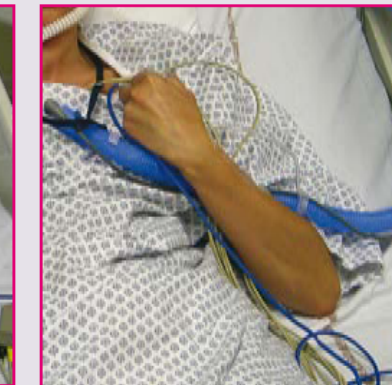
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Aucun mouvement



Partiellement pliés

Très pliés
(flexion des doigts)Rétraction complète,
opposition aux soins

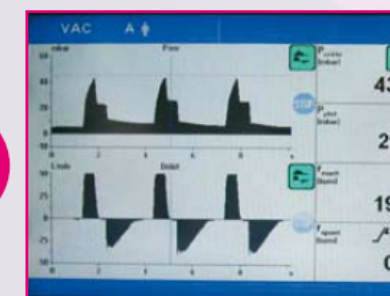
En cas de doute, vérifier le tonus par une mobilisation passive du membre

En cas de doute, vérifier le tonus par une mobilisation passive du membre

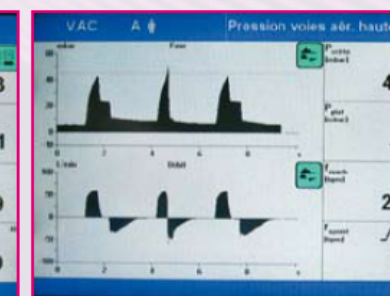
Adaptation au ventilateur

Vocalisation

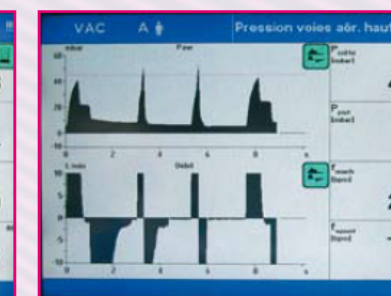
3



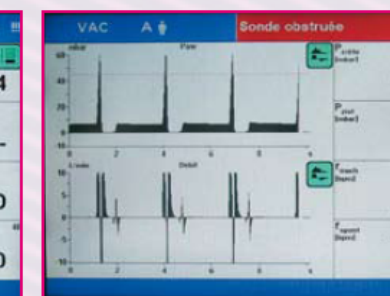
Tolère la ventilation



Tousse mais tolère la ventilation la majorité du temps



Lutte contre le ventilateur mais ventilation possible par instant



Ventilation impossible

≠

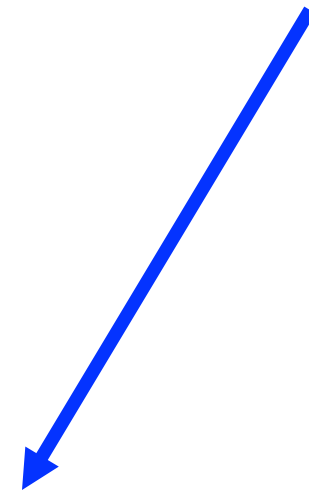
no pain vocalization

(infrequent moaning $\leq 3/mn$) and not prolonged $\leq 3s$)

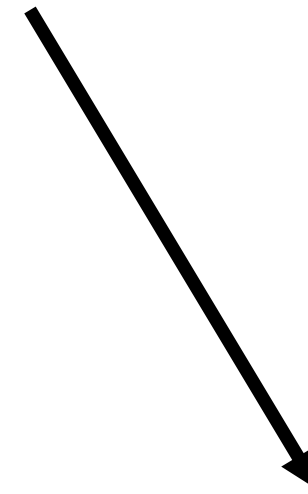
frequent moaning $> 3/mn$) or Prolonged $> 3s$)

Howling or verbal complaints including Ow!, Ouch! or breath-holding

Evaluer la douleur



Patient (ventilé)
communicant



Patient (ventilé)
non communicant

Patient (ventilé) communicant

pas de score comportemental

Patient (ventilé) communicant

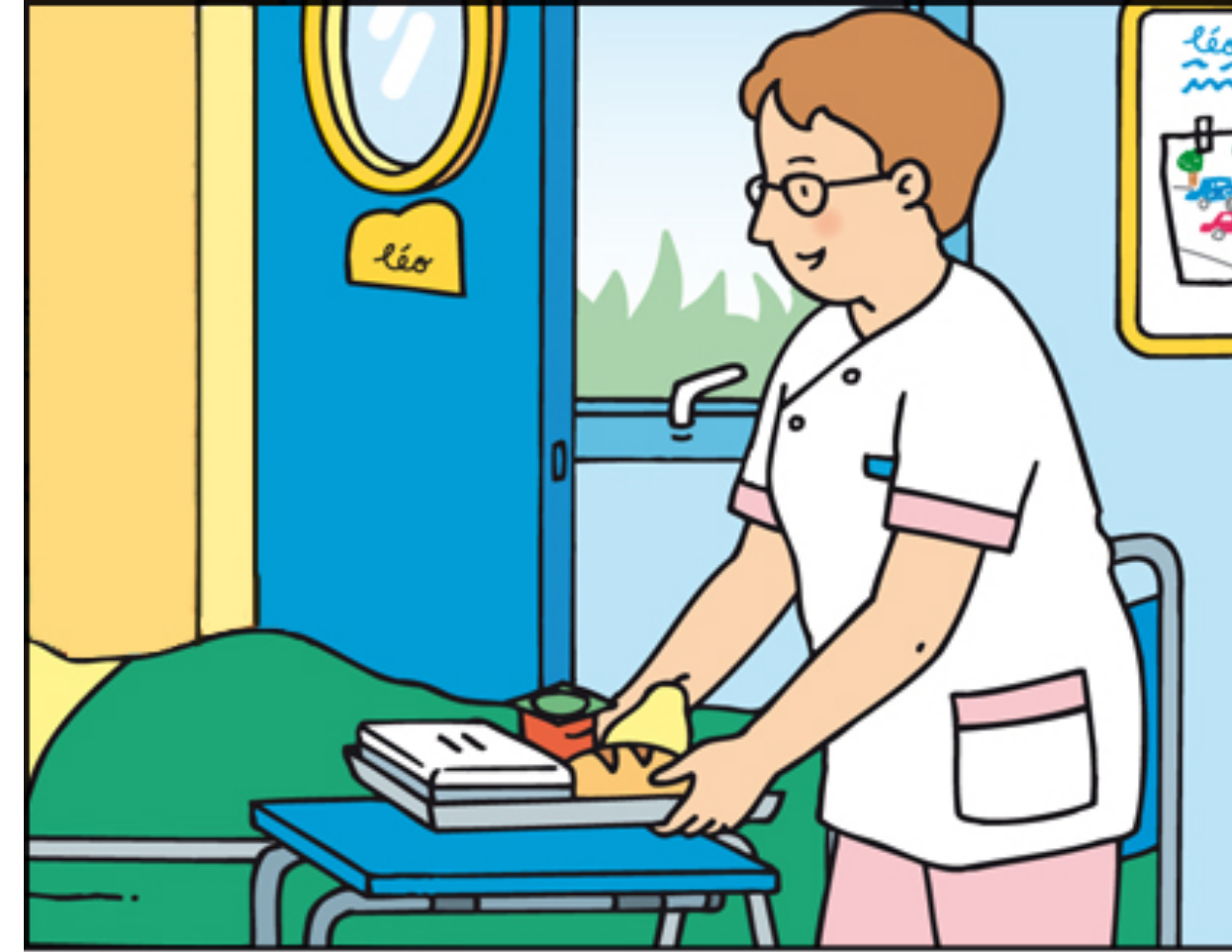
Auto-évaluation

Médecin



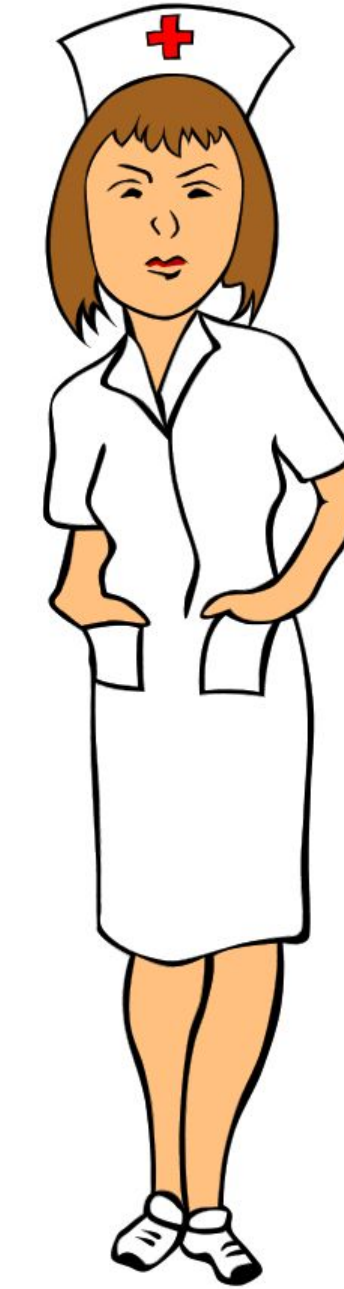
**Whipple et al.
Pharmacotherapy 1995**

Aide-soignant/e



**Hall-Lord et al.
Heart & Lung 1998**

Infirmier/ère



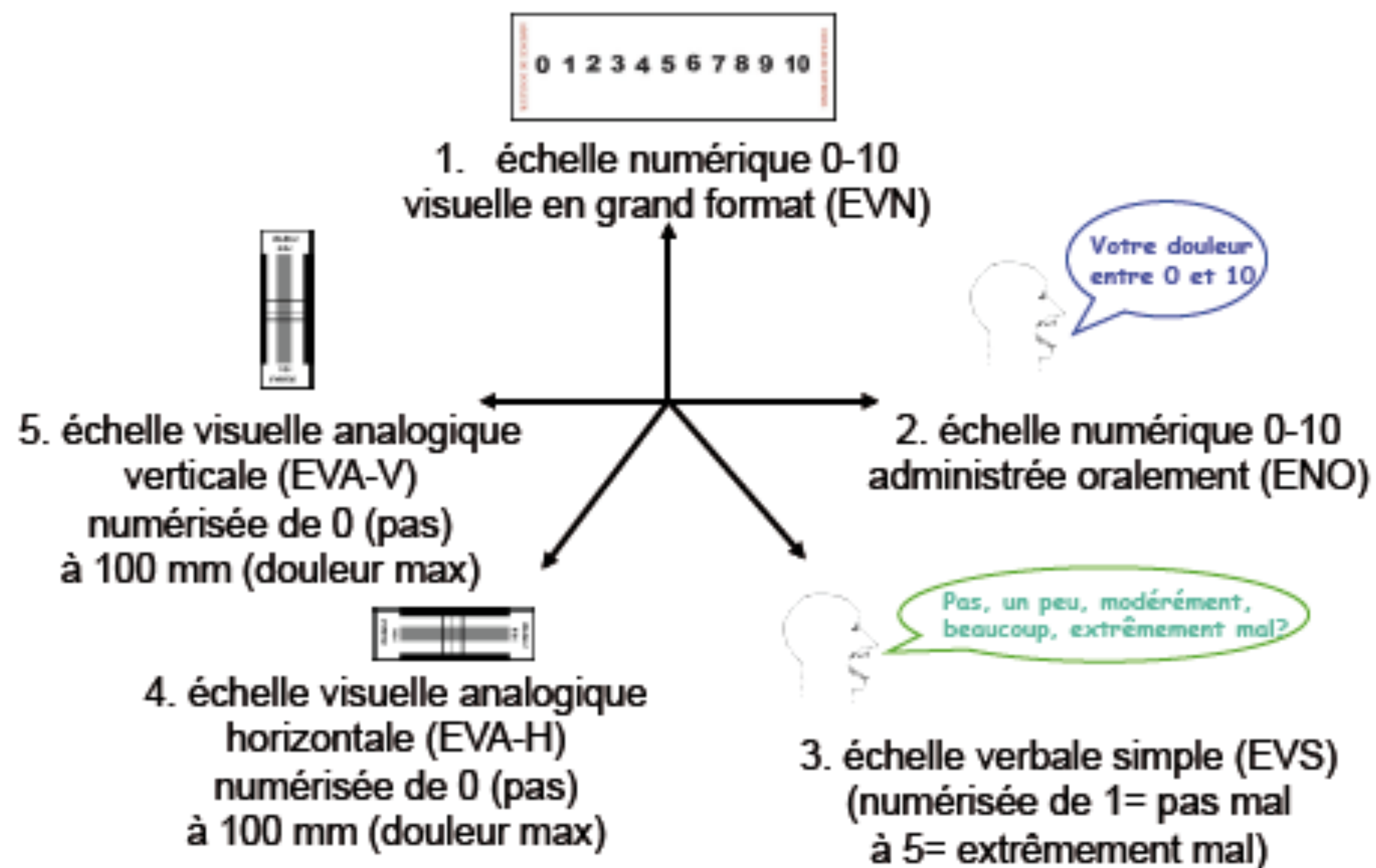
**Ahlers et al.
Crit Care 2008**



Famille Desbiens et al. CCM 2000

**Tous
sous-évaluent
par rapport au
patient de réa.**

~~Est-ce que vous avez mal ?~~



ICU liberation strategy

Assess, prevent and manage pain

A

Both awakening & spontaneous breathing trial

B

Choice of drugs

C

Delirium monitoring & management

D

Early mobility & exercise

E

Family engagement & empowerment

F



Analgo-Sédation

Oui mais trop de morphine sédate !

« Tout est poison et rien n'est sans poison;
la dose seule fait que quelque chose n'est
pas un poison »

PARACELSE

1492 - 1541



"Tout est dans la mesure"

Question	Recommendation	Strength	Quality of Evidence
Pain			
Should a protocol-based (analgesia/analgo-sedation) pain assessment and management program be used in the care of critically ill adults when compared with usual care?	Management of pain for adult ICU patients should be guided by routine pain assessment and pain should be treated before a sedative agent is considered (Good Practice Statement). We suggest using an assessment-driven, protocol-based, stepwise approach for pain and sedation management in critically ill adults.	N/A Conditional	N/A Moderate

Should acetaminophen be used as an adjunct to an opioid (vs an opioid alone) for pain management in critically ill adults?	We suggest using acetaminophen as an adjunct to an opioid to decrease pain intensity and opioid consumption for pain management in critically ill adults.	Conditional	VL
Should nefopam be used either as an adjunct or a replacement for an opioid (vs an opioid alone) for pain management in critically ill adults?	We suggest using nefopam (if feasible) either as an adjunct or replacement for an opioid to reduce opioid use and their safety concerns for pain management in critically ill adults.	Conditional	VL
Should ketamine be used as an adjunct to an opioid (vs an opioid alone) for pain management in critically ill adults?	We suggest using low-dose ketamine (1-2 µg/kg/hr) as an adjunct to opioid therapy when seeking to reduce opioid consumption in postsurgical adults admitted to the ICU.	Conditional	Low
Should a neuropathic pain medication (e.g., gabapentin, carbamazepine, and pregabalin) be used as an adjunct to an opioid (vs an opioid alone) for pain management in critically ill adults?	We recommend using a neuropathic pain medication (e.g., gabapentin, carbamazepine, and pregabalin) with opioids for neuropathic pain management in critically ill adults.	Strong	Moderate
	We suggest using a neuropathic pain medication (e.g., gabapentin, carbamazepine, and pregabalin) with opioids for pain management in ICU adults after cardiovascular surgery.	Conditional	Low

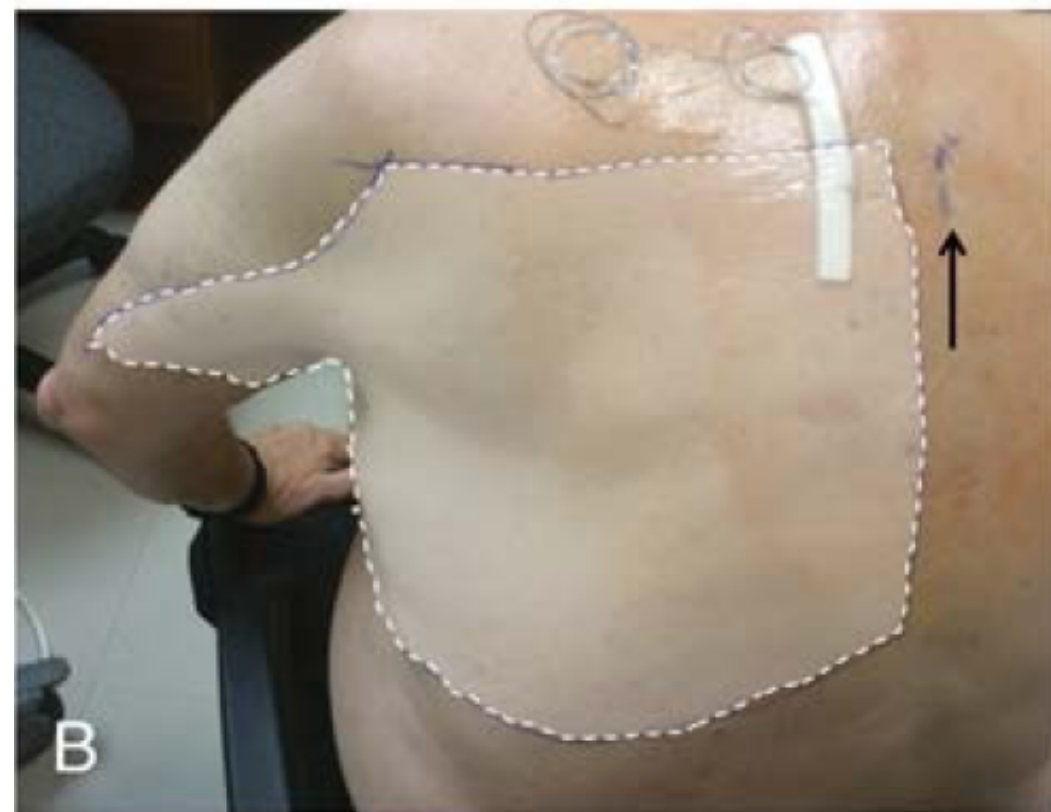
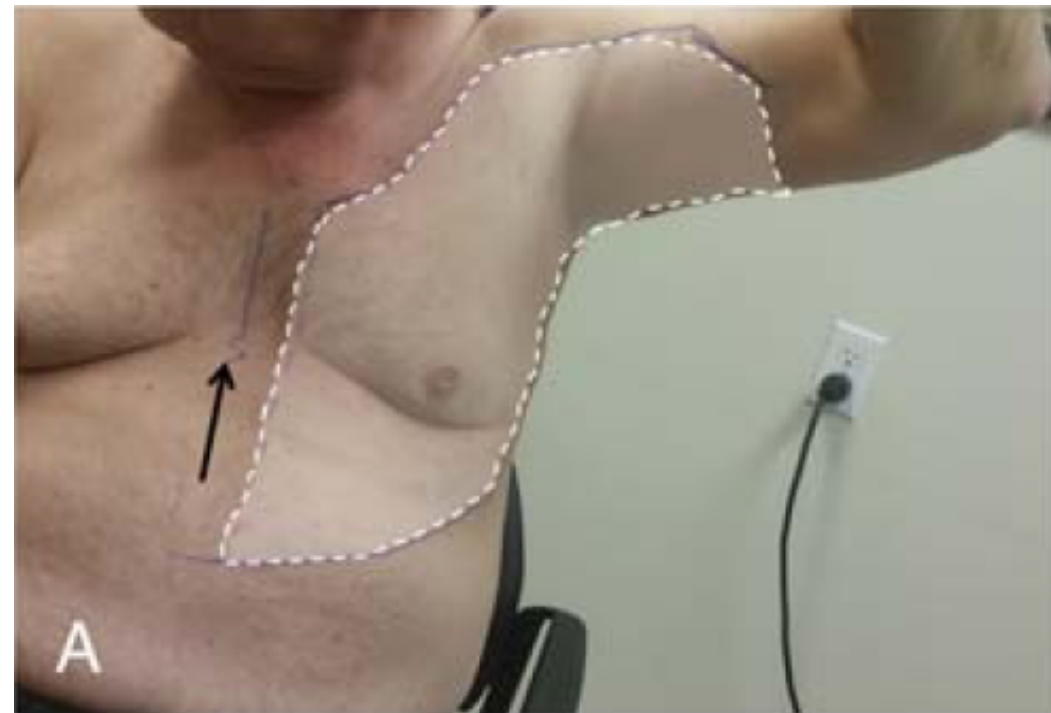
Analgésie balancée

ALR ?

ESPb -Bloc des érecteurs du rachis

Quelles indications cliniques ?

Douleur chronique



Injection de 20 mL de bupivacaine 0.25% en T5 :
Extension de l'anesthésique local de T1-T11 et un
Bloc sensitif T2-T9
Douleur neuropathique EVA avant 10/10 → après 0/10

The Erector Spinae Plane Block
A Novel Analgesic Technique in Thoracic Neuropathic Pain

Mauricio Foreiro, MD, FIPP,* Sanjib D. Adhikary, MD,† Hector Lopez, MD,‡
Calvin Tsui, BMSc,§ and Ki Jinn Chin, MBBS (Hons), MMed, FRCPC||

ALR en Réa :

tout est faisable !

Principal Frein :

Nous !

Facteurs liés à l'environnement

Compétence ?

Entraînement

Mouvements

Durée de l'indication : ce n'est pas de la chirurgie !

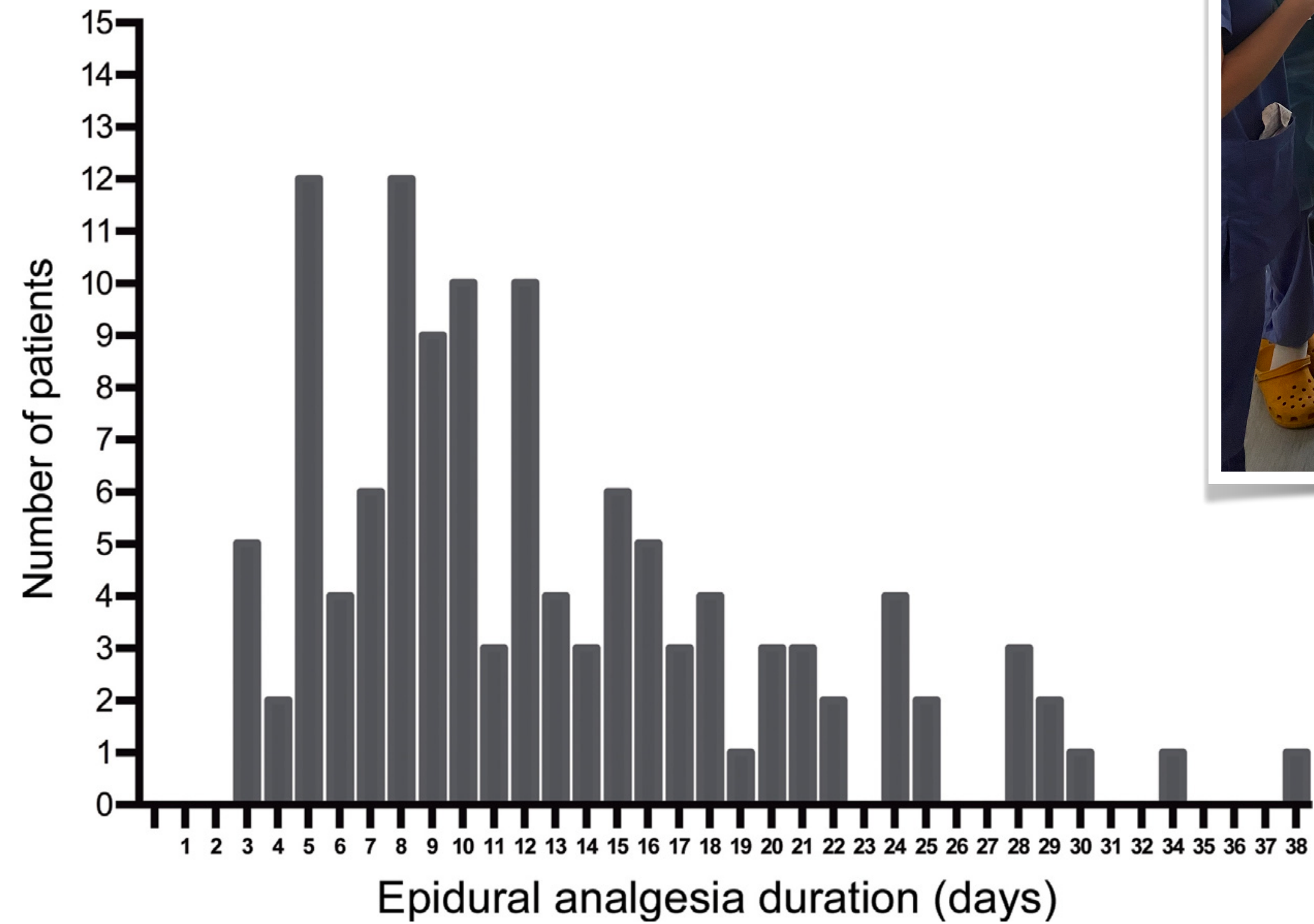
Original Article

Epidural analgesia in the intensive care unit: An observational series of 121 patients[☆]



Matthieu Jabaudon^{a,b,*}, Russell Chabanne^c, Achille Sossou^d, Pierre-Marie Bertrand^e, Sophie Kauffmann^c, Christian Chartier^a, Renaud Guérin^a, Etienne Imhoff^c, Lassane Zanre^d, François Bréas^d, Jean-Etienne Bazin^a, Jean-Michel Constantin^{a,b}

M. Jabaudon et al. / Anaesth Crit Care Pain Med 34 (2015) 217–223



Facteurs liés au produit

PK/PD des anesthésiques locaux

Toxicité des AL

Diffusion des AL

Facteurs liés au patient

Dysfonction d'organe

Sédation

Position/Modification des repères

Troubles de la coagulation/Anticoagulation

**Oui mais il est agité, confus,
anxieux, dangereux !**

RASS

Richmond Sedation Agitation Scale

Niveau	Description	Définition
+ 4	Combatif	Combatif, danger immédiat envers l'équipe.
+ 3	Très agité	Tire, arrache tuyaux ou cathéters et/ou agressif envers l'équipe.
+ 2	Agité	Mouvements fréquents sans but précis et/ou désadaptation au respirateur
+ 1	Ne tient pas en place	Anxieux ou craintif, mais mouvements orientés, peu fréquents, non vigoureux, non agressifs
0	Eveillé et calme	
- 1	Somnolent	Pas complètement éveillé, mais reste éveillé avec contact visuel à l'appel (>10s).
- 2	Diminution légère de la vigilance	Reste éveillé brièvement avec contact visuel à l'appel (<10s).
- 3	Diminution modérée de la vigilance	N'importe quel mouvement à l'appel (ex : ouverture des yeux), mais pas de contact visuel.
- 4	Diminution profonde de la vigilance	Aucun mouvement à l'appel, n'importe quel mouvement à la stimulation physique (friction non nociceptive de l'épaule ou du sternum)
- 5	Non réveillable	Aucun mouvement, ni à l'appel, ni à la stimulation physique (friction non nociceptive de l'épaule ou du sternum)

Hypnotique ?



Que retenir de la conférence de consensus ?...

...Peu importe les molécules, l'important est d'évaluer la sédation, l'analgésie et de disposer d'un algorithme...

Assess and Treat

Statements and Recommendations

AGITATION

- Depth and quality of sedation should be routinely assessed in all ICU patients (1B).
- The RASS and SAS are the most valid and reliable scales for assessing quality and depth of sedation in ICU patients (B).
- Suggest using objective measures of brain function to adjunctively monitor sedation in patients receiving neuromuscular blocking agents (2B).
- Use EEG monitoring either to monitor non-convulsive seizure activity in ICU patients at risk for seizures, or to titrate electrosuppressive medication to achieve burst suppression in ICU patients with elevated intracranial pressure (1A).
- Target the lightest possible level of sedation and/or use daily sedative interruption (1B).
- Use sedation protocols and checklists to facilitate ICU sedation management (1B).
- Suggest using analgesia-first sedation for intubated and mechanically ventilated ICU patients (2B).
- Suggest using non-benzodiazepines for sedation (either propofol or dexmedetomidine) rather than benzodiazepines (either midazolam or lorazepam) in mechanically ventilated adult ICU patients (2B).

Quelles molécules ?

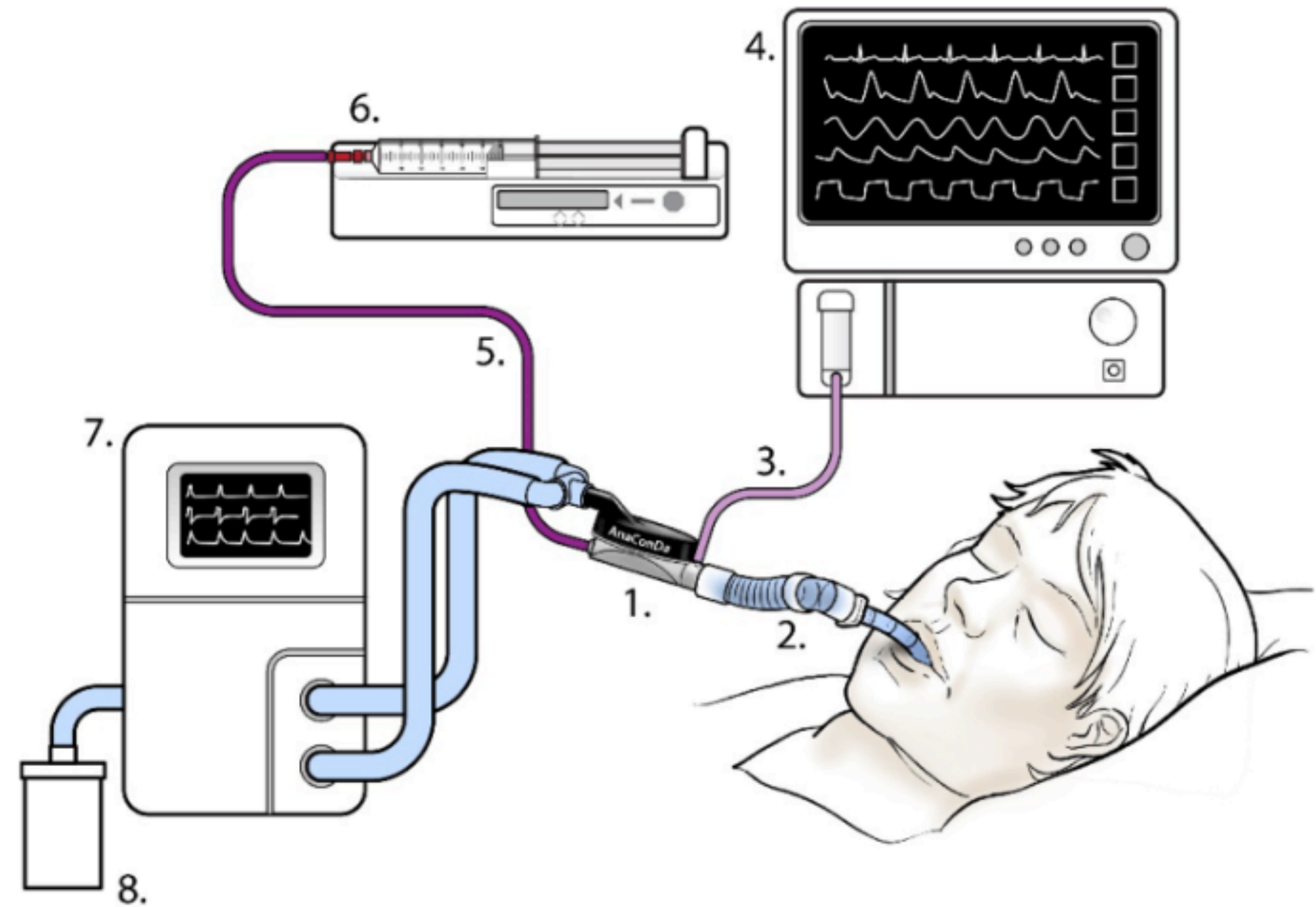
- ~~Midazolam~~
- Propofol
- Dexmedetomidine
- Halogénés

Quelles molécules ?

- ~~Midazolam~~
- Propofol
- Dexmedetomidine
- Halogénés

Quelles molécules ?

- ~~Midazolam~~
- Propofol
- Dexmedetomidine
- Halogénés



Quelles molécules ?

- ~~Midazolam~~
- Propofol
- Dexmedetomidine
- Halogénés

Sédation légère

Est-ce que ça marche ?

NIH National Library of Medicine
National Center for Biotechnology Information

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sedation ICU

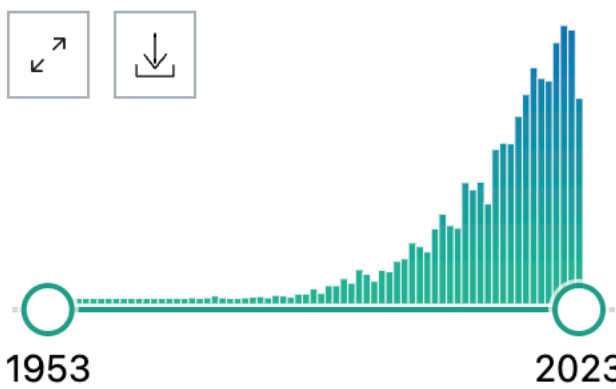
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RESULTS BY YEAR



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Abstract

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Page 1 of 26

Monitoring delirium in the **intensive care** unit: Diagnostic accuracy of the CAM-ICU tool when performed by certified nursing assistants - A prospective multicenter study.

1

Cite

Alaterre C, Fazilleau C, Cayot-Constantin S, Chanques G, Kacer S, Constantin JM, James A.

Share

Intensive Crit Care Nurs. 2023 Dec;79:103487. doi: 10.1016/j.iccn.2023.103487. Epub 2023 Jul 12.

PMID: 37451087 **Free article.** In Library View PDF

METHODS: From October 2020 to June 2022, adult **intensive care** patients admitted in three French University teaching hospitals with Richmond Agitation **Sedation** Scale -2 were independently assessed for delirium by the three members of the **care** team (clin ...

Item in Clipboard

ICU- and ventilator-free days with isoflurane or propofol as a primary sedative - A post- hoc analysis of a randomized controlled trial.

2

Cite

Bracht H, Meiser A, Wallenborn J, Guenther U, Kogelmann KM, Falthausen A, Schwarzkopf K,

Est-ce que ça marche ?

NON

The NEW ENGLAND JOURNAL *of* MEDICINE

ORIGINAL ARTICLE

Early Sedation with Dexmedetomidine in Critically Ill Patients

Y. Shehabi, B.D. Howe, R. Bellomo, Y.M. Arabi, M. Bailey, F.E. Bass,
S. Bin Kadiman, C.J. McArthur, L. Murray, M.C. Reade, I.M. Seppelt, J. Takala,
M.P. Wise, and S.A. Webb

Early Sedation with Dexmedetomidine in Critically Ill Patients

Y. Shehabi, B.D. Howe, R. Bellomo, Y.M. Arabi, M. Bailey, F.E. Bass, S. Bin Kadiman, C.J. McArthur, L. Murray, M.C. Reade, I.M. Seppelt, J. Takala, M.P. Wise, and S.A. Webb

Table 2. Clinical Outcomes.*

Outcome	Dexmedetomidine (N = 1948)	Usual Care (N = 1956)	Odds Ratio (95% CI)	Adjusted Risk Difference (95% CI)†
Outcome	Dexmedetomidine (N = 1948)	Usual Care (N = 1956)	Odds Ratio (95% CI)	Adjusted Risk Difference (95% CI)†
Death from any cause at 90 days: primary outcome — no. (%)	566 (29.1)	569 (29.1)	1.00 (0.87 to 1.15)	0.0 (−2.9 to 2.8)
Mean score on the EQ-5D-3L questionnaire (95% CI)‡				
Median no. of days free from coma or delirium (IQR)¶				
Median no. of ventilator-free days (IQR)¶				

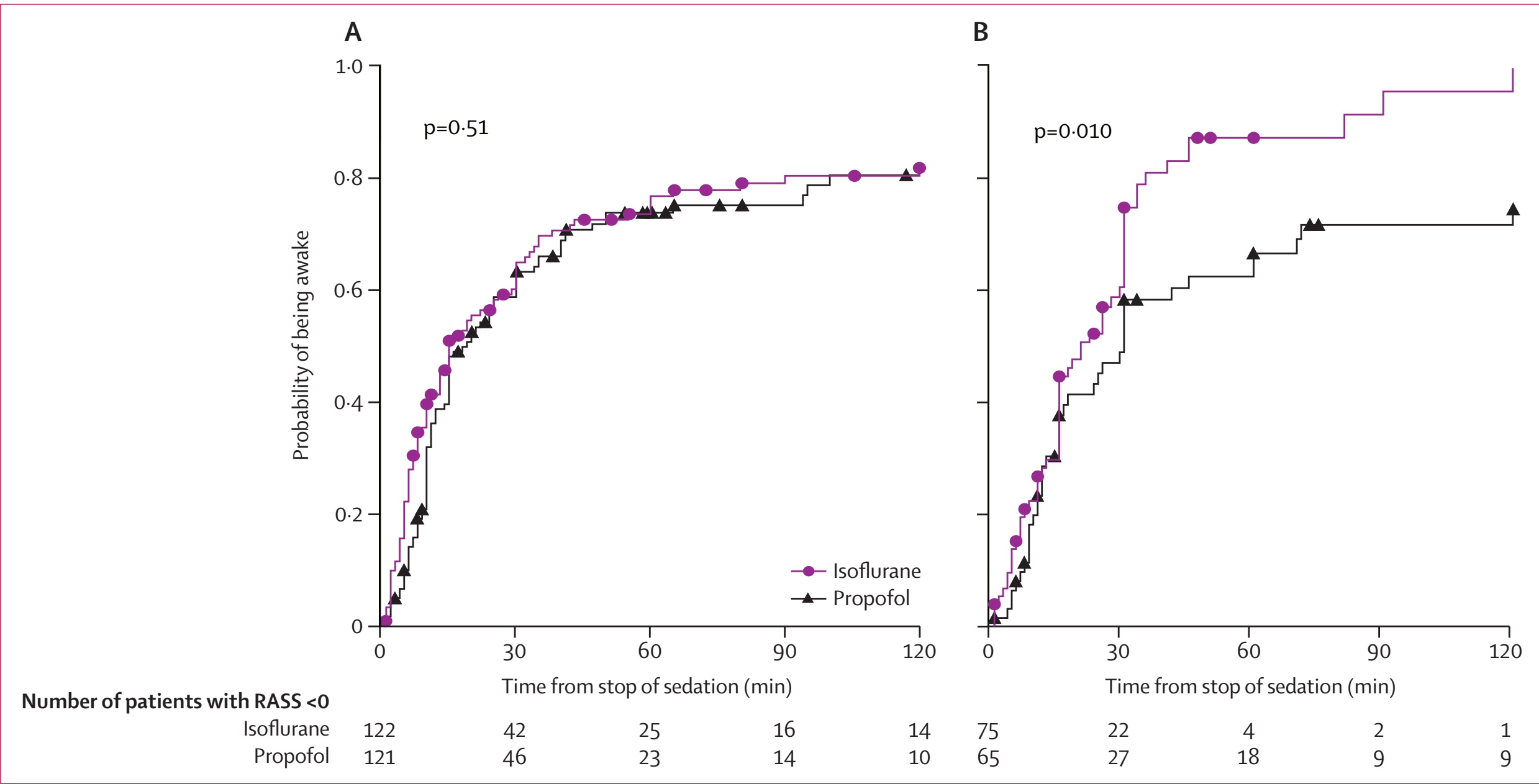
Inhaled isoflurane via the anaesthetic conserving device versus propofol for sedation of invasively ventilated patients in intensive care units in Germany and Slovenia: an open-label, phase 3, randomised controlled, non-inferiority trial



Lancet Respir Med 2021

Published Online August 26, 2021

Andreas Meiser, Thomas Volk, Jan Wallenborn, Ulf Guenther, Tobias Becher, Hendrik Bracht, Konrad Schwarzkopf, Rihard Knafelj, Andreas Falthhauser, Serge C Thal, Jens Soukup, Patrick Kellner, Matthias Drüner, Heike Vogelsang, Martin Bellgardt*, Peter Sackey*, on behalf of the Sedaconda study group



	Isoflurane (n=150)	Propofol (n=151)
Age, years	65.8 (11.8)	64.3 (12.9)
Age group		
≥18–64 years	68 (45%)	70 (46%)
≥65–84 years	78 (52%)	74 (49%)
≥85 years	4 (3%)	7 (5%)
Sex		
Female	46 (31%)	53 (35%)
Male	104 (69%)	98 (65%)
BMI, kg/m ²	28.0 (6.0)	28.3 (7.7)
Main reason for ICU admission		
Medical	59 (39%)	61 (40%)
Neurosurgical	1 (1%)	1 (1%)
Surgical	86 (57%)	82 (54%)
Trauma	4 (3%)	7 (5%)
Type of admission		
Emergency	98 (65%)	98 (65%)
Non-emergency	52 (35%)	53 (35%)
Any infection at admission		
Yes	72 (48%)	78 (52%)
No	78 (52%)	73 (48%)
SAPS II score	42.3 (16.9)	43.8 (18.5)

Values are n (%) or mean (SD). BMI=body mass index. ICU=intensive care unit. SAPS II=new simplified acute physiology score.

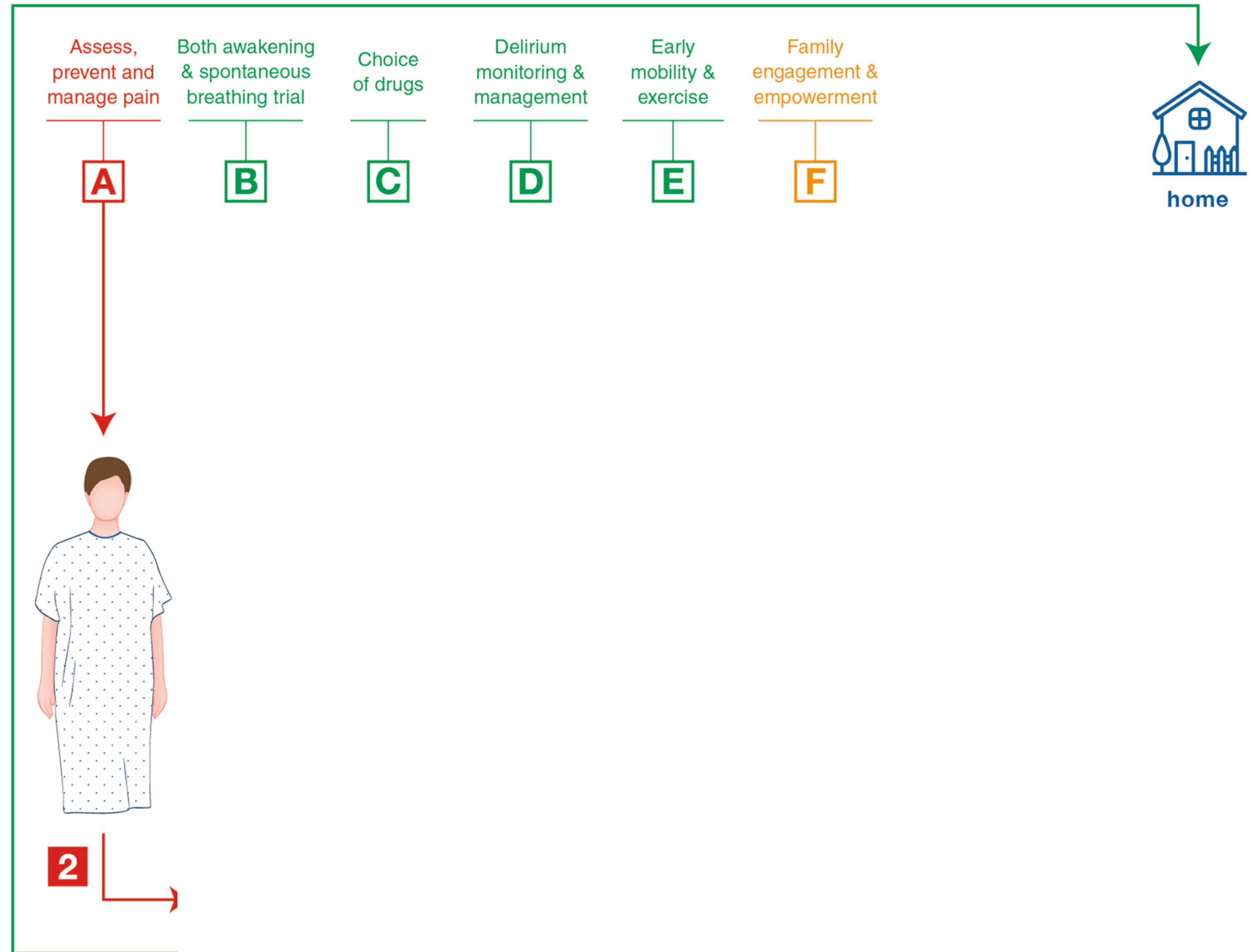
Table 1: Baseline characteristics





Analgesia and sedation in patients with ARDS

Gerald Chanques^{1,2*}, Jean-Michel Constantin³, John W. Devlin^{4,5}, E. Wesley Ely^{6,7,8}, Gilles L. Fraser⁹, Céline Gélinas¹⁰, Timothy D. Girard¹¹, Claude Guérin^{12,13}, Matthieu Jabaudon^{14,15}, Samir Jaber^{1,2}, Sangeeta Mehta¹⁶, Thomas Langer^{17,18}, Michael J. Murray¹⁹, Pratik Pandharipande²⁰, Bhakti Patel²¹, Jean-François Payen²², Kathleen Puntillo²³, Bram Rochweg²⁴, Yahya Shehabi^{25,26}, Thomas Strøm^{27,28}, Hanne Tanghus Olsen²⁷ and John P. Kress²¹





Analgesia and sedation in patients with ARDS

Gerald Chanques^{1,2*}, Jean-Michel Constantin³, John W. Devlin^{4,5}, E. Wesley Ely^{6,7,8}, Gilles L. Fraser⁹, Céline Gélinas¹⁰, Timothy D. Girard¹¹, Claude Guérin^{12,13}, Matthieu Jabaudon^{14,15}, Samir Jaber^{1,2}, Sangeeta Mehta¹⁶, Thomas Langer^{17,18}, Michael J. Murray¹⁹, Pratik Pandharipande²⁰, Bhakti Patel²¹, Jean-François Payen²², Kathleen Puntillo²³, Bram Rochweg²⁴, Yahya Shehabi^{25,26}, Thomas Strøm^{27,28}, Hanne Tanghus Olsen²⁷ and John P. Kress²¹







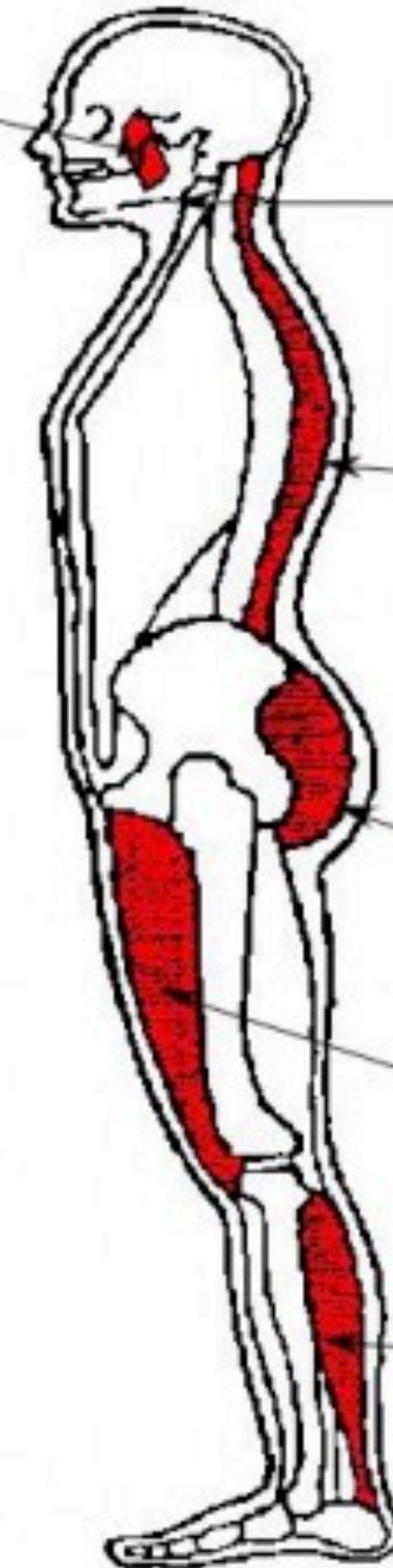




POSTURE – TONUS MUSCULAIRE - GRAVITÉ



M. de l'occlusion mandibulaire



Extenseurs de la tête

Extenseurs du tronc

Extenseurs de la cuisse

Extenseurs de la jambe

Extenseurs du pied



18 000 €



À propos

Nos métiers

Nos offres

Nos projets

Ressources

Contact

[Clinique spatiale](#)



Etude d'alitement BRACE

Etude de 88 jours dont 60 jours alités

Etude indemnisée

Seconde campagne : Février - Mai 2024



MEDES réalise une nouvelle étude de simulation de l'impesanteur utilisant le modèle d'alitement, en 2 campagnes :

- La 1ère campagne a eu lieu de avril à juillet 2023
- La 2nde campagne aura lieu début 2024, avec un appel à candidatures qui démarre en septembre 2023

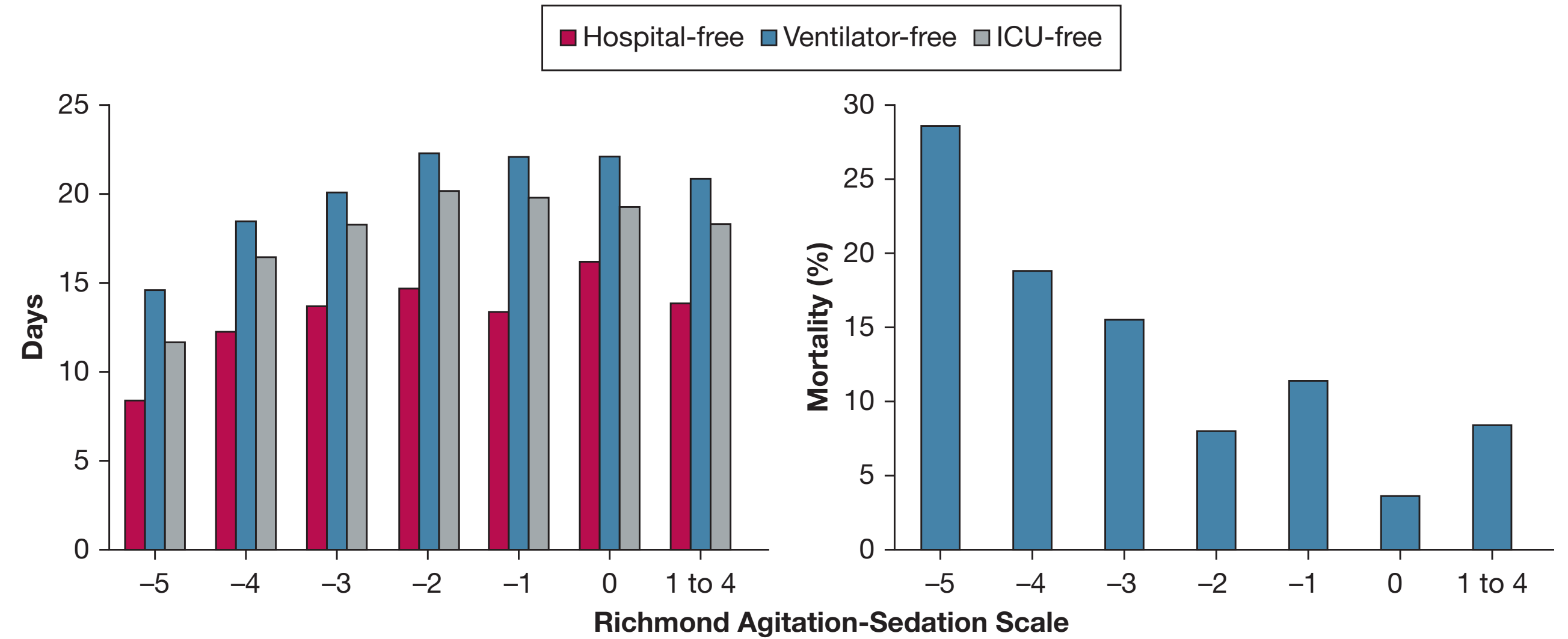
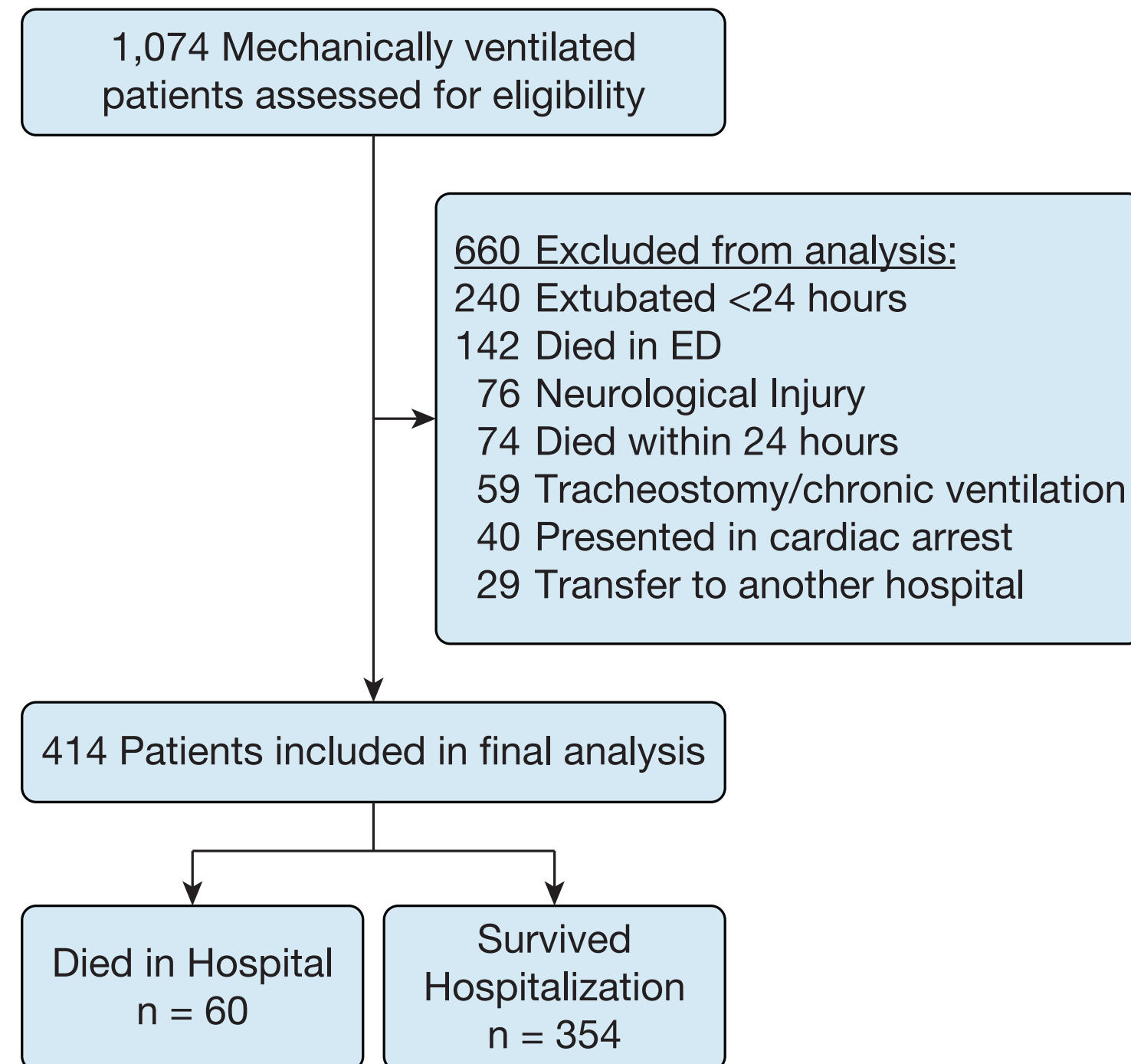
Sédation légère

Volonté de tous

Analgo-sedation Practices and the Impact of Sedation Depth on Clinical Outcomes Among Patients Requiring Mechanical Ventilation in the ED

A Cohort Study

Robert J. Stephens, BS; Enyo Ablordeppey, MD, MPH; Anne M. Drewry, MD; Christopher Palmer, MD; Brian T. Wessman, MD; Nicholas M. Mohr, MD; Brian W. Roberts, MD; Stephen Y. Liang, MD, MPH; Marin H. Kollef, MD; and Brian M. Fuller, MD



Variable	aOR	95% CI	SE	P Value
Age	1.02	0.99-1.04	0.01	.067
Vasopressor infusion	2.6	1.14-5.80	0.42	.023
Malignancy	2.46	1.06-5.70	0.43	.036
ED SOFA	1.16	1.02-1.33	0.07	.027
Reason for mechanical ventilation				
COPD	2.22	0.54-9.18	0.72	.270
Sepsis	0.75	0.31-1.81	0.45	.523
Trauma	2.73	1.17-6.40	0.43	.020
ED RASS level	0.77	0.63-0.94	0.10	.010
ICU dexmedetomidine use	0.17	0.06-0.49	0.55	.001

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A Cohort Study

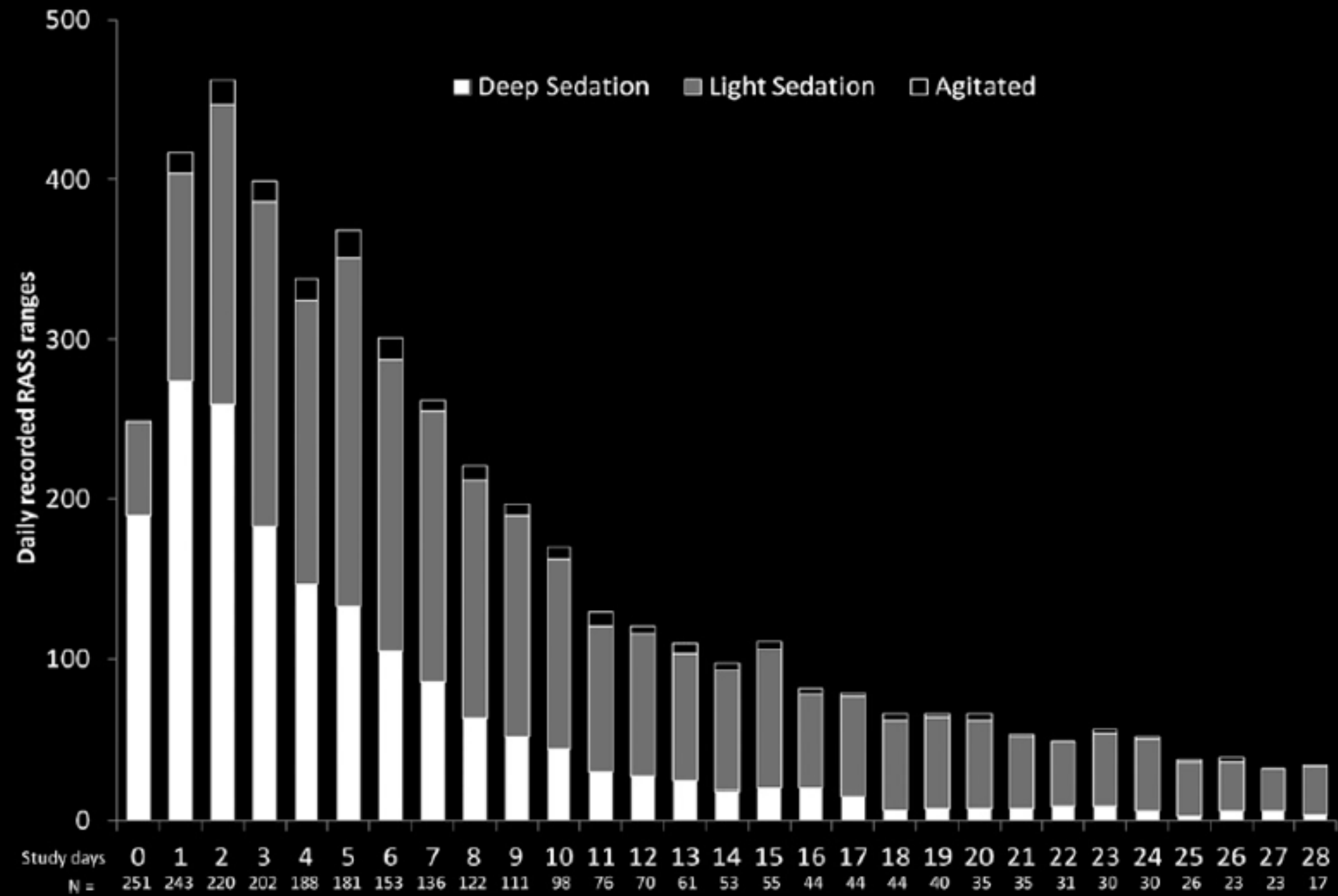


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Anesthesie ?

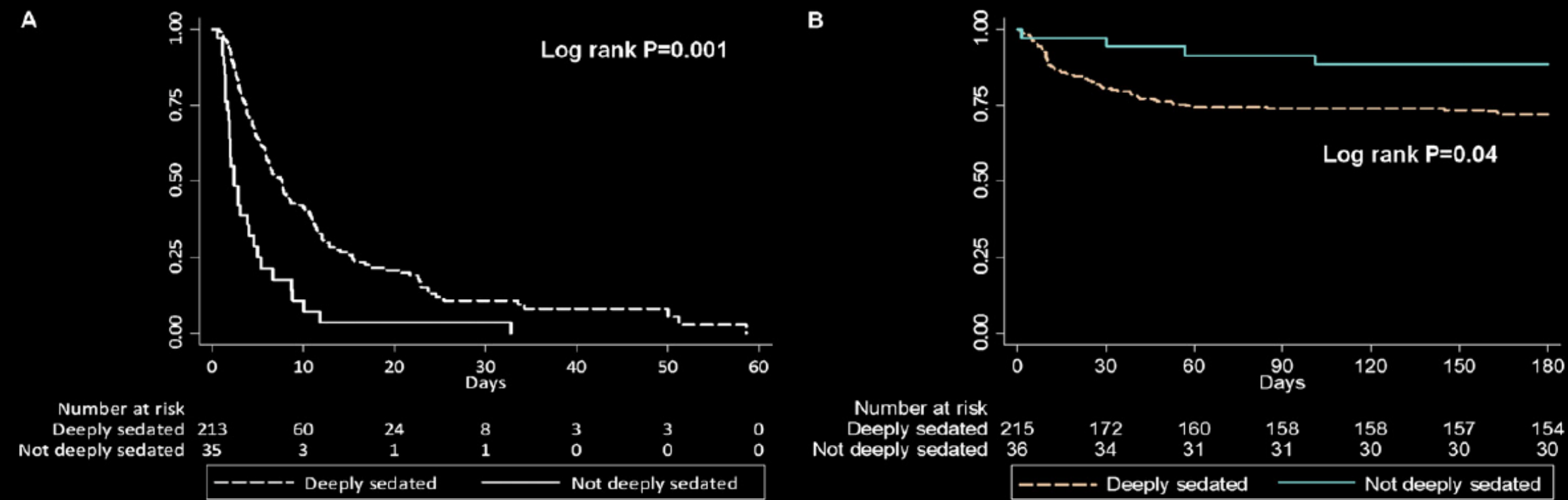
Early Intensive Care Sedation Predicts Long-Term Mortality in Ventilated Critically Ill Patients

Yahya Shehabi^{1,2}, Rinaldo Bellomo^{3,4,5,6}, Michael C. Reade^{7,8}, Michael Bailey⁵, Frances Bass², Belinda Howe⁵, Colin McArthur⁹, Ian M. Seppelt¹⁰, Steve Webb^{11,12}, and Leonie Weisbrodt¹³; Sedation Practice in Intensive Care Evaluation (SPICE) Study Investigators and the ANZICS Clinical Trials Group*



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	Time to Extubation			Delirium after 48 h			180-d Mortality		
	HR	95% CI	P Value	HR	95% CI	P Value	HR	95% CI	P Value
RASS, -3 to -5*	0.90	0.87-0.94	<0.001	1.05	0.99-1.11	0.10	1.08	1.01-1.16	0.027
APACHE II	0.99	0.97-1.02	0.79	1.01	0.99-1.04	0.47	1.02	0.99-1.06	0.21
Age	0.99	0.98-1.00	0.71	1.00	0.99-1.01	0.62	1.03	1.01-1.05	0.009
Male sex	0.63	0.46-0.87	0.02	1.10	0.72-1.70	0.64	1.05	0.78-2.34	0.25
Operative	0.77	0.48-1.24	0.33	0.98	0.48-2.01	0.96	1.20	0.52-2.79	0.67
Elective	1.25	0.74-2.11	0.36	0.41	0.16-1.09	0.07	1.18	0.50-2.85	0.71
Cardiac [†]	0.83	0.45-1.56	0.88	0.26	0.01-0.67	0.01	1.77	0.56-5.61	0.33
Respiratory [†]	0.48	0.30-0.77	0.01	0.65	0.34-1.25	0.20	1.43	0.47-4.38	0.53
Sepsis [†]	0.66	0.35-1.24	0.18	0.95	0.26-1.34	0.20	1.82	0.53-6.20	0.34
Gastrointestinal [†]	1.11	0.62-1.98	0.86	0.73	0.33-1.64	0.45	1.43	0.42-4.86	0.57
Vasopressors	0.69	0.49-0.97	0.02	1.33	0.82-2.18	0.25	0.68	0.36-1.28	0.23
Dialysis [‡]	0.59	0.36-0.95	0.03	1.70	0.96-3.01	0.07	2.45	1.31-4.56	0.005
Rural hospital	1.53	0.85-2.77	0.14	1.14	0.67-1.95	0.63	0.74	0.23-2.06	0.56
Metro hospital	1.00	0.67-1.49	0.89	1.26	0.60-2.61	0.5	1.05	0.53-2.09	0.88

Volonté de tous

Travail en équipe

Caring for Critically Ill Patients with the ABCDEF Bundle: Results of the ICU Liberation Collaborative in Over 15,000 Adults

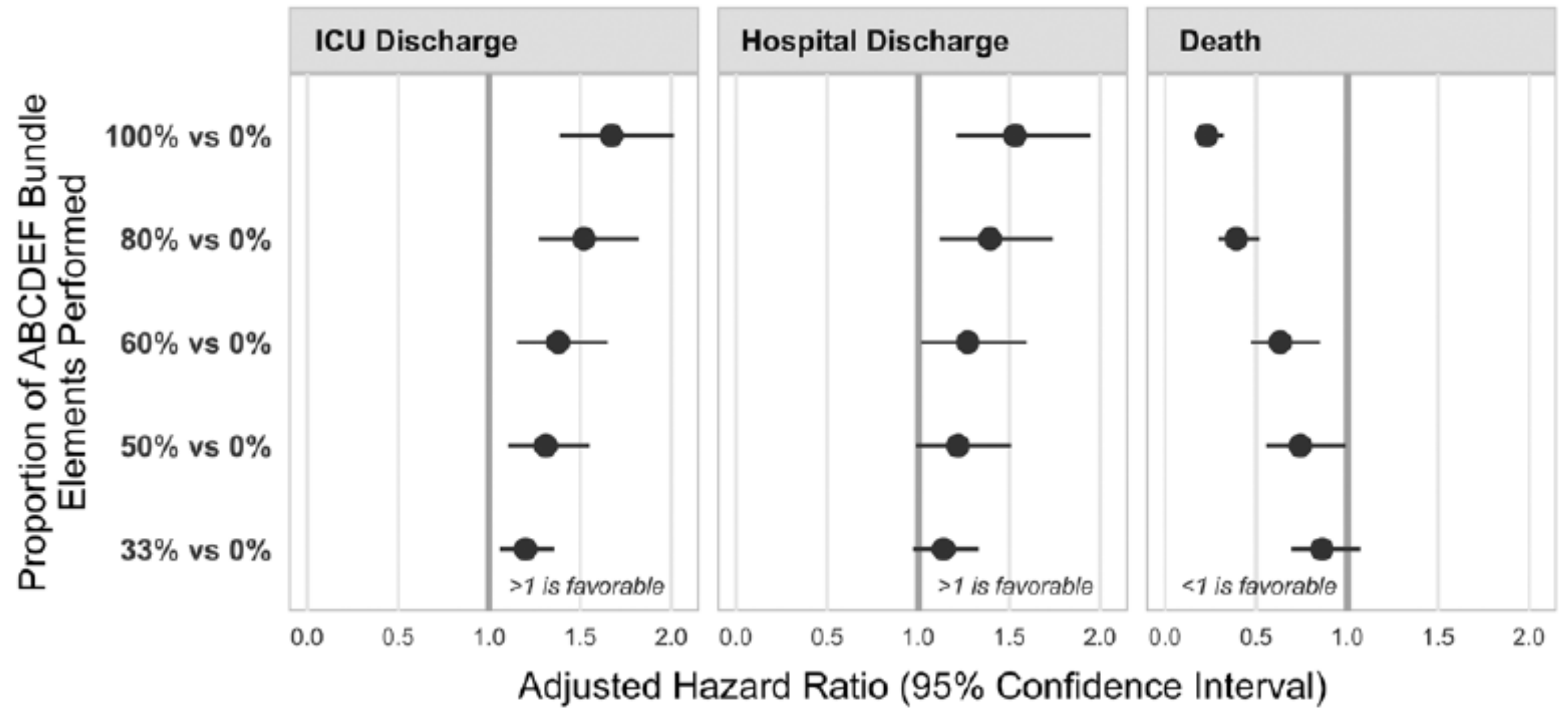
Design: Prospective, multicenter, cohort study from a national quality improvement collaborative.

Setting: 68 academic, community, and federal ICUs collected data during a 20-month period.

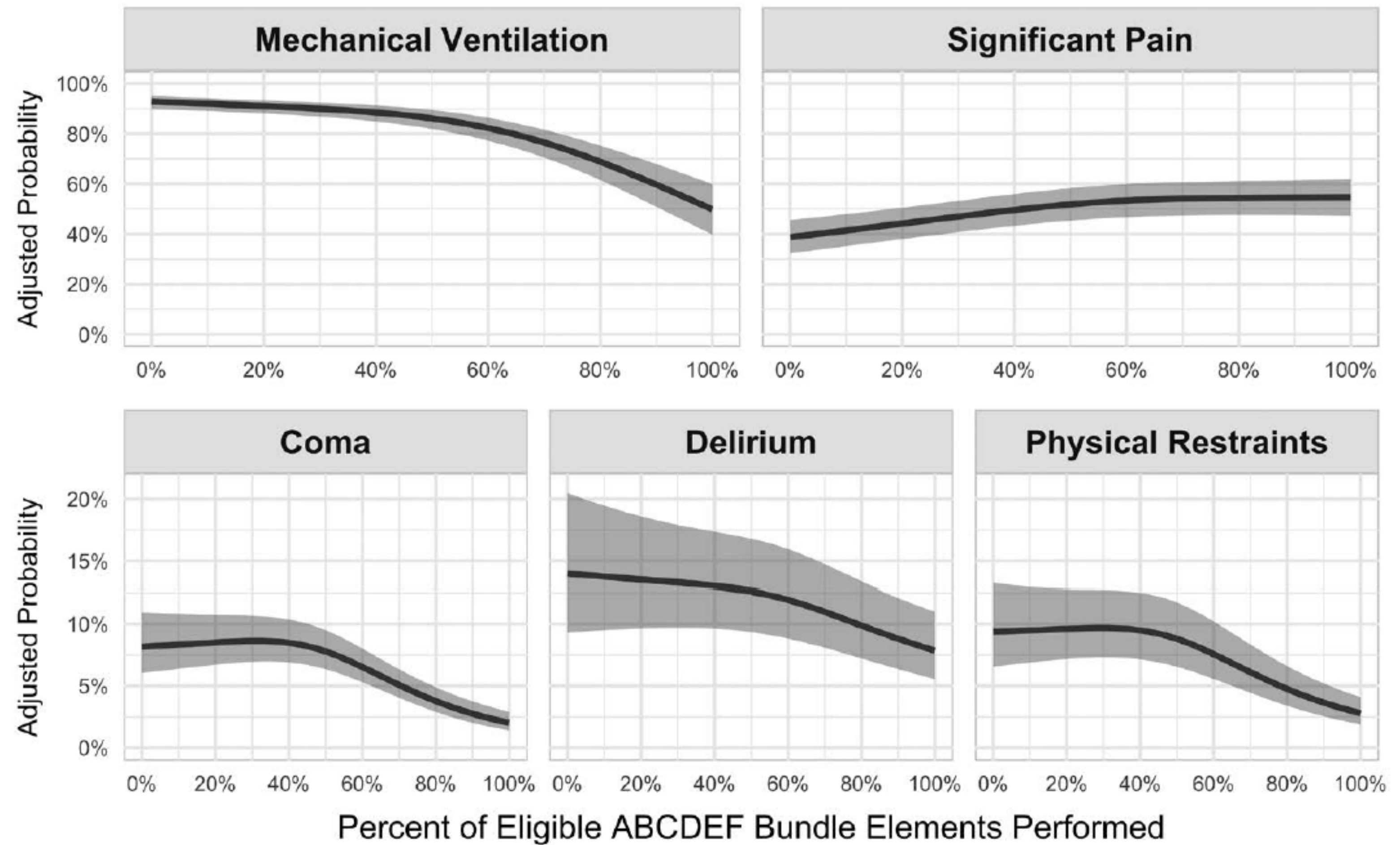
Patients: 15,226 adults with at least one ICU day.

Bundle Element	Days eligible	Performance In the last 24 hours it was documented that the patient received:
A	All days	≥ 6 pain assessments using a valid and reliable instrument (i.e., numeric rating scale, Behavioral Pain Scale,(20) or Critical Care Pain Observation Tool(21))
B1	Only days when patient received continuous or intermittent sedation	A spontaneous awakening trial (SAT) if receiving continuous or intermittent sedative infusions
B2	Only days when patient was on ventilatory support	A spontaneous breathing trial (SBT) if receiving mechanical ventilation
C	All days	≥ 6 agitation-sedation assessments using a valid and reliable instrument (i.e., Richmond Agitation-Sedation Scale(22) or Sedation-Agitation Scale(23))
D	All days	≥ 2 delirium assessments using a valid and reliable instrument (i.e., Confusion Assessment Method for the ICU(24) or Intensive Care Delirium Screening Checklist(25))
E	All days	Mobility activities that were higher than active range of motion (i.e., dangling at edge of bed, standing at side of bed, walking to bedside chair, marching in place, walking in room or hall)
F	Only days when family was present	And a family member/significant other was educated on the ABCDEF bundle and/or participated in at least one of the following: rounds; conference; plan of care; or ABCDEF bundle related care.

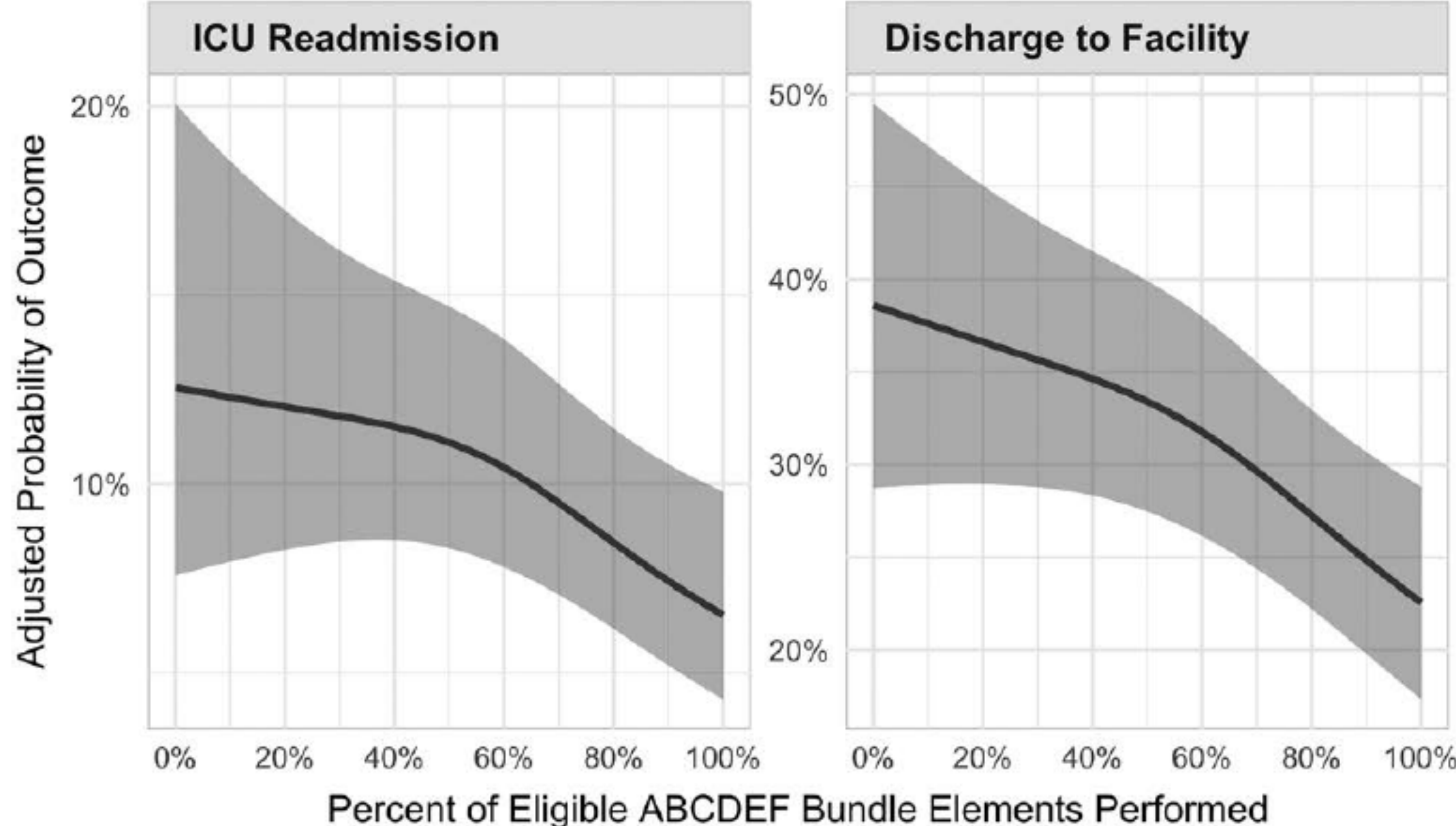
Caring for Critically Ill Patients with the ABCDEF Bundle: Results of the ICU Liberation Collaborative in Over 15,000 Adults



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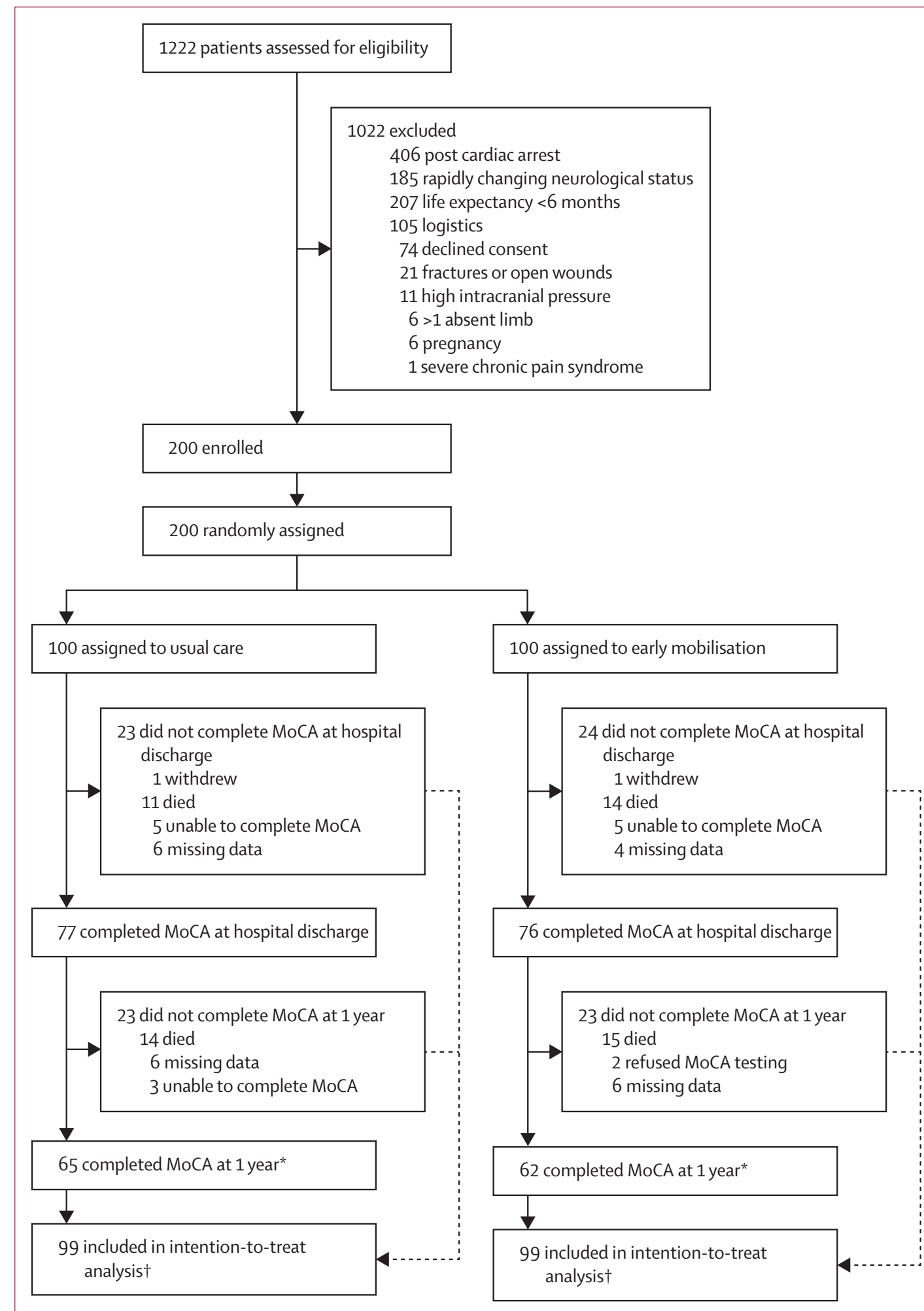


Effect of early mobilisation on long-term cognitive impairment in critical illness in the USA: a randomised controlled trial



Lancet Respir Med 2023;
11: 563–72

Bhakti K Patel, Krysta S Wolfe, Shruti B Patel, Karen C Dugan, Cheryl L Esbrook, Amy J Pawlik, Megan Stulberg, Crystal Kemple, Megan Teele, Erin Zeleny, Donald Hedeker, Anne S Pohlman, Vineet M Arora, Jesse B Hall, John P Kress



	Usual care group (n=99)	Intervention group (n=99)
Age, years	54.5 (41.9–64.7)	57.9 (42.3–66.8)
Sex		
Female	44 (44%)	41 (41%)
Male	55 (56%)	58 (59%)
Race		
African American	72 (73%)	68 (69%)
White, non-Hispanic	21 (21%)	26 (26%)
White, Hispanic	4 (4%)	4 (4%)
Asian	2 (2%)	1 (1%)
Barthel Index Score	100 (100–100)	100 (100–100)
BMI, kg/m ²	29.8 (24.2–35.2)	28.2 (23.7–33.1)
Level of education		
High school education or higher	91 (92%)	91 (92%)
Less than high school education	8 (7%)	8 (7%)
APACHE II score	23 (16–27)	23 (18–29)
Sepsis*	56 (57%)	63 (64%)
Diabetes	26 (26%)	23 (23%)
Primary diagnosis for ICU admission		
Acute hypoxaemic respiratory failure	35 (35%)	44 (44%)
Acute ventilatory failure	24 (24%)	17 (17%)
Threatened airway	21 (21%)	19 (19%)
Sepsis*	12 (12%)	14 (14%)
Liver failure	3 (3%)	1 (1%)
Gastrointestinal haemorrhage	1 (1%)	2 (2%)
Other	3 (3%)	2 (2%)

Data are n (%) or median (IQR). ICU=intensive care unit. *Sepsis includes sepsis and septic shock defined using the Sepsis-3 definition.

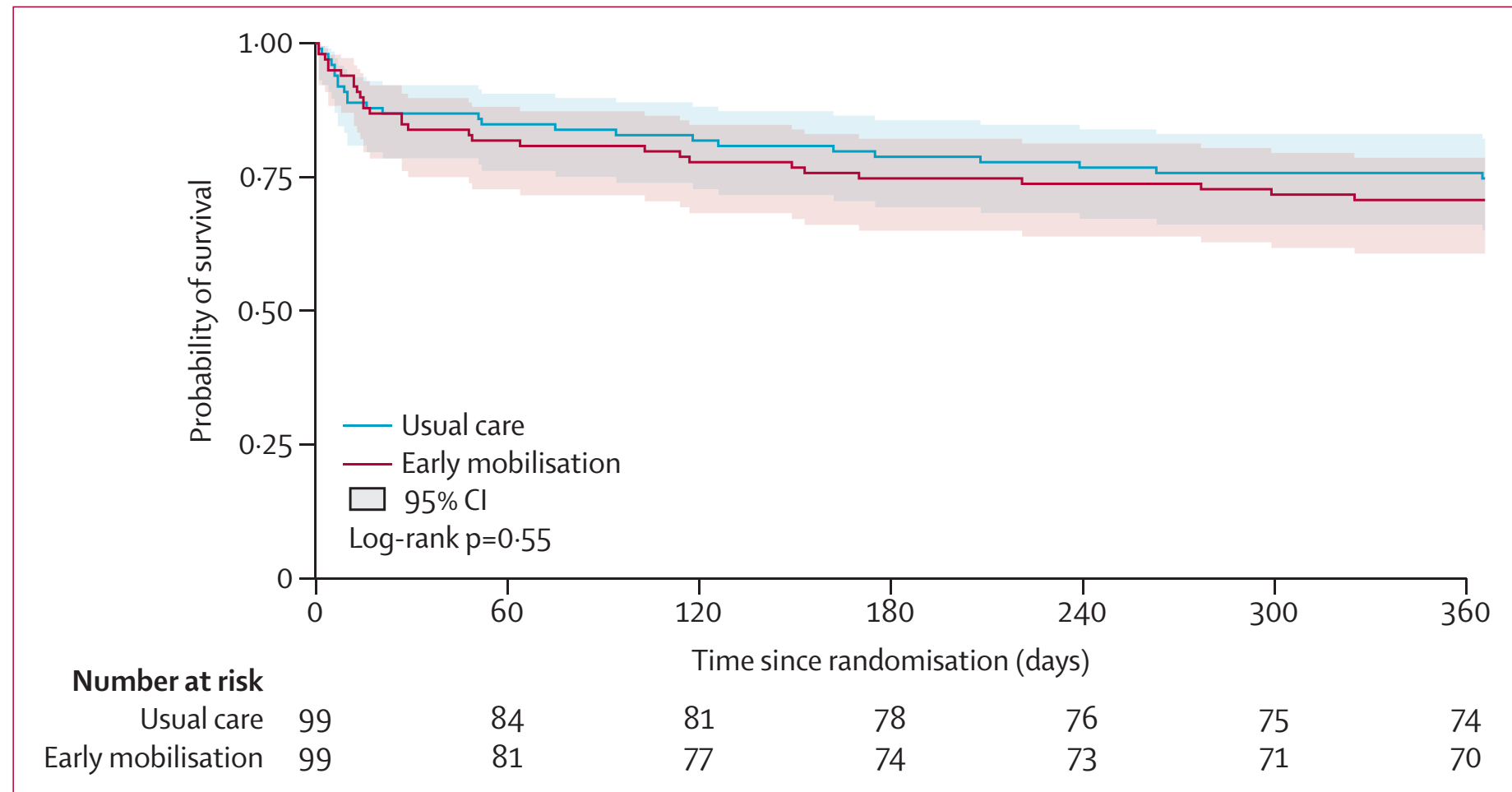
Table 1: Baseline characteristics

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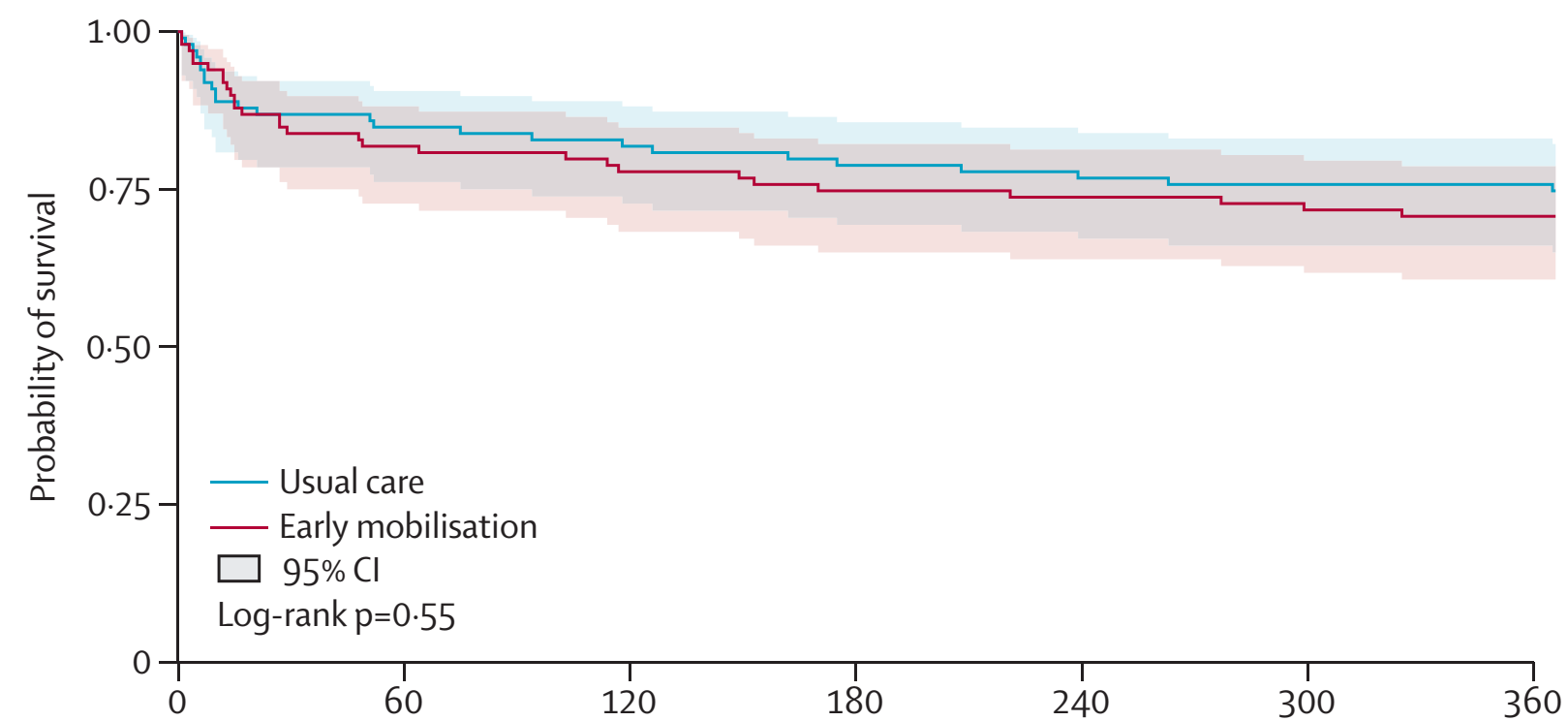
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Number at risk	0	60	120	180	240	300	360
Usual care	99	84	81	78	76	75	74
Early mobilisation	99	81	77	74	73	71	70

	Usual care group (n=99)	Intervention group (n=99)	Absolute difference	p value
Primary outcome				
Cognitive impairment at 1 year	43 (43%)	24 (24%)	-19.2% (-32.1 to -6.3)	0.0043
MoCA* score at 1 year	23 (21-26)	26 (24-28)	3 (1 to 4)	0.0001
Hospital discharge outcome				
Cognitive impairment	68 (69%)	53 (54%)	-15.2% (-28.6 to -1.7)	0.029
MoCA score	20 (16-23)	23 (19-27)	3 (2 to 5)	0.0004
ICU-acquired weakness†	38 (38%)	21 (21%)	-17.1% (-29.7 to -4.7)	0.0083
Total MRC score	49 (44-56)	56 (48-60)	7 (1 to 9)	0.0017
Functional independence	46 (47%)	66 (67%)	20.2% (6.7 to 33.7)	0.0041
Quality of life				
SF-36 physical component score	39.6 (31.8-48.5)	45.7 (29.7-55.6)	4.1 (-0.53 to 8.4)	0.081
Impaired physical health‡	39 (39%)	29 (29%)	-10.1% (-23.3 to 3.1)	0.13
SF-36 mental component score	47.6 (38.3-55.3)	53.3 (44.3-57.2)	5.7 (-0.16 to 6.9)	0.061
Impaired mental health	22 (22%)	13 (13%)	-9.1% (-19.6% to 1.5)	0.094
1-year follow-up				
ICU-acquired weakness	14 (14%)	0	-14.1% (-21.0 to -7.3)	0.0001
Total MRC score	56 (49-60)	58 (56-60)	2 (0 to 4)	0.0073
Functional independence	61 (62%)	64 (65%)	3.0% (-10.4 to 16.5)	0.66
Quality of life				
SF-36 physical component score	41.1 (31.8-49.4)	52.4 (45.3-56.8)	11.3 (6.3 to 13.8)	<0.0001
Impaired physical health	30 (30%)	8 (8%)	-22.2% (-32.7 to -11.7)	0.0001
SF-36 mental component score	55.2 (49.5-59.7)	55.9 (50.2-58.9)	0.7 (-2.7 to 2.3)	0.98
Impaired mental health	9 (9%)	7 (7%)	-2.0% (-9.6 to 5.6)	0.60
Institution-free days	335 (121-356)	338 (111-355)	3 (-8 to 5)	0.88

Dans la vraie vie ?

Crash Test

Prevalence and risk factors for delirium in critically ill patients with COVID-19 (COVID-D): a multicentre cohort study

Brenda T Pun*, Rafael Badenes*, Gabriel Heras La Calle, Onur M Orun, Wencong Chen, Rameela Raman, Beata-Gabriela K Simpson, Stephanie Wilson-Linville, Borja Hinojal Olmedillo, Ana Vallejo de la Cueva, Mathieu van der Jagt, Rosalía Navarro Casado, Pilar Leal Sanz, Günseli Orhun, Carolina Ferrer Gómez, Karla Núñez Vázquez, Patricia Piñeiro Otero, Fabio Silvio Taccone, Elena Gallego Curto, Anselmo Caricato, Hilde Woien, Guillaume Lacave, Hollis R O'Neal Jr, Sarah J Peterson, Nathan E Brummel, Timothy D Girard, E Wesley Ely, Pratik P Pandharipande, for the COVID-19 Intensive Care International Study Group†

A

B

C

D

E

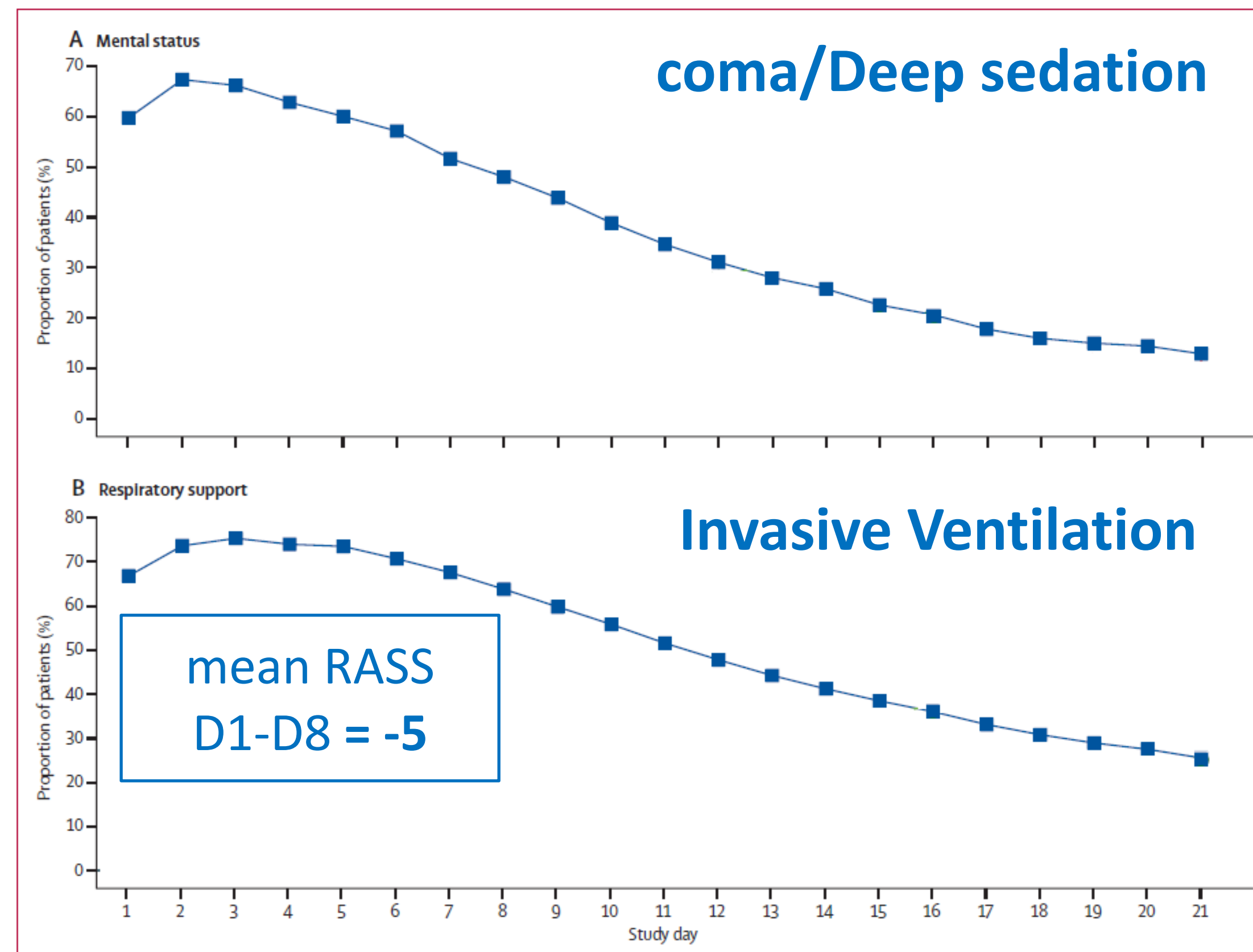
F



2088 patients
69 ICU

%

%



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A (pain evaluation) = 73%

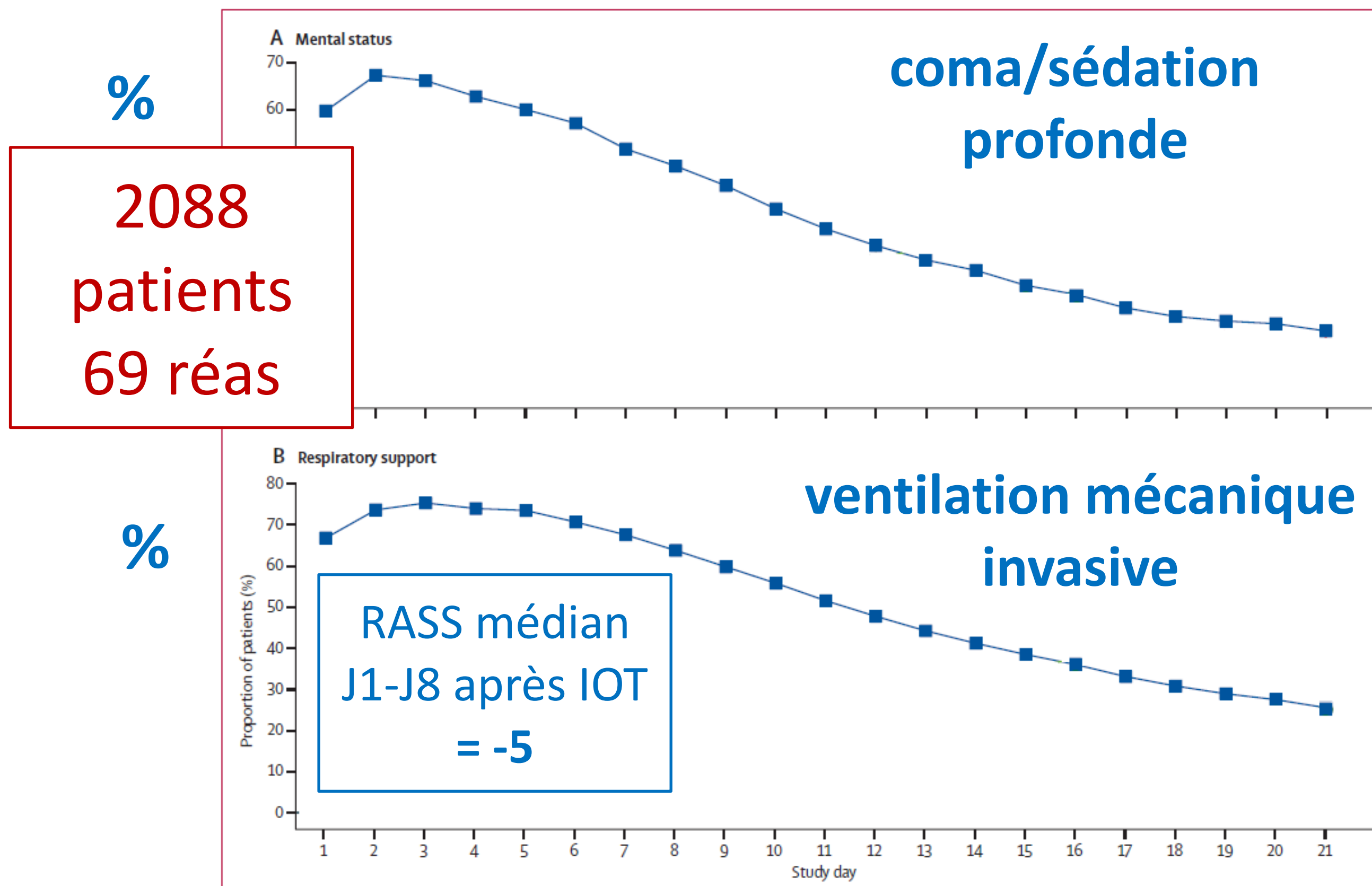
B

C (Sedation) = 98%

D (delirium) = 83%

E

F



Prevalence and risk factors for delirium in critically ill patients with COVID-19 (COVID-D): a multicentre cohort study

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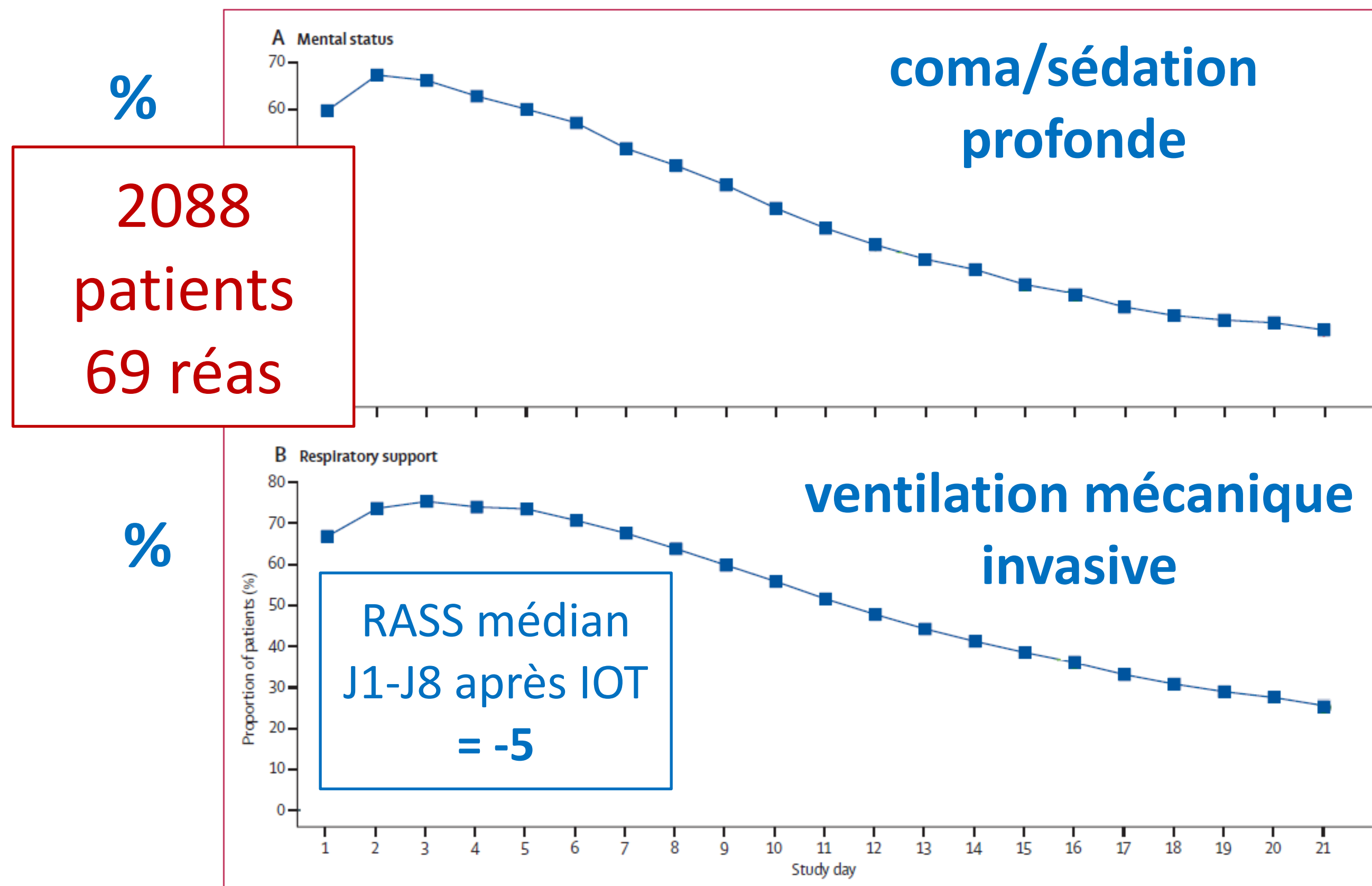
B(stop sed.+SBT) < 25%

C(Sedation) = 98%
(Avoid benzo) = 52%

D(delirium) = 83%

E(early exercise) = 34%

F(famille engagement) = 8%



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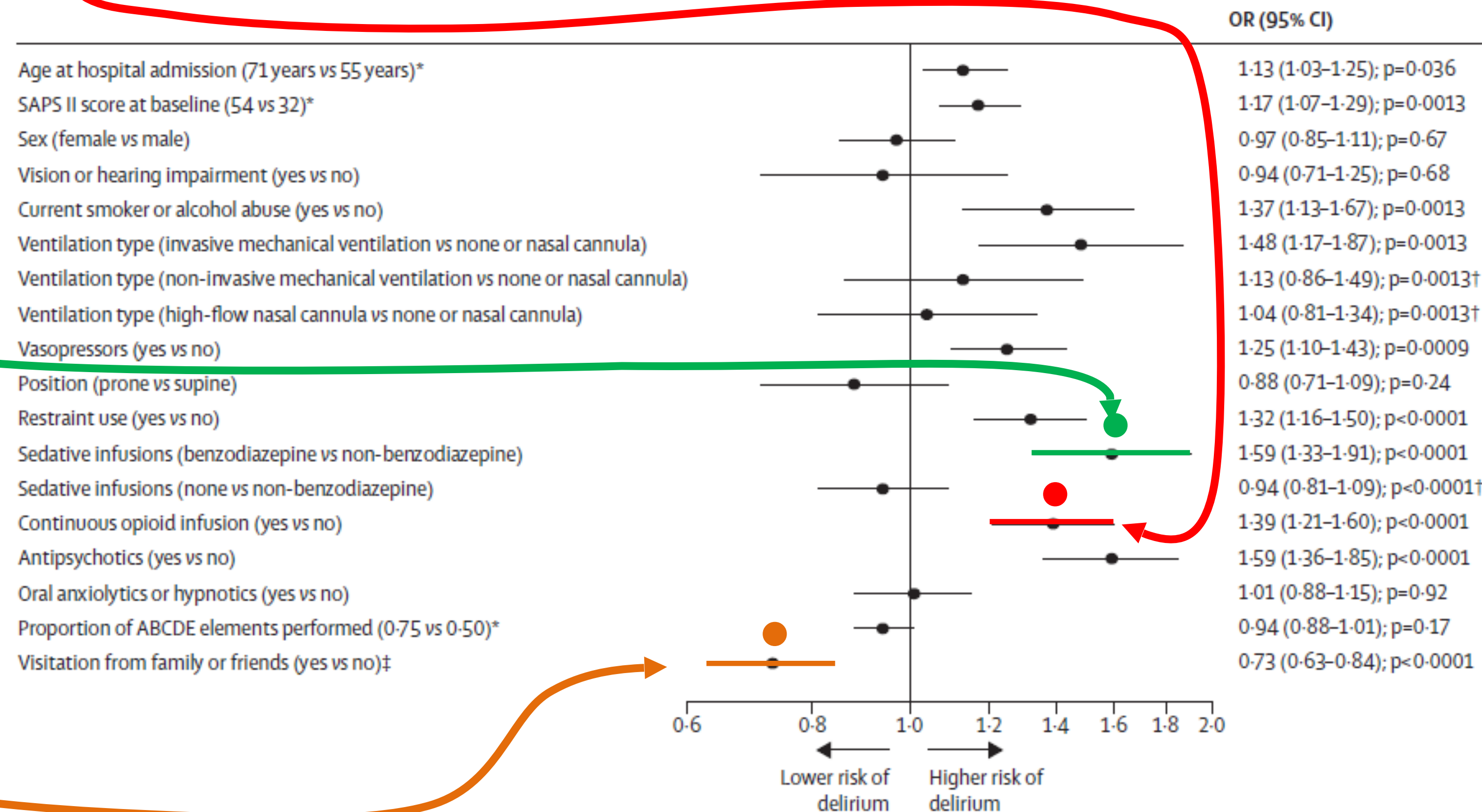
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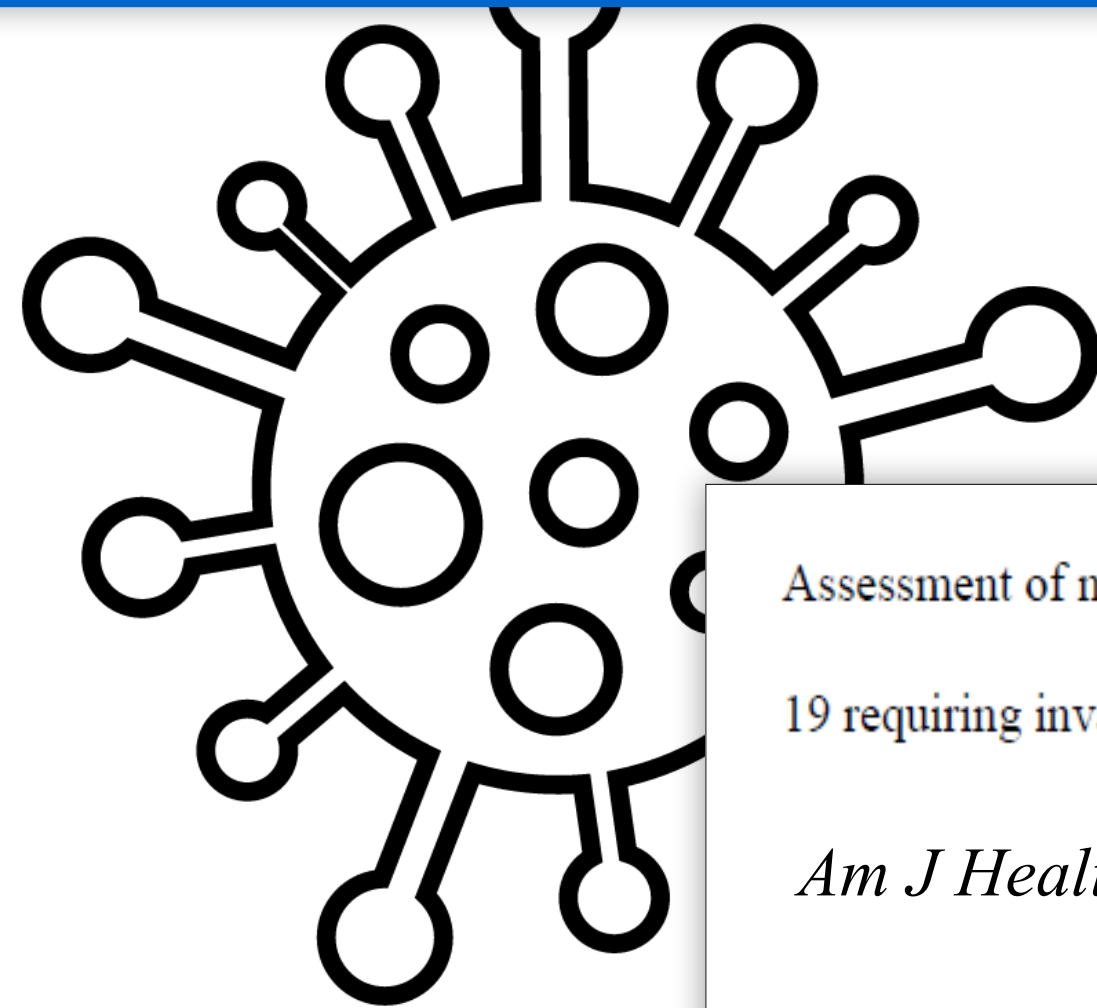
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Sedation Usage in COVID-19 Acute Respiratory Distress Syndrome: A Multicenter Study

Annals of Pharmacotherapy 2021

Natalie Tapaskar, MD¹ , Daniel Colon Hidalgo, MD, MPH²,



Assessment of narcotic, sedative, and neuromuscular blocker needs of patients with COVID-19 requiring invasive mechanical ventilation

Am J Health Syst Pharm 2021

Julie Spangler (PharmD student)

NEUROLOGIC CRITICAL CARE

Association of Sedation, Coma, and In-Hospital Mortality in Mechanically Ventilated Patients With Coronavirus Disease 2019–Related Acute Respiratory Distress Syndrome: A Retrospective Cohort Study*


Crit Care Med : September 2021

Karuna Wongtangman, MD^{1,2}

PLOS ONE

RESEARCH ARTICLE

High sedation needs of critically ill COVID-19 ARDS patients—A monocentric observational study

Armin Niklas Flinspach ^{1*}, Hendrik Booke¹, Kai Zacharowski¹, Ümniye Balaban², Eva Herrmann², Elisabeth Hannah Adam¹

The Use of Analgesia and Sedation in Mechanically Ventilated Patients With COVID-19 ARDS

Anesth & Analg 2021





microorganisms



Article

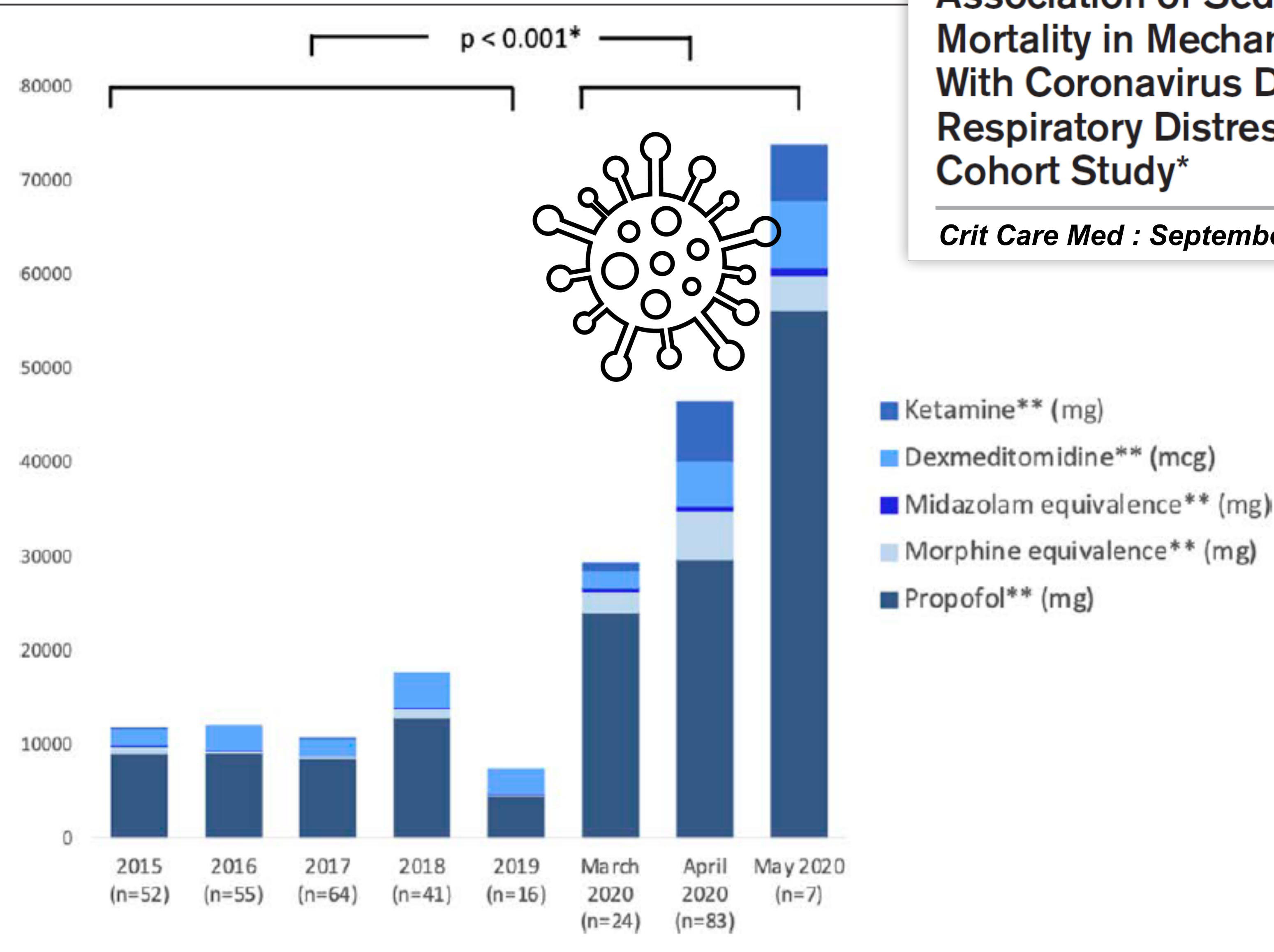
Use of Sedatives and Neuromuscular-Blocking Agents in Mechanically Ventilated Patients with COVID-19 ARDS

Amédée Ego ^{*}, Lorenzo Peluso ², Julie Gorham, Alberto Diosdado, Giovanni Restuccia, Jacques Creteur and Fabio Silvio Taccone

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Crit Care Med : September 2021

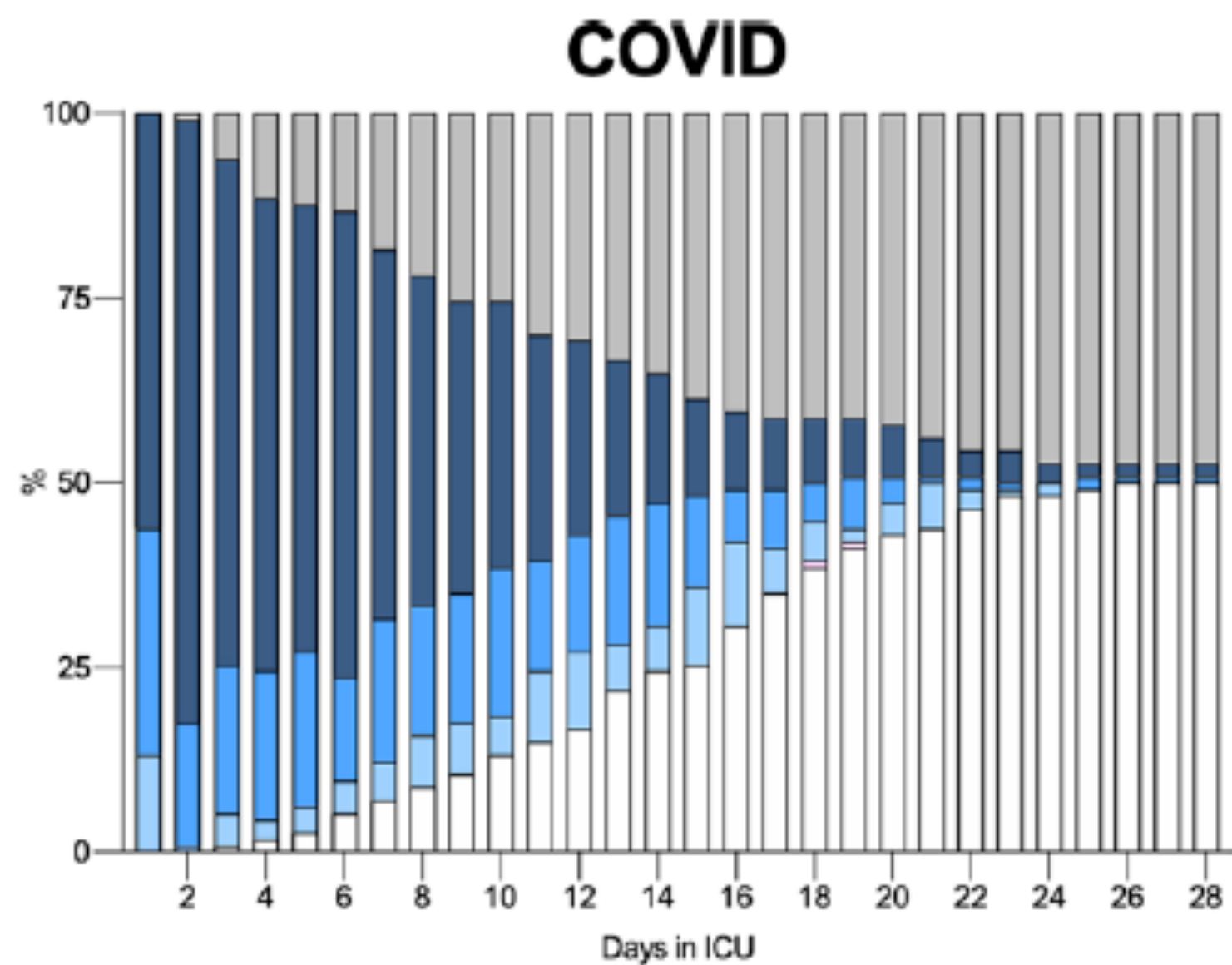
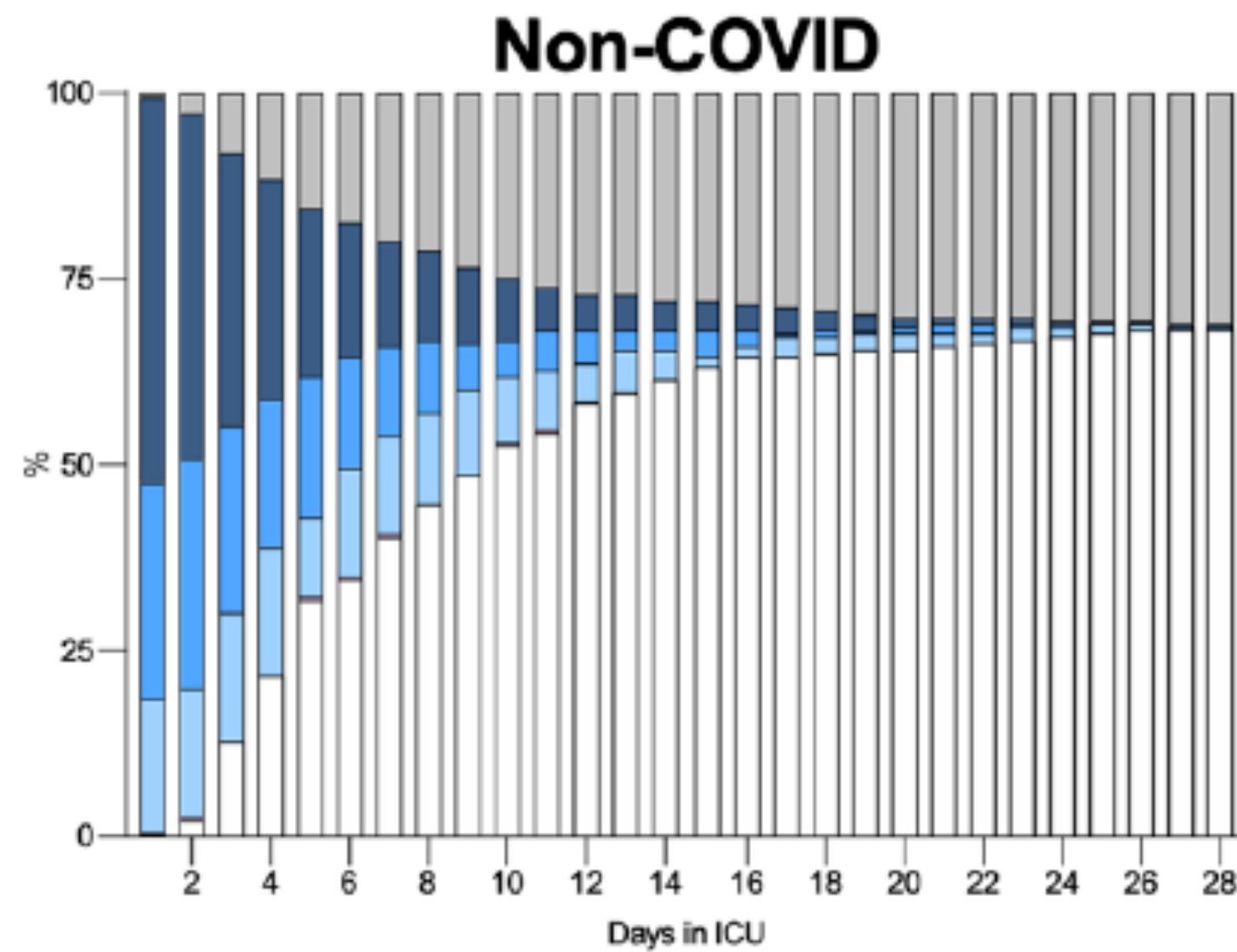


Association of Sedation, Coma, and In-Hospital Mortality in Mechanically Ventilated Patients With Coronavirus Disease 2019–Related Acute Respiratory Distress Syndrome: A Retrospective Cohort Study*

Crit Care Med : September 2021

Karuna Wongtangman, MD^{1,2}

Death + Coma \$ Arousable
Alert Agitated Extubated #



CARDS

- More Deep sedation
- Higher doses of drugs
- Higher mortality
- Adjusted analysis : **Increased mortality related to deep sedation not covid !**

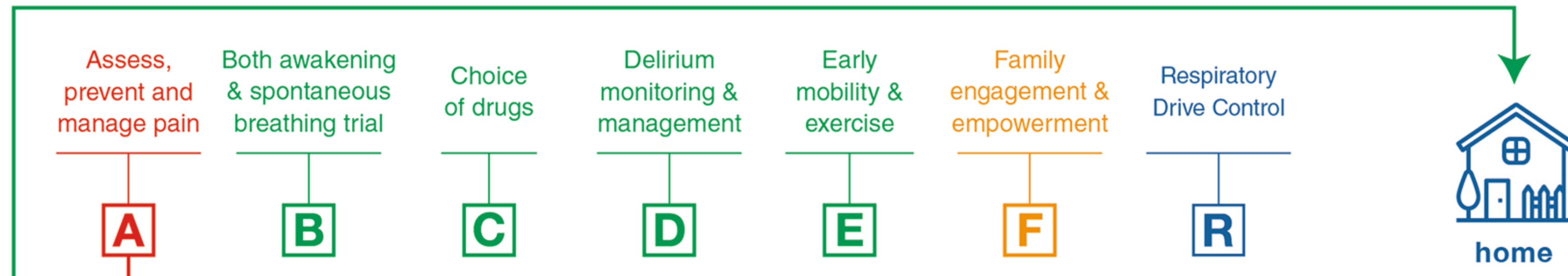
Conclusion

Révolution

en Anesthésie-Réanimation...

Sédatiön

La Sédation est un outil



Fondamentaux



Améliorer le devenir des patients

Evaluation Choix des molécules Mobilisation

Merci de votre attention !