ANALYSE RÉFLEXIVE DE LA LITTÉRATURE : RÉHABILITATION PRÉCOCE

3 articles (/idées) majeur(e)s à décortiquer

Cheryl HICKMANN
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réanimation 2025
PARIS 11-13 JUIN

LA RÉANIMATION : UNE COURSE CONTRE-LA-MONTRE POUR LE MUSCLE

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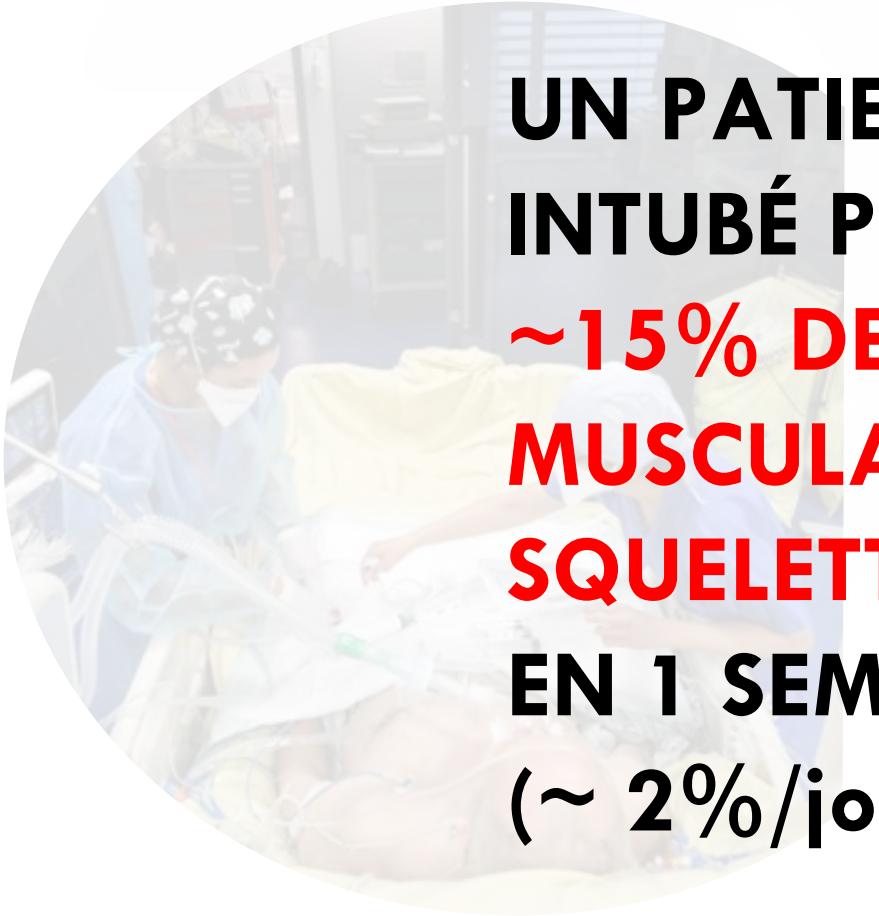
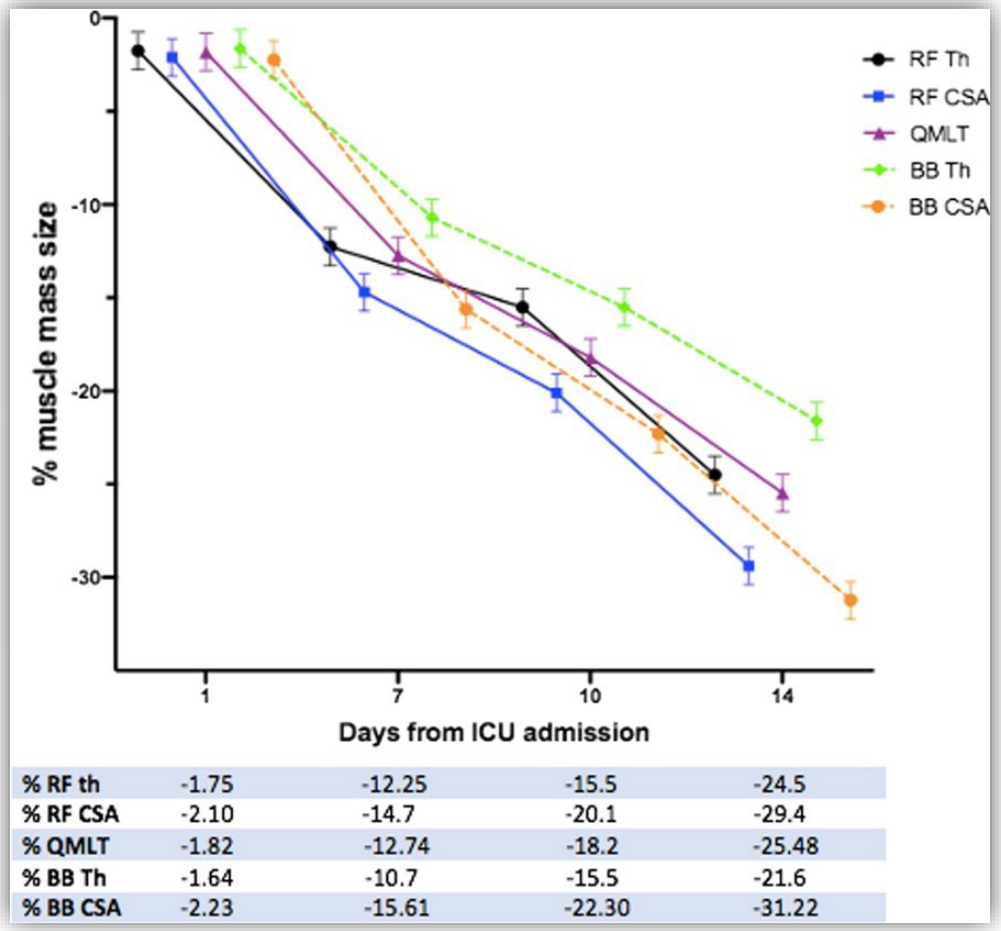


UN PATIENT INTUBÉ PERD ~15% DE MASSE MUSCULAIRE SQUELETTIQUE EN 1 SEMAINE (~ 2%/jour)



% RF th	-1.75	-12.25	-15.5	-24.5
% RF CSA	-2.10	-14.7	-20.1	-29.4
% QMLT	-1.82	-12.74	-18.2	-25.48
% BB Th	-1.64	-10.7	-15.5	-21.6
% BB CSA	-2.23	-15.61	-22.30	-31.22

Fazzini et al, Crit Care, 2023
Levine et al, NEJM, 2008

POURQUOI LA RÉHABILITATION PRÉCOCE ?

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223.000 patients en ICU (2018)

→103.000 >48h

40% de patients sous VM

30 à 50% des patients ventilés avec une faiblesse musculaire acquise en réanimation *(Critical Illness Weakness)* au réveil

49% adressés en structure de rééducation :
29 jours en moyenne
~40.000 patients

Martin et al, Chest, 2023
Medrinal et al, Eur Respir J, 2020
Fan et al, Am J Respir Crit Care Med, 2014

QUELS BÉNÉFICES ATTENDRE DE LA RÉHABILITATION PRÉCOCE ?

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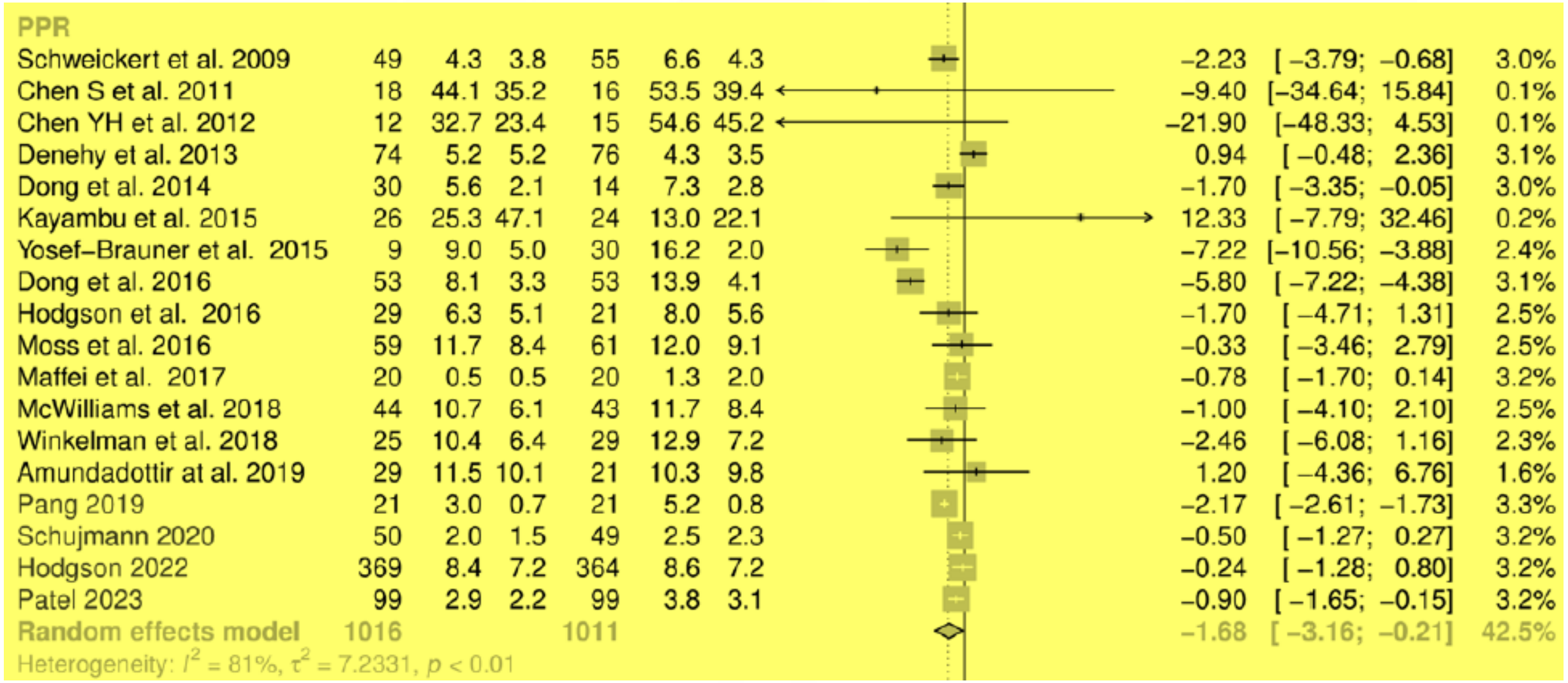

Jiroutkova et al, Crit Care Med, 2023

ALORS LA RÉHABILITATION PRÉCOCE, POUR TOUS LES PATIENTS ?

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(P)atient

« Finding appropriate target population (sick enough to have impairments and adequate lengh of stay to benefit from ICU based interventions), but healthy enough to survive hospital stay and safely and actively participate with intervention »

a) Finding appropriate target population (sick enough to have impairments and adequate lengh of stay to benefit from ICU based interventions, but healthy enough to survive hospital stay and to safely and actively participate with intervention)
b) Trade-off of heterogeneity of treatment effect and identification of specified subgroups for precision medicine?
c) Exclusion of patients with pre-existing impaired physical function leading to small sample size and challenges with generalizability
d) Poor patient retention during long term follow-up
e) Small sample size (influenced by factors above)

Hiser et al, BMJ, 2023

IDENTIFIER DES PROFILS DE PATIENTS RÉPONDEURS ET NON RÉPONDEURS A LA RÉHABILITATION PRÉCOCE : UNE CLÉ POUR PLUS D'EFFICACITÉ ?

Neto et al, Impact of High-Dose Early Mobilization on Outcomes for Patients with Diabetes A Secondary Analysis of the TEAM Trial. Am J Respir Crit Care Med, 2023

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AMERICAN JOURNAL OF Respiratory and Critical Care Medicine

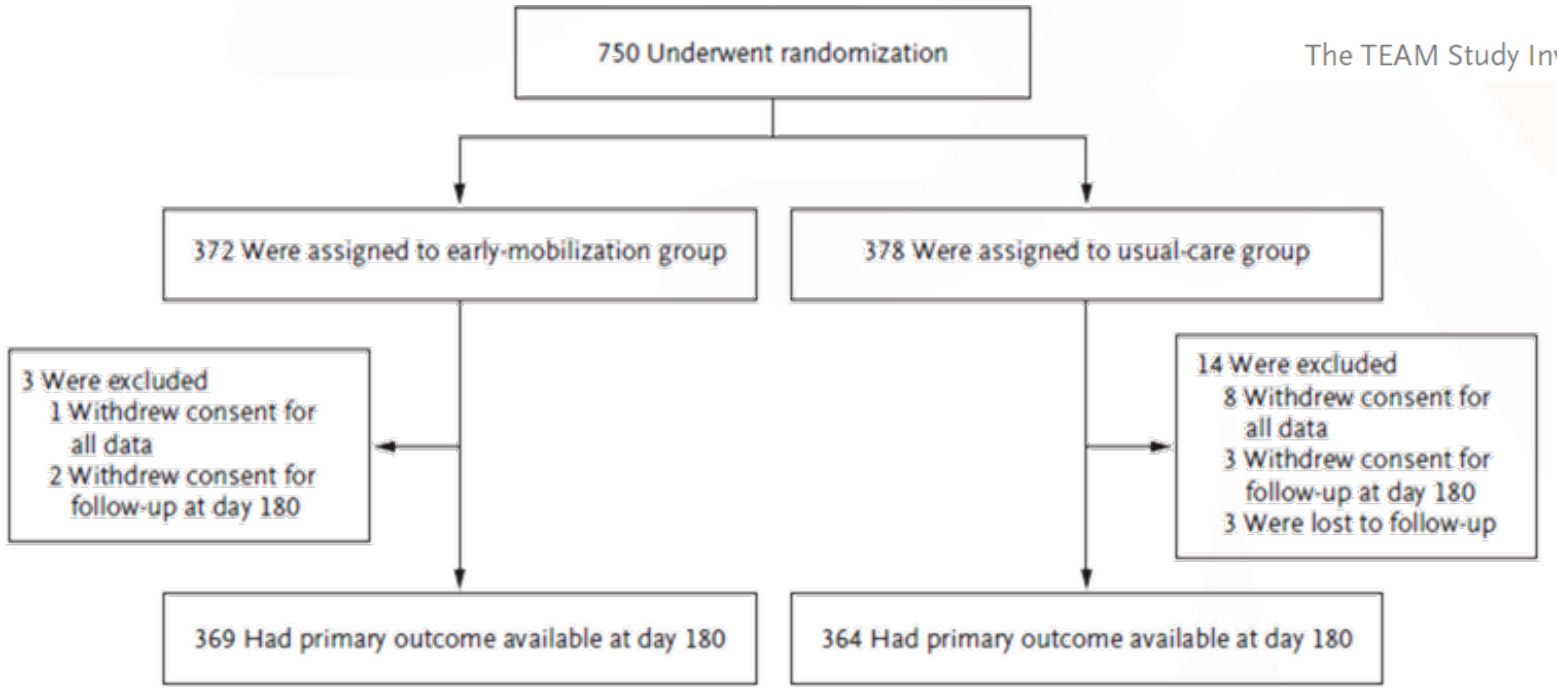
ÉTUDE PRINCEPS

ORIGINAL ARTICLE

Impact of High-Dose Early Mobilization on Outcomes for Patients with Diabetes

A Secondary Analysis of the TEAM Trial

Ary Serpa Neto[1,6,7,25], Michael Bailey[1], Daniel Seller[17,18,19], Alicia Agli[3], Rinaldo Bellomo[1,6,7,11], Kathy Brickell[30], Tessa Broadley[1], Heidi Buhr[14], Belinda J. Gabbe[15], Doug W. Gould[24], Meg Harrold[5,12], Alisa M. Higgins[1,4], Sally Hurford[17], Theodore J. Iwashyna[22,23], Alistair D. Nichol[1,9,30], Jeffrey J. Presneill[1,7,8,11], Stefan J. Schaller[20,21], Janani Sivasuthan[1], Claire J. Tipping[10], Alex Poole[1,26,27], Rachael Parke[28,29], Scott Bradley[10], Steven Webb[1,13], Sophia Zoungas[2], Paul J. Young[1,7,16,17], and Carol L. Hodgson[1,4,7,10]; on behalf of the TEAM Study Investigators*



The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Early Active Mobilization during Mechanical Ventilation in the ICU

The TEAM Study Investigators and the ANZICS Clinical Trials Group*

Critère principal :

Jours vivant et hors de l'hôpital à J180:
143 (21 to 161) vs. 145 (51 to 164)

Pas de difference sur QDV, ADL, capacités fonctionnelles, cognitives et psychologiques

Hodgson et al, N Engl J Med, 2022

PROTOCOLE DE RÉHABILITATION PRÉCOCE

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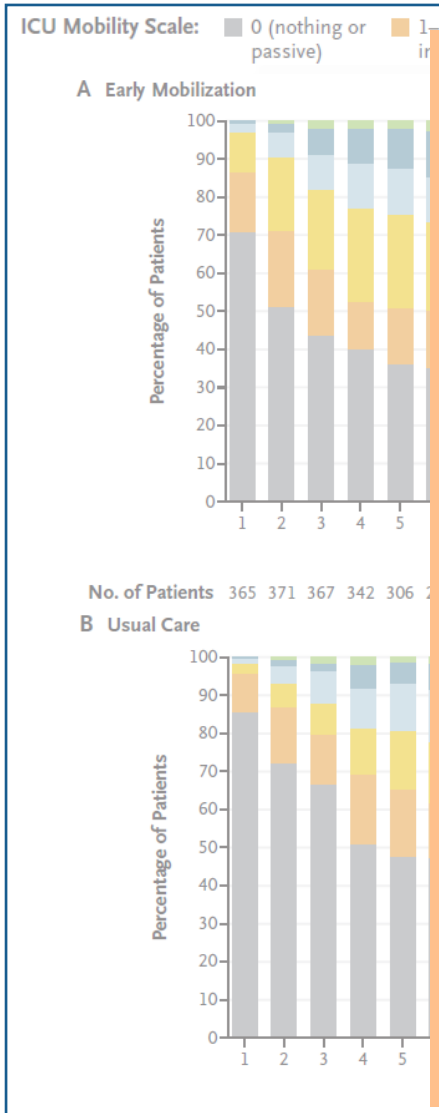

Table 2. Mobilization in the ICU.*

Characteristic	Early Mobilization (N=371)	Usual Care (N=370)	Between-Group Difference (95% CI)†
Patients who were assessed by a physiotherapist on day of randomization — no./total no. (%)	320/370 (86.5)	265/363 (73.0)	13.5 (6.7 to 20.3)
No. of days per patient when physiotherapy assessment occurred	0.94±0.11	0.81±0.24	0.14 (0.12 to 0.16)
No. of minutes of active mobilization per day	20.8±14.6	8.8±9.0	12.0 (10.4 to 13.6)
Mobilization milestones‡			
IMS 3 or higher			
Patients — no. (%)	331 (89.2)	330 (89.2)	0 (–4.3 to 4.3)
Median no. of days since randomization (IQR)	3 (1 to 6)	4 (2 to 7)	–1 (–2.2 to –0.2)
IMS 4 or higher			
Patients — no. (%)	287 (77.4)	286 (77.3)	0.1 (–6.0 to 6.1)
Median no. of days since randomization (IQR)	3 (2 to 7)	5 (3 to 8)	–2 (–3.4 to –0.6)
IMS 7 or higher			
Patients — no. (%)	176 (47.4)	150 (40.5)	6.9 (–0.2 to 14.0)
Median no. of days since randomization (IQR)	5 (3 to 8)	7 (4 to 13)	–2 (–3.4 to –0.7)
Median peak IMS (IQR)	6 (4 to 8)	6 (4 to 8)	0 (–1 to 1)

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DIABÈTE ET MOBILISATION PRÉCOCE : CARACTÉRISTIQUES INITIALES

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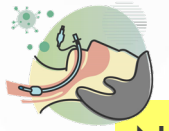
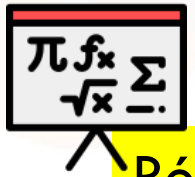
Table E2 – Baseline Characteristics, Mobilization Characteristics at Randomization and Mobilization Milestones During Follow-Up Stratified by Diabetes

	Diabetes (*n* = 159)	No Diabetes (*n* = 582)	*p* value
Age, years	65.3 (57.5 - 73.3)	61.1 (48.8 - 70.2)	< 0.001
Female sex – no. (%)	49 (30.8)	225 (38.7)	0.078
Body mass index, kg/m$_2$	31.1 (26.6 - 37.0)	28.1 (24.2 - 32.9)	< 0.001
Underweight – no. (%)	5 (3.1)	11 (1.9)	< 0.001
Normal – no. (%)	19 (11.9)	167 (28.7)	
Overweight – no. (%)	46 (28.9)	185 (31.8)	
Obese – no. (%)	89 (56.0)	219 (37.6)	
Frailty and function			
Clinical frailty scale	3.0 (3.0 - 4.0)	3.0 (2.0 - 4.0)	< 0.001
Functional comorbidity index	3.0 (2.0 - 4.0)	1.0 (1.0 - 2.0)	< 0.001
WHODAS 2.0	14.6 (4.5 - 29.5)	8.3 (2.1 - 22.9)	< 0.001
ICU mobility scale in week before admission	10.0 (10.0 - 10.0)	10.0 (10.0 - 10.0)	0.638
Hours from hospital admission to randomization	83.0 (48.5 - 138.3)	84.2 (49.4 - 140.8)	0.728
Hours from ICU admission to randomization	57.8 (31.2 - 87.6)	61.4 (36.3 - 94.2)	0.255
ICU admission type – no. (%)			0.073
Planned ICU admission after elective surgery	35 (22.0)	91 (15.6)	
Unplanned ICU admission	124 (78.0)	491 (84.4)	
RASS score at randomization	-3.0 (-4.0 - -2.0)	-3.0 (-4.0 - -2.0)	0.252
At randomization			
PEEP, cmH$_2$O	10 (8 - 12)	8 (6 - 10)	0.004
PaO$_2$ / FiO$_2$	207 (168 - 265)	217 (175 - 273)	0.376
Vasopressor – no. (%)	110 (69.2)	349 (60.0)	0.034
Renal replacement therapy – no. (%)	36 (22.6)	125 (21.5)	0.746
APACHE II	19.0 (15.0 - 24.0)	17.0 (13.0 - 21.0)	0.001
Diagnosis group – no. (%)			
Sepsis	108 (67.9)	383 (65.8)	0.637
Trauma	3 (1.9)	26 (4.5)	0.169
COVID-19	5 (3.1)	12 (2.1)	0.382



N=750



Régressions multivariées avec ajustements sur âge, sexe, APACHE, motif d'admission en réanimation, insuffisance cardiaque et sepsis

DIABÈTE ET MOBILISATION PRÉCOCE : MOBILISATION PRÉCOCE

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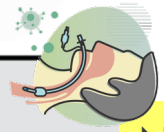

N=750

	Diabetes		No Diabetes		
	High-Dose Early Mobilization (*n* = 87)	Usual Care Mobilization (*n* = 72)	High-Dose Early Mobilization (*n* = 284)	Usual Care Mobilization (*n* = 298)	*P* Value*
Mobilization in ICU					
Assessed by a physiotherapist on day of randomization, *n* (%)	73/86 (84.9)	55/71 (77.5)	247 (87.0)	210/292 (71.9)	<0.001
Percentage of days per patient when a physiotherapy assessment occurred	1.0 (0.9–1.0)	1.0 (0.7–1.0)	1.0 (0.9–1.0)	0.9 (0.7–1.0)	<0.001
Total days per patient when a physiotherapy assessment occurred	9.0 (6.0–15.0)	8.0 (4.0–14.0)	9.0 (5.0–16.0)	8.0 (5.0–13.0)	0.073
Minutes of active mobilization per day, mean per day†	14.6 (7.4–25.2)	5.8 (2.5–11.6)	19.4 (11.9–29.4)	6.7 (3.2–11.5)	<0.001
Total time of mobilization during ICU stay, min	162 (71–256)	49 (15–108)	167 (88–331)	65 (26–133)	<0.001
Maximum duration per day, min	40 (26–57)	20 (10–32)	47 (33–65)	21 (14–37)	<0.001
Minimum duration per day, min	0 (0–0)	0 (0–0)	0 (0–0)	0 (0–0)	<0.001
Milestones					
IMS 3 or higher, *n* (%)	71 (81.6)	58 (80.6)	258 (90.8)	270 (90.6)	0.012
Days since randomization	3.0 (1.0–6.0)	4.0 (2.0–8.0)	2.5 (1.0–5.0)	4.0 (2.0–7.0)	<0.001
IMS 4 or higher, *n* (%)	60 (69.0)	49 (68.1)	224 (78.9)	233 (78.2)	0.075
Days since randomization	5.0 (2.0–8.0)	4.0 (3.0–9.0)	3.0 (2.0–7.0)	5.0 (3.0–8.0)	0.010
IMS 7 or higher, *n* (%)	37 (42.5)	20 (27.8)	138 (48.6)	129 (43.3)	0.015
Days since randomization	6.0 (4.0–8.0)	7.0 (3.0–11.0)	5.0 (3.0–8.0)	7.0 (4.0–13.0)	0.003
Peak IMS	6.0 (3.0–7.0)	5.0 (3.0–7.0)	6.0 (4.0–8.0)	6.0 (4.0–8.0)	0.006

MORTALITÉ À 180 JOURS

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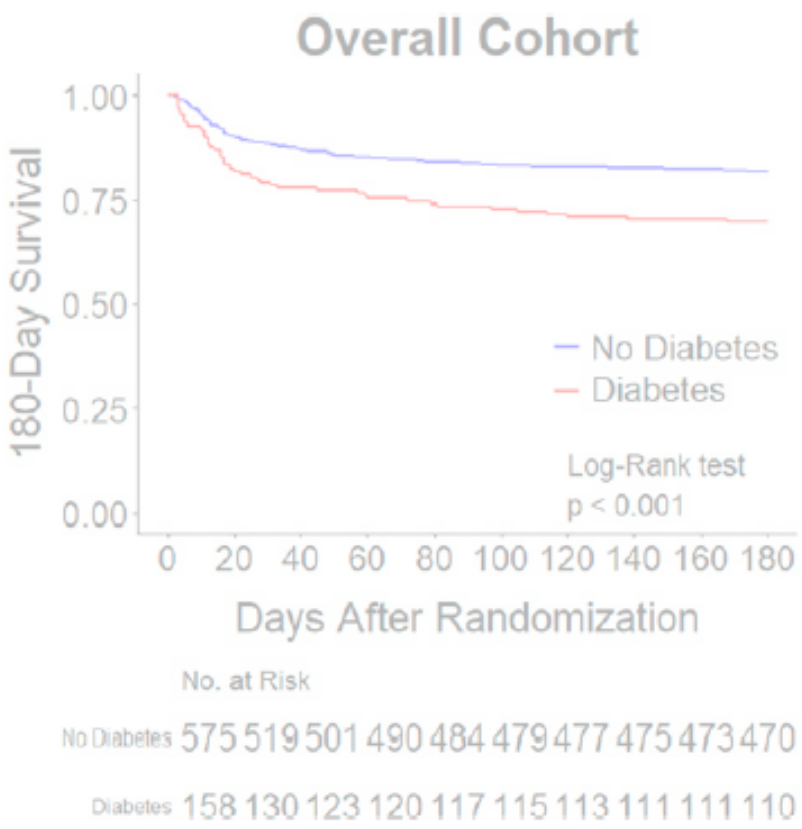

EXPLICATION DES RÉSULTATS ET PERSPECTIVES

Table E13 – Impact of Randomization Group on Glucose Levels, Heart Rate and Mean Arterial Pressure

	High Dose Early Mobilization (*n* = 19)	Usual Care Mobilization (*n* = 24)	Odds Ratio (95% CrI)*	Probability of Harm, %
Glucose				
Glucose > 14 mmol/L – no. (%)	28 (71.8)	20 (62.5)	1.40 (0.58 to 3.62)	77%
Glucose < 4 mmol/L – no. (%)	4 (10.3)	2 (6.2)	1.37 (0.35 to 5.58)	68%
Heart rate				
Heart rate > 100 beats per minute – no. (%)	35 (89.7)	25 (78.1)	1.86 (0.61 to 5.74)	86%
Heart rate > 130 beats per minute – no. (%)	12 (30.8)	8 (25.0)	1.27 (0.49 to 3.44)	69%
Heart rate < 50 beats per minute – no. (%)	4 (10.3)	2 (6.2)	1.35 (0.37 to 5.38)	68%
Heart rate < 40 beats per minute – no. (%)	3 (7.7)	1 (3.1)	1.48 (0.36 to 6.44)	71%
Mean arterial pressure				
Mean arterial pressure > 120 mmHg – no. (%)	7 (17.9)	4 (12.5)	1.00 (0.42 to 2.39)	51%
Mean arterial pressure < 65 mmHg – no. (%)	32 (82.1)	23 (71.9)	1.59 (0.62 to 4.30)	83%
Mean arterial pressure < 50 mmHg – no. (%)	10 (25.6)	3 (9.4)	2.36 (0.80 to 7.44)	94%
Use of noradrenaline – no. (%)	31 (79.5)	22 (68.8)	1.53 (0.59 to 4.01)	81%

EXPLICATION DES RÉSULTATS ET PERSPECTIVES

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Majoration du risque d'hypoglycémie, lui-même lié au risque de majoration du catabolisme musculaire et risque accru de ICU-Aw ?

Impact sur le cerveau ? Delirium ? Altération de l'état de conscience ? (pas de différence réelle observée dans l'étude)

Perturbation du SNA, troubles hémodynamiques et cardiaques liés à la mobilisation à haute intensité ?

Erreurs statistiques ? Majoration du risque alpha ? Manque de puissance ?

Mart et al, Am J Respir Crit Care Med, 2024

DIABÈTE VS AUTRES COMORBIDITÉS ?

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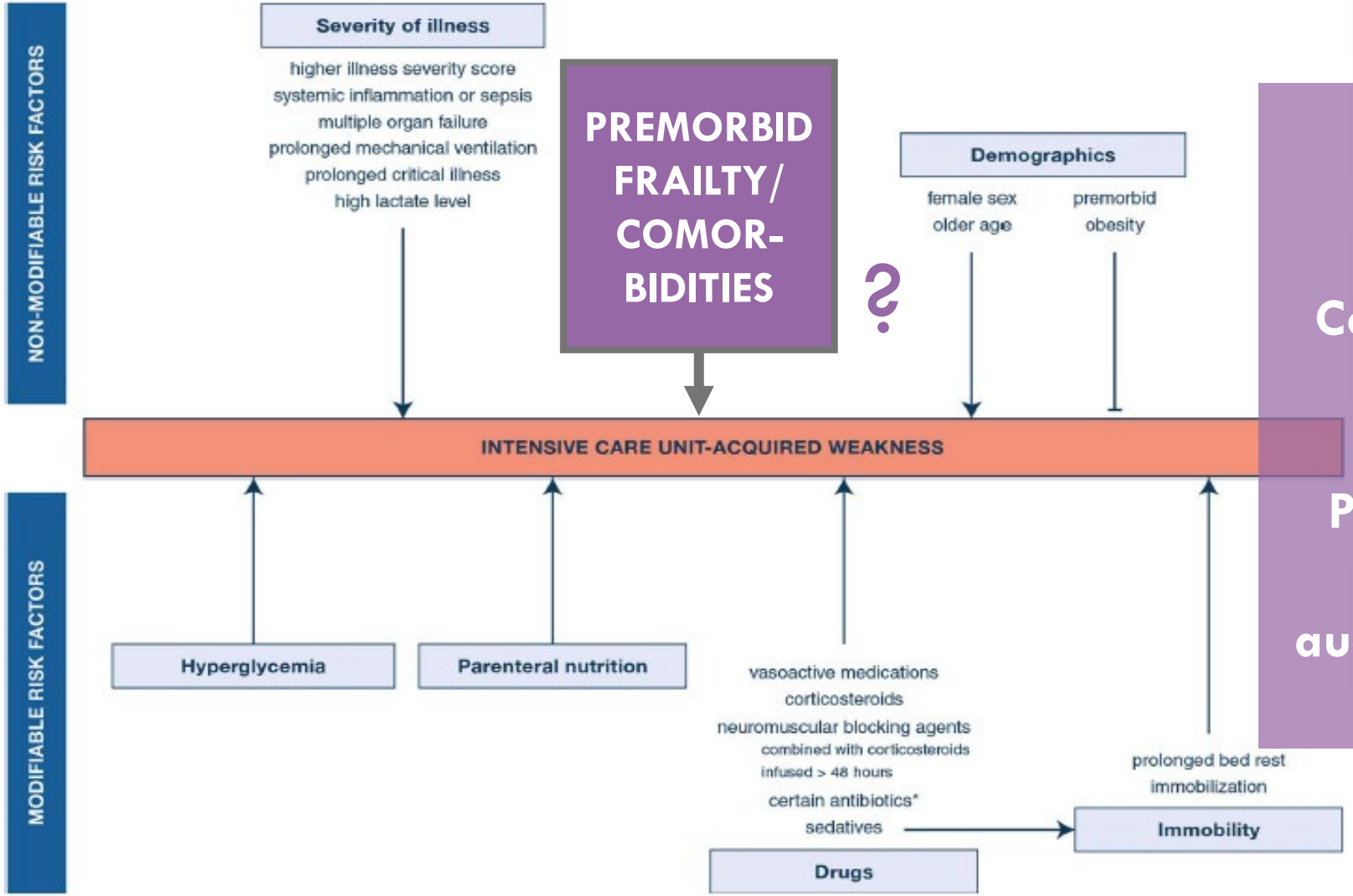


Statut fonctionnel antérieur régulièrement méconnu

Comorbidités déclaratives et pas toujours fiables

Patients avec ≥2 comorbidités à l'inclusion présentaient une augmentation supérieure au MCID a 3 puis 6 mois sur le PCS

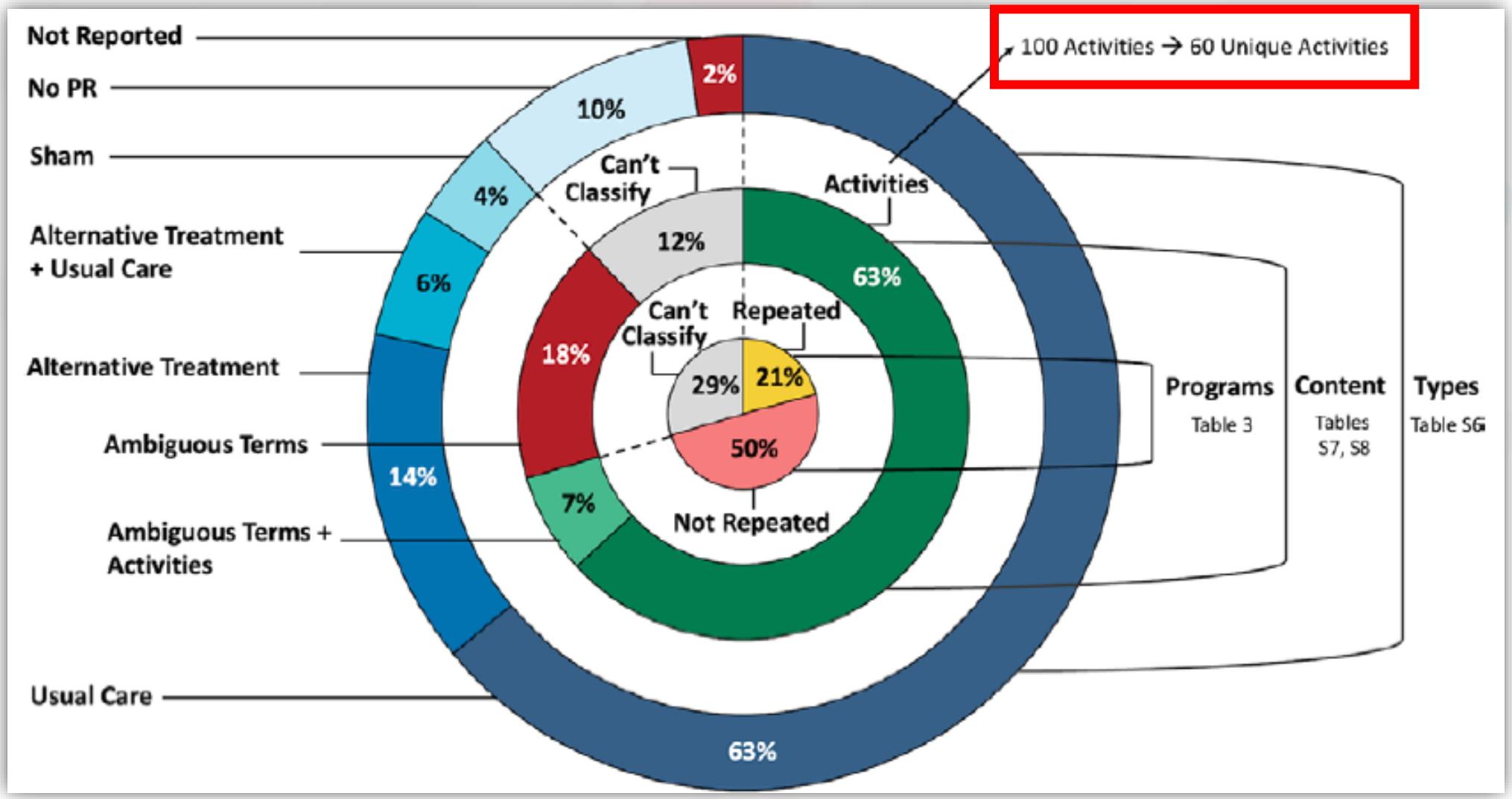
Vanhorebeek et al, Intensive Care Med, 2020
Jones et al, Crit Care Med, 2023

Clarifier les interventions réalisées dans les études pour estimer précisément les effets

Gonzalez-Seguel et al. Early mobilization dose reporting in randomized clinical trials with patients who were mechanically ventilated: A scoping review. Phys Ther, 2024.

PTJ Physical Therapy & Rehabilitation Journal

L'EXEMPLE DU GROUPE CONTRÔLE



O'Grady et al, Crit Care Med, 2023

ET POURTANT LE GROUPE CONTRÔLE A SON IMPORTANCE

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Physical Rehabilitation in the **ICU**: A Systematic Review and Meta-Analysis.

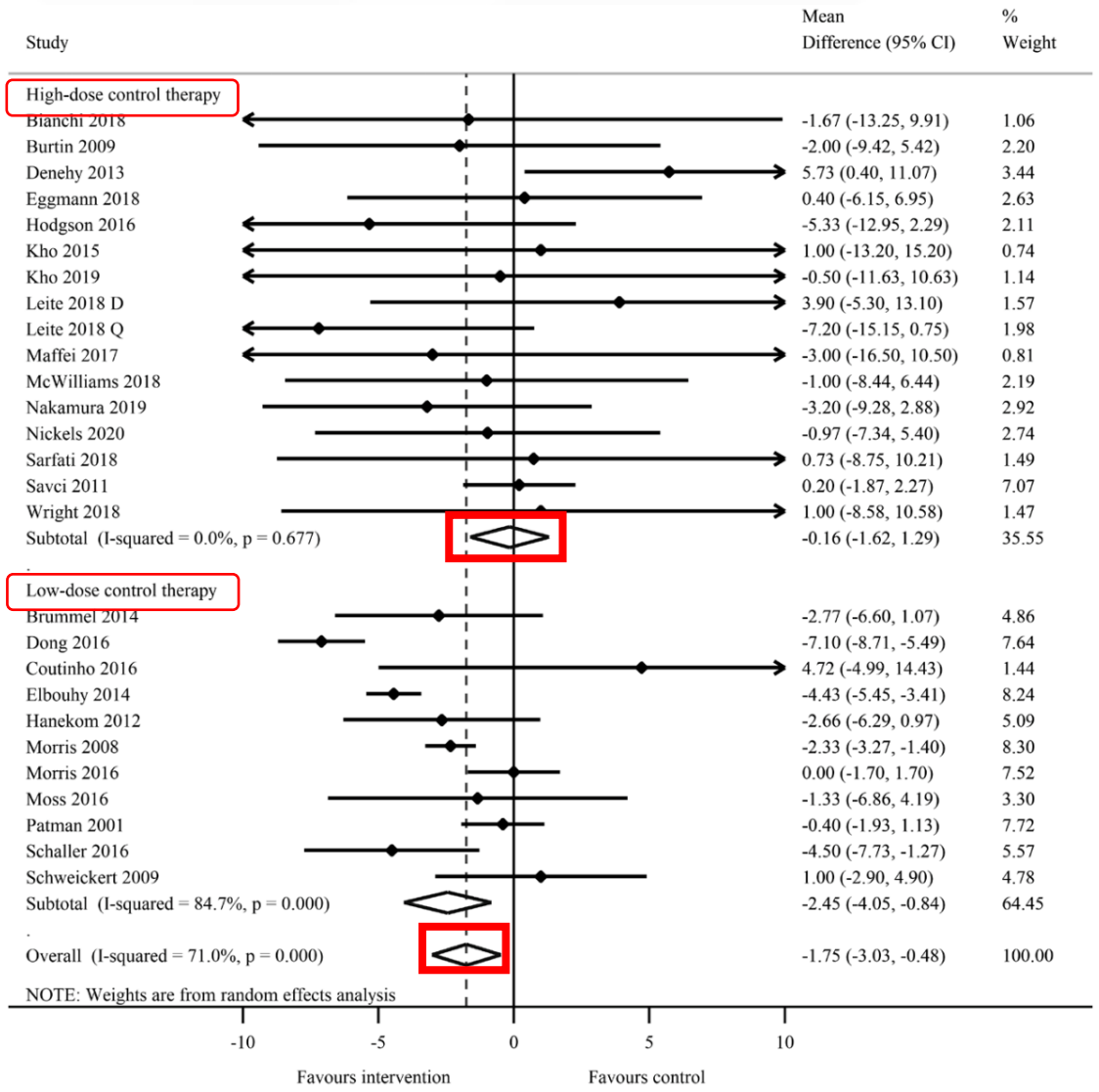
Wang YT, Lang JK, Haines KJ, Skinner EH, Haines TP.

Crit Care Med. 2022 Mar 1;50(3):375-388. doi: 10.1097/CCM.0000000000005285.

1) Does physical rehabilitation in ICU improve patient outcomes?
2) Are functional exercise interventions more effective than nonfunctional exercises?
3) How does the dose of control therapy impact the effectiveness of experimental interventions?

> 5/semaine

< 5/semaine



RÉHABILITATION PRÉCOCE ET CERT

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CERT = Consensus on Exercise Reporting Template

("Intensive Care Units" OR "Critical Illness" OR "Critical Care")

AND

("Exercise Therapy"OR "Physical Therapy Modalities" OR "Physical rehabilitation" OR "Early Ambulation" OR "Early Mobilization" OR "Rehabilitation" OR "Motor Activity")

AND

("Consensus on Exercise Reporting Template" OR "CERT"[Title/Abstract])

4 results

Page 1 of 1

1 Cite Share

Measurement and reporting of **physical rehabilitation** interventions in pediatric **critical care**: a scoping review.

Zorko DJ, Reid JC, Unger J, McCaskell D, Saddik M, Choong K, Kho ME.

Disabil Rehabil. 2021 Nov;43(23):3417-3424. doi: 10.1080/09638288.2020.1735538. Epub 2020 Mar 17.

PMID: 32180464 Review.

METHODS: We searched five electronic databases to 31 December 2018 for prospective **physical rehabilitation** studies conducted in pediatric **intensive care units** (PICU). Screening was conducted independently in duplicate. ...Quality of study report ...

2 Cite Share

Early Mobilization Dose Reporting in Randomized Clinical Trials With Patients Who Were Mechanically Ventilated: A Scoping Review.

González-Seguel F, Letelier-Bernal R.

Phys Ther. 2024 Jun 4;104(6):pzae048. doi: 10.1093/ptj/pzae048.

PMID: 38519113 Free PMC article. Review.

Trials that involved adults receiving mechanical ventilation (>48 hours) and any **early mobilization** modality were analyzed. Two independent authors screened, selected, and extracted data. The mobilization doses of the intervention groups (IGs) and the comparator ...

3 Cite Share

Physical rehabilitation interventions in the intensive care unit: a scoping review of 117 studies.

Reid JC, Unger J, McCaskell D, Childerhose L, Zorko DJ, Kho ME.

J Intensive Care. 2018 Dec 7;6:80. doi: 10.1186/s40560-018-0349-x. eCollection 2018.

PMID: 30555705 Free PMC article.

BACKGROUND: **Physical rehabilitation** (PR) interventions in the intensive care unit (ICU) can improve patients' functional outcomes, yet systematic reviews identified discordant effects and poor reporting. ...For planned PR interventions, we evaluated reporting with t ...

4 Cite Share

Comparator Groups in ICU-Based Studies of **Physical Rehabilitation**: A Scoping Review of 125 Studies.

O'Grady HK, Reid JC, Farley C, Hanna QEB, Unger J, Zorko DJ, Bosch J, Turkstra LS, Kho ME.

Crit Care Explor. 2023 May 9;5(5):e0917. doi: 10.1097/CCE.0000000000000917. eCollection 2023 May.

PMID: 37181539 Free PMC article. Review.

To characterize comparator groups (CGs) in ICU-based studies of **physical rehabilitation** (PR), including the type, content, and reporting. DATA SOURCES: We followed a five-stage scoping review methodology, searching five databases from inception to June 30, 2022. ... ...

CERT DANS LES ÉTUDES EN RÉANIMATION ADULTES

réanimation 2025
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Physical rehabilitation interventions in the intensive care unit: a scoping review of 117 studies.

Reid JC, Unger J, McCaskell D, Childerhose L, Zorko DJ, Kho ME.

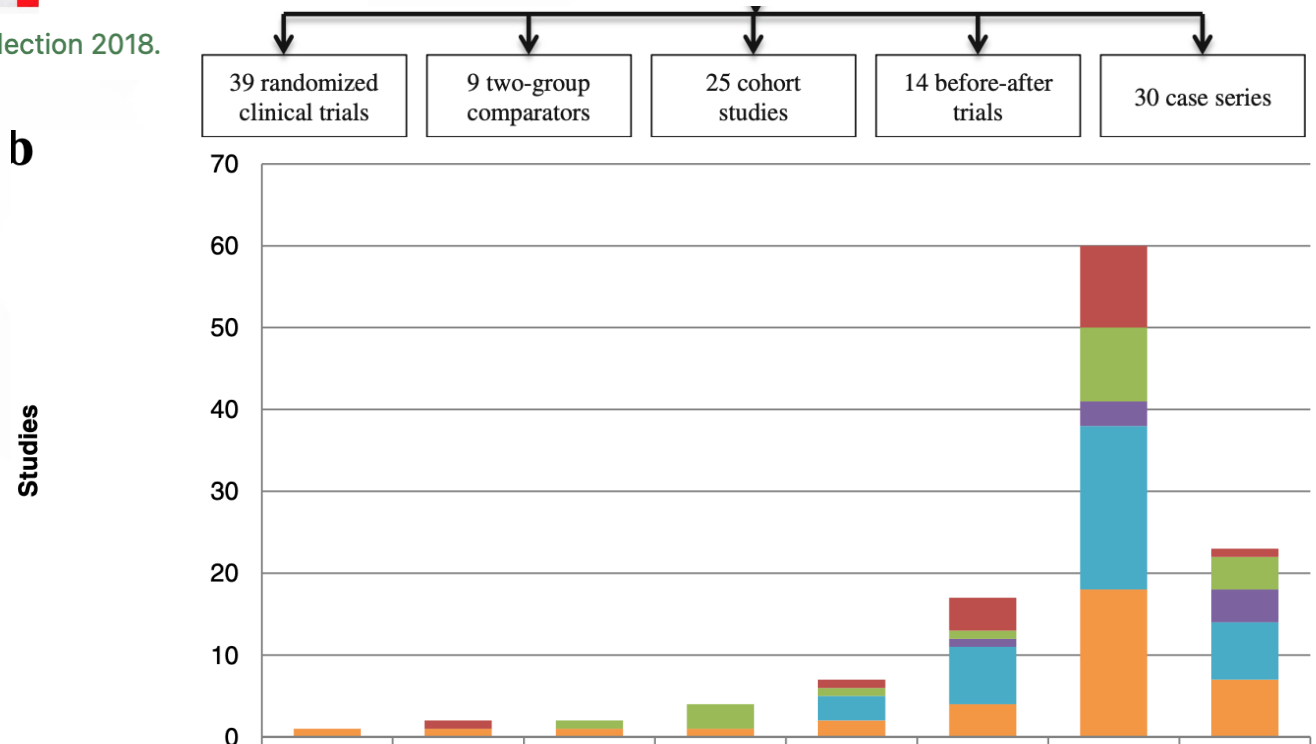
J Intensive Care. 2018 Dec 7;6:80. doi: 10.1186/s40560-018-0349-x. eCollection 2018.

Qualité du report des interventions cotées par le CERT très variables, avec un score allant de **0 à 100%**

Groupes réhabilitation significativement **mieux rapportés** que les groupes contrôle

4 éléments majoritairement mal reportés :
la mesure de l'adhésion, les stratégies de motivation, la progressivité et la mesure de la fidélité

b

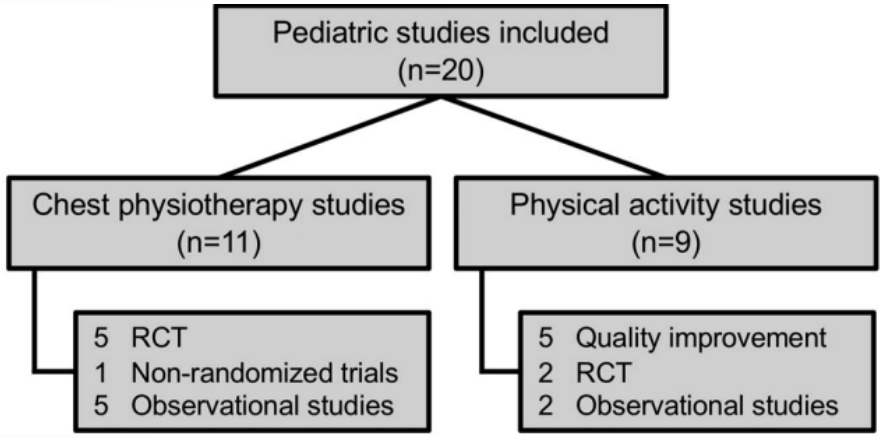


	1980-1985	1986-1990	1991-1995	1996-2000	2001-2005	2006-2010	2011-2015	2016
NMES	0	1	0	0	1	4	10	1
Passive/active	0	0	1	3	1	1	9	4
Cycle ergometry	0	0	0	0	0	1	3	4
Progressive mobility	0	0	0	0	3	7	20	7
Multi-component	1	1	1	1	2	4	18	7

Measurement and reporting of physical rehabilitation interventions in pediatric critical care: a scoping review.

Zorko DJ, Reid JC, Unger J, McCaskell D, Saddik M, Choong K, Kho ME.

Disabil Rehabil. 2021 Nov;43(23):3417-3424. doi: 10.1080/09638288.2020.1735538. Epub 2020 Mar 17.



from inception to 31 December 2018

Le report des interventions de réhabilitation dans cette population est insuffisant, ce qui rend difficile pour les cliniciens la reproduction des interventions et l'évaluation de leur efficacité ou de leur sécurité.

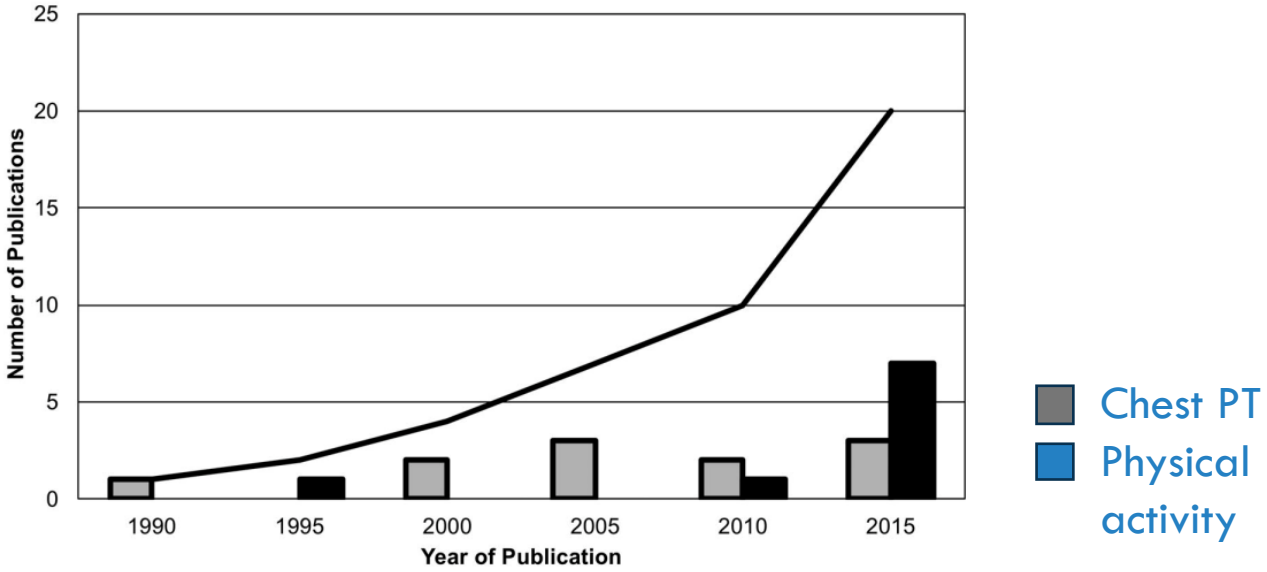


Figure 2. Number of pediatric physical rehabilitation publications over time. Grey bars represent number of chest physiotherapy publications per 5-year epoch. Black bars represent number of physical activity publications per 5-year epoch. Black line represents cumulative total publications.

DESCRIPTION INSUFFISANTE DES ITEMS FITT

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1 Cite

Early Mobilization Dose Reporting in Randomized Clinical Trials With Patients Who Were Mechanically Ventilated: A Scoping Review.

González-Seguel F, Letelier-Bernal R.

Phys Ther. 2024 Jun 4;104(6):pzae048. doi: 10.1093/ptj/pzae048.

Table 3. CERT Reporting in ICU Early Mobilization Randomized Clinical Trials[a]

CERT Item	No. (%) of:											
	Progressive Mobility Trials ($n=6$)		NMES Trials ($n=7$)		Leg Cycling Trials ($n=3$)		Tilt Table Trials ($n=1$)		Multicomponent Trials ($n=6$)		Overall Trials ($N=23$)	
	CG	IG	CG	IG	CG	IG	CG	IG	CG	IG	CG	IG
Starting time, timing	3 (50)	6 (100)	3 (43)	7 (100)	1 (33)	3 (100)	1 (100)	1 (100)	4 (67)	4 (67)	12 (52)	21 (91)
F Daily frequency	3 (50)	5 (83)	2 (29)	7 (100)	3 (100)	3 (100)	1 (100)	1 (100)	4 (67)	6 (100)	13 (57)	22 (96)
I Weekly frequency	3 (50)	6 (100)	7 (100)	7 (100)	3 (100)	3 (100)	1 (100)	1 (100)	5 (83)	6 (100)	15 (65)	23 (100)
T Intensity	1 (17)	3 (50)	0	7 (100)	0	1 (33)	0	1 (100)	0	5 (83)	1 (4)	17 (74)
T Time, duration	5 (83)	5 (83)	2 (29)	7 (100)	1 (33)	3 (100)	1 (100)	1 (100)	3 (50)	6 (100)	12 (52)	22 (96)
T Type	4 (67)	6 (100)	3 (43)	7 (100)	3 (100)	3 (100)	1 (100)	1 (100)	6 (100)	6 (100)	17 (74)	23 (100)
Individualization	1 (17)	4 (67)	2 (29)	7 (100)	0	1 (33)	0	1 (100)	2 (33)	5 (83)	5 (22)	18 (78)
Progression	4 (67)	6 (100)	3 (43)	0	3 (100)	2 (67)	1 (100)	1 (100)	6 (100)	4 (67)	17 (74)	13 (57)
Reported items/total applicable (%)	24/48 (50)	41/48 (85)	22/56 (39)	49/56 (88)	14/24 (58)	19/24 (79)	6/8 (75)	8/8 (100)	30/48 (63)	42/48 (88)	92/184 (50)	159/184 (86)

[a]CERT = Consensus on Exercise Reporting Template; CG = comparator group; ICU = intensive care unit; IG = intervention group; NMES = neuromuscular electrical stimulation.

SYNTHÈSE DES ÉLÉMENTS À AMÉLIORER

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Early Mobilization Dose Reporting in Randomized Clinical Trials With Patients Who Were Mechanically Ventilated: A Scoping Review.

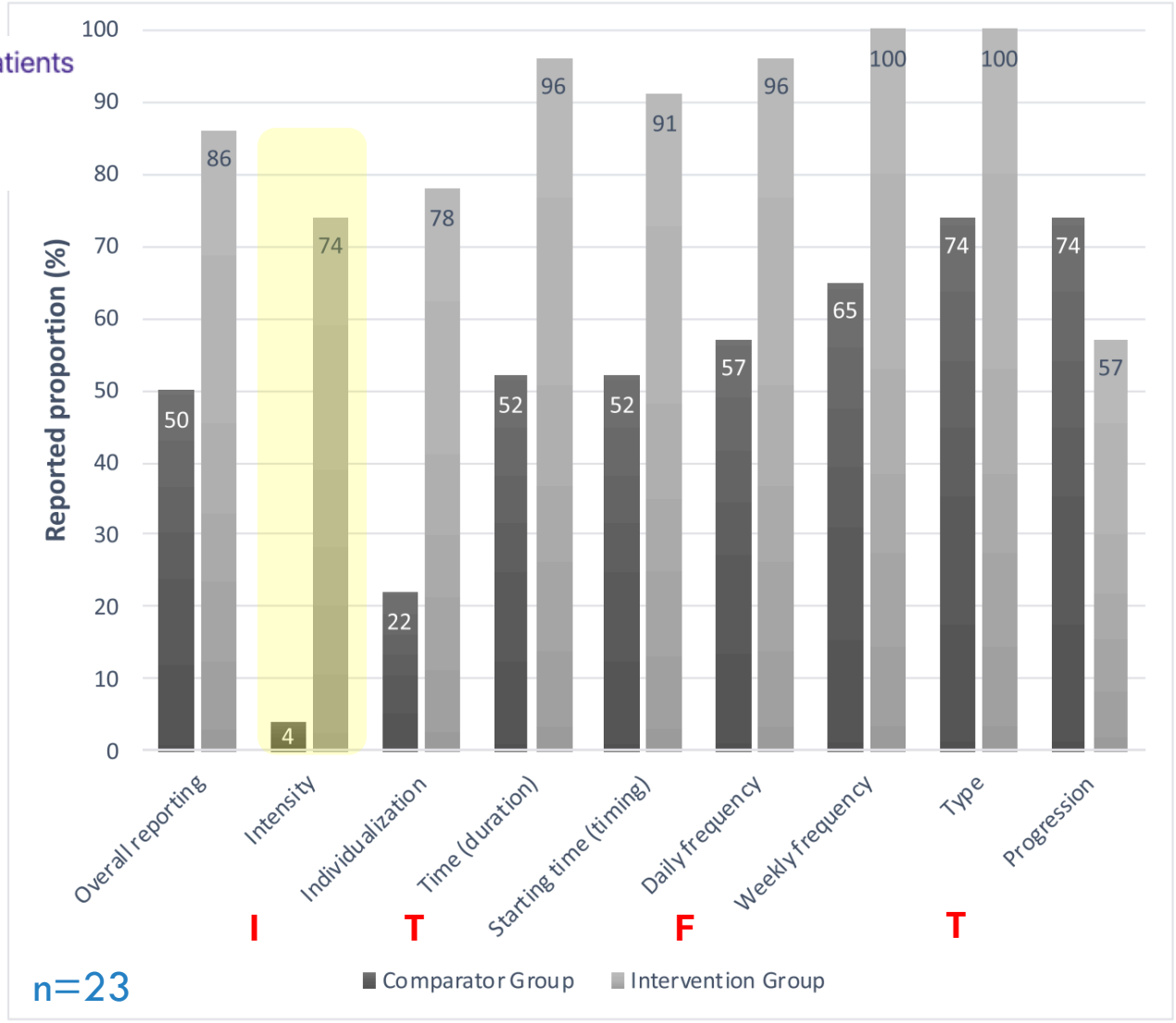
González-Seguel F, Letelier-Bernal R.

Phys Ther. 2024 Jun 4;104(6):pzae048. doi: 10.1093/ptj/pzae048.

Le report total des éléments de la CERT était de 68%
86 % pour les groupes réhabilitation
50 % pour les groupes contrôle

Les éléments les plus rapportés étaient :
-Type d'exercice (100%)
-Fréquence hebdomadaire (100 %) pour les groupes intervention

Les éléments les moins rapportés étaient :
- Intensité (4%)
- Individualisation (22%) pour les groupes contrôle



EXEMPLE : CYCLOERGOMÈTRE DE LIT

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ORIGINAL ARTICLE | EUROPEAN SOCIETY OF INTENSIVE CARE MEDICINE

Leg Cycle Ergometry in Critically Ill Patients — An Updated Systematic Review and Meta-Analysis

Heather K. O'Grady, Ph.D.,[1] Hibaa Hasan, B.Sc.,[1] Bram Rochwerg, M.D., M.Sc.,[2,3] Deborah J. Cook, M.D., M.Sc.,[2,3,4] Alyson Takaoka, M.Sc.,[5] Rucha Utgikar, M.D., M.Sc.,[4,6] Julie C. Reid, P.T., Ph.D.,[2,4] and Michelle E. Kho, P.T., Ph.D.[1,4,7]

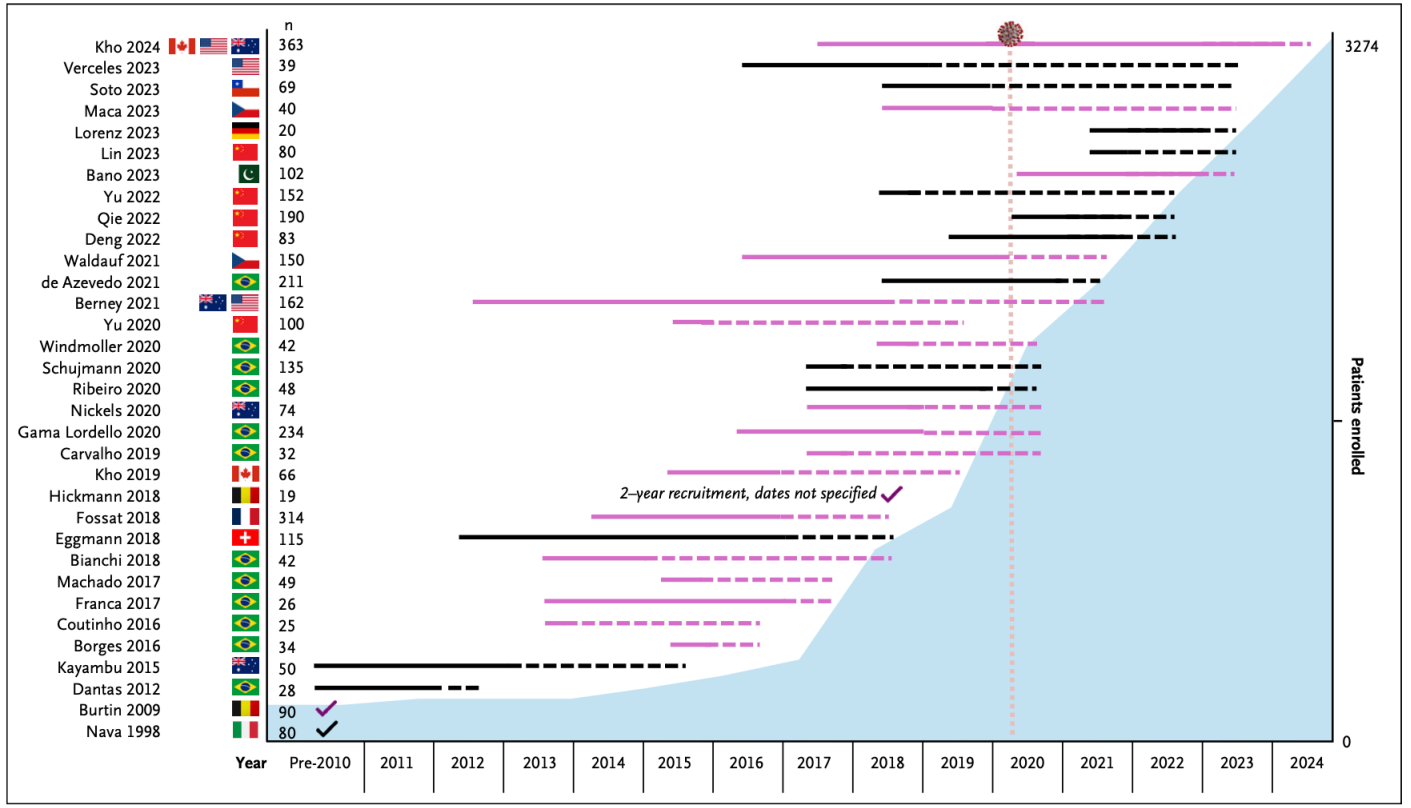

Figure 1. Timeline of Recruitment and Publication of Included Trials.

This figure lists the lead authors, countries, years of publication, and number of patients enrolled of the included randomized clinical trials of in-bed cycle ergometry. Black lines represent multicomponent interventions including cycling; pink lines represent trials focused on cycling. The solid lines represent enrollment dates, and the dashed lines, time to publication. The blue area represents the cumulative number of patients enrolled over time. The vertical dashed line represents the start of the coronavirus disease 2019 pandemic.

EXEMPLE : CYCLOERGOMÈTRE DE LIT

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Score CERT médian (écart interquartile) = **61.5%** (52.6 à 75.0%)

Certaines paramètres du cycloergomètre étaient correctement décrits:

30 (91%) ont rapportés la fréquence
29 (88%) ont rapporté l'intensité
27 (82%) ont rapporté le timing d'initiation
32 (97%) ont rapporté la durée

Meilleures descriptions dans les groupes interventions vs. Contrôles (**75.0%** [IC95%, 63.1 à 85.0] vs. **52.6%** [IC95%, 35.0 à 72.7]).

PISTES D'AMÉLIORATION POUR LES AUTEURS ET LES REVUES

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Reporting of interventions in randomised trials: an audit of journal instructions to authors.

Hoffmann T, et al. Trials. 2014. PMID: 24422788 **Free PMC article.**

Sur **106 Instructions aux Auteurs**:

14% mentionnent spécifiquement le report des interventions réalisées

63% mentionnent le **Consolidated Standards of Reporting Trials (CONSORT) Statement**

74% proposent la soumission en parallèle du texte principal de données supplémentaires

Mais seulement **4** parmi ceux-ci proposent ou obligent à utiliser cet espace pour augmenter la description des interventions

La réhabilitation précoce isolée : une goutte d'eau dans l'océan ?

Patel et al, Effect of early mobilisation on long-term cognitive impairment in critical illness in the USA: a randomised controlled trial. Lancet Respir Med, 2023

THE LANCET Respiratory Medicine

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PROTOCOLIZED PHYSICAL REHABILITATION ?

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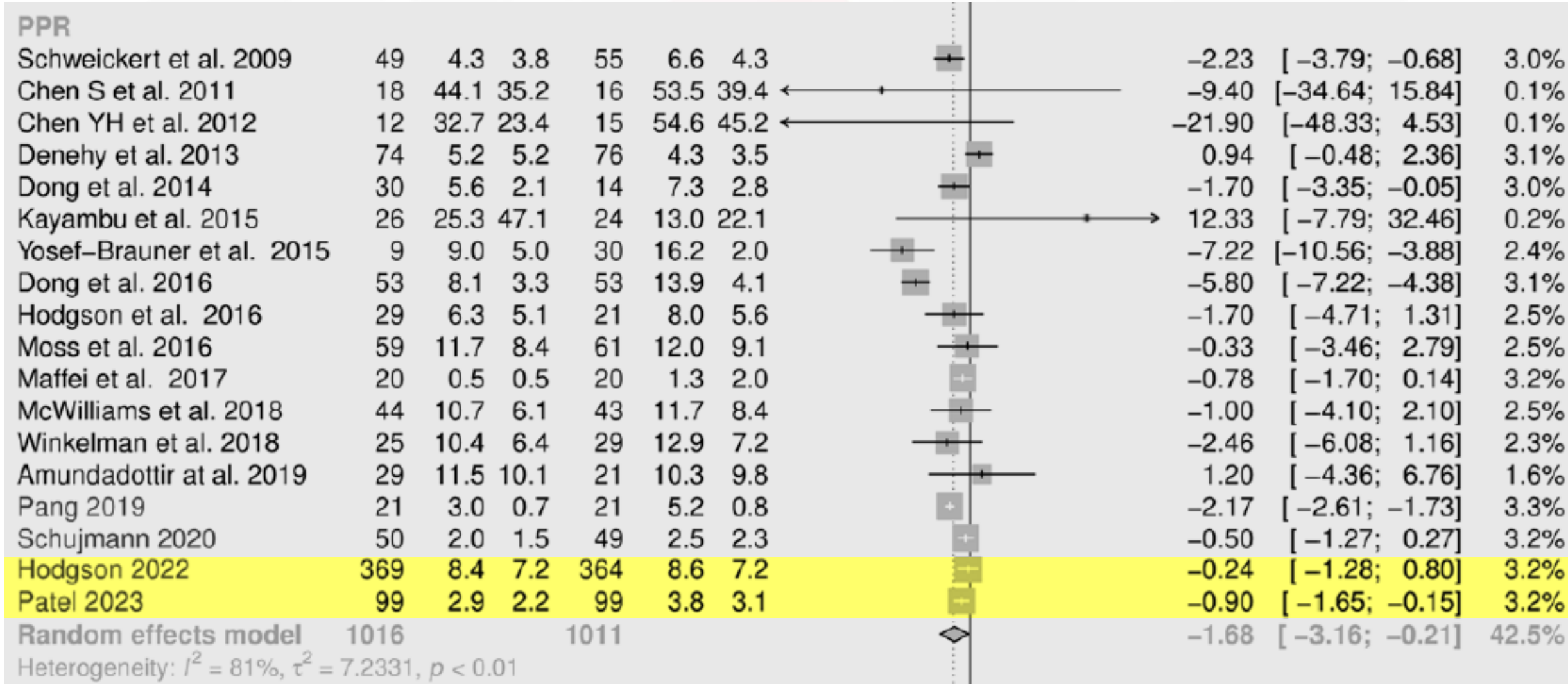

DESIGN ET FLOW CHART

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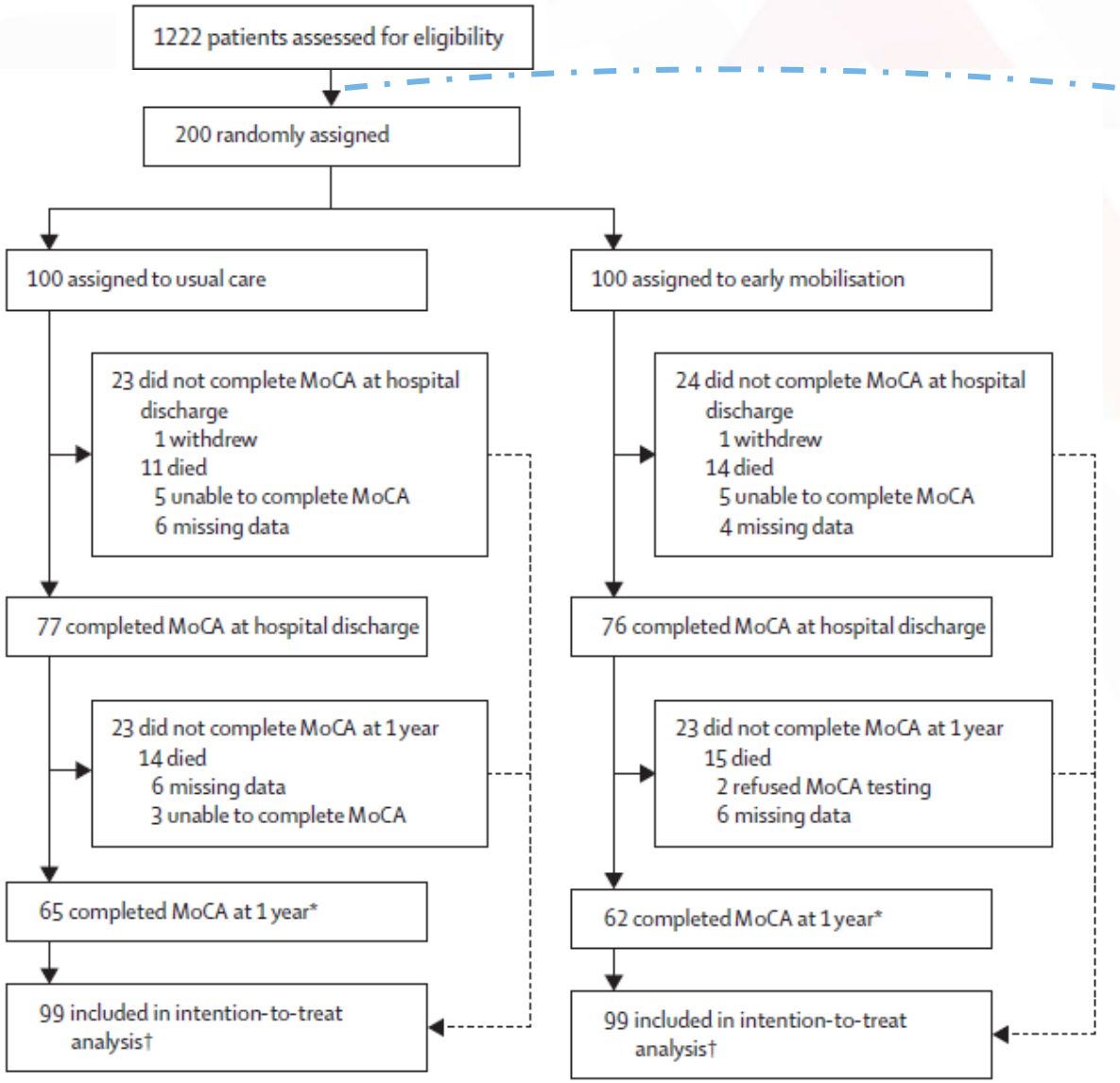

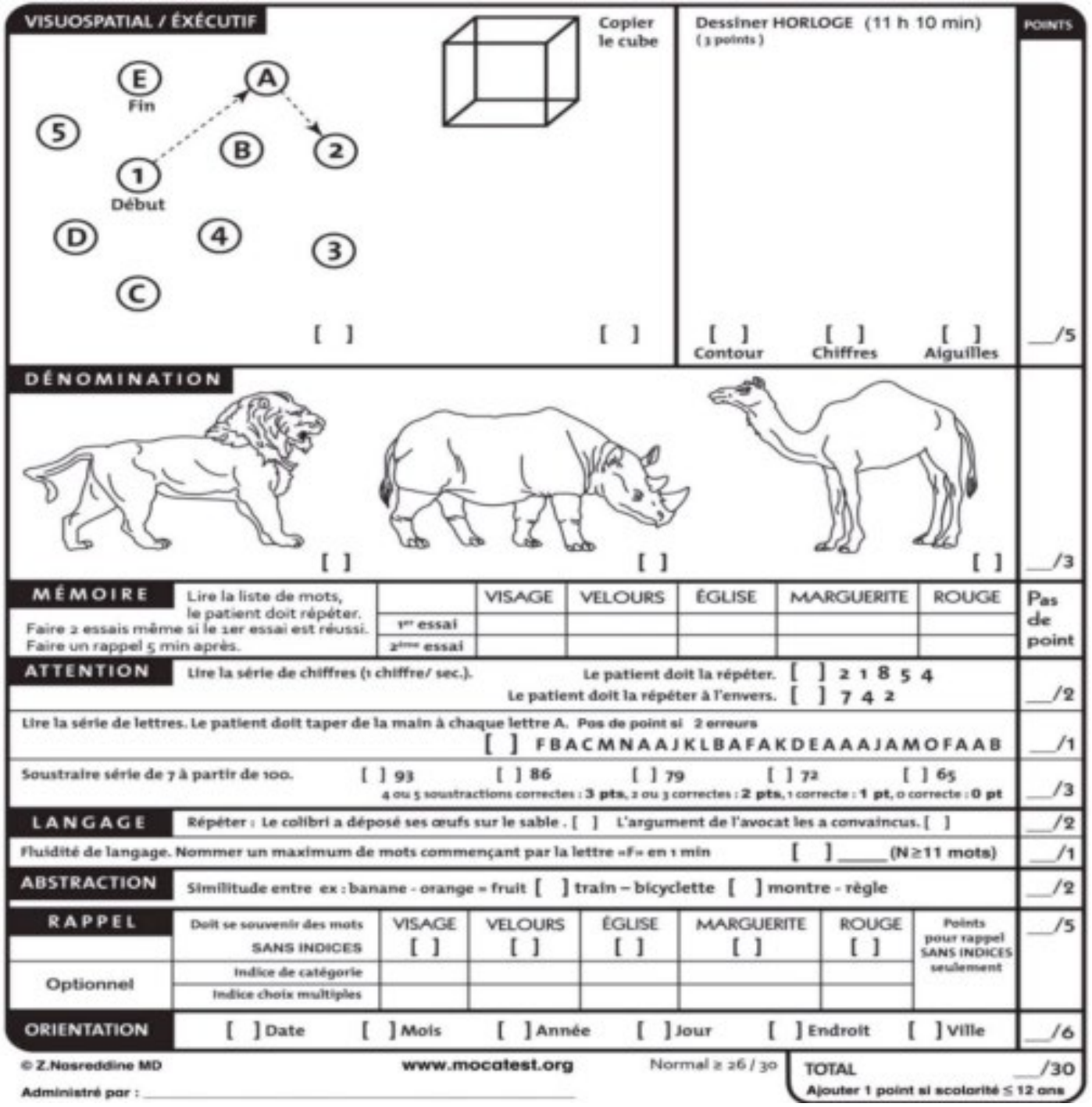

Nasreddine et al,
J Am Geriatr Soc,
2005

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RÉHABILITATION PRÉCOCE PROTOCOLISÉE

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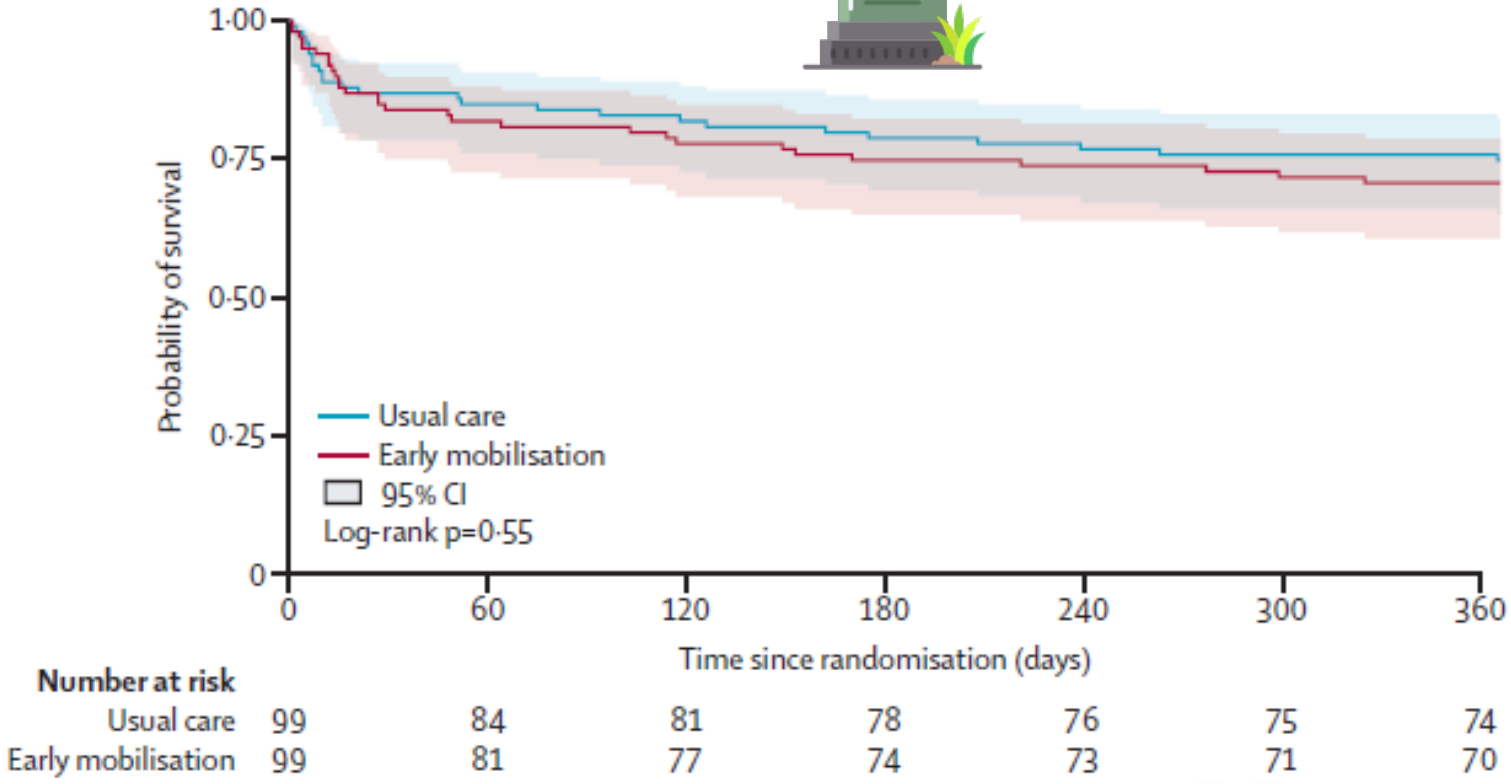
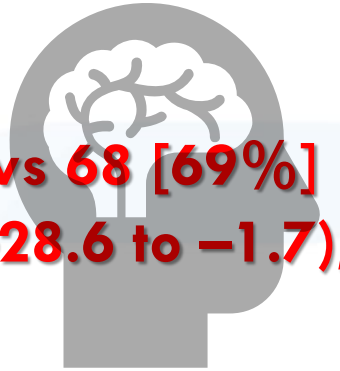
- Mobilisation progressive
- Mobilisation passive → Exercices actifs dans le lit → Transfert allongé-assis → Maintien en bord de lit/Fauteuil → Verticalisation → Marche sur place → Marche

- Exercices fonctionnels (attraper des objets, participer aux soins …) et progressifs basés sur la tolerance du patient
- Dans les deux groupes, sedation minimisée et individualisée basée sur le RASS, et arrêt journalier de la sedation pour épreuves de réveil/ventilation spontanée et évaluation du delirium

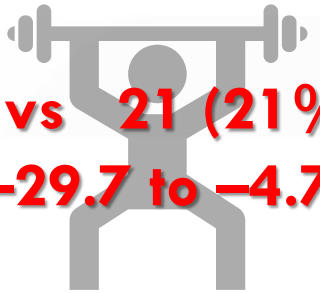
RÉSULTATS

N=200





53 [54%] vs 68 [69%] patients;
–15.2% (–28.6 to –1.7); p=0.029)

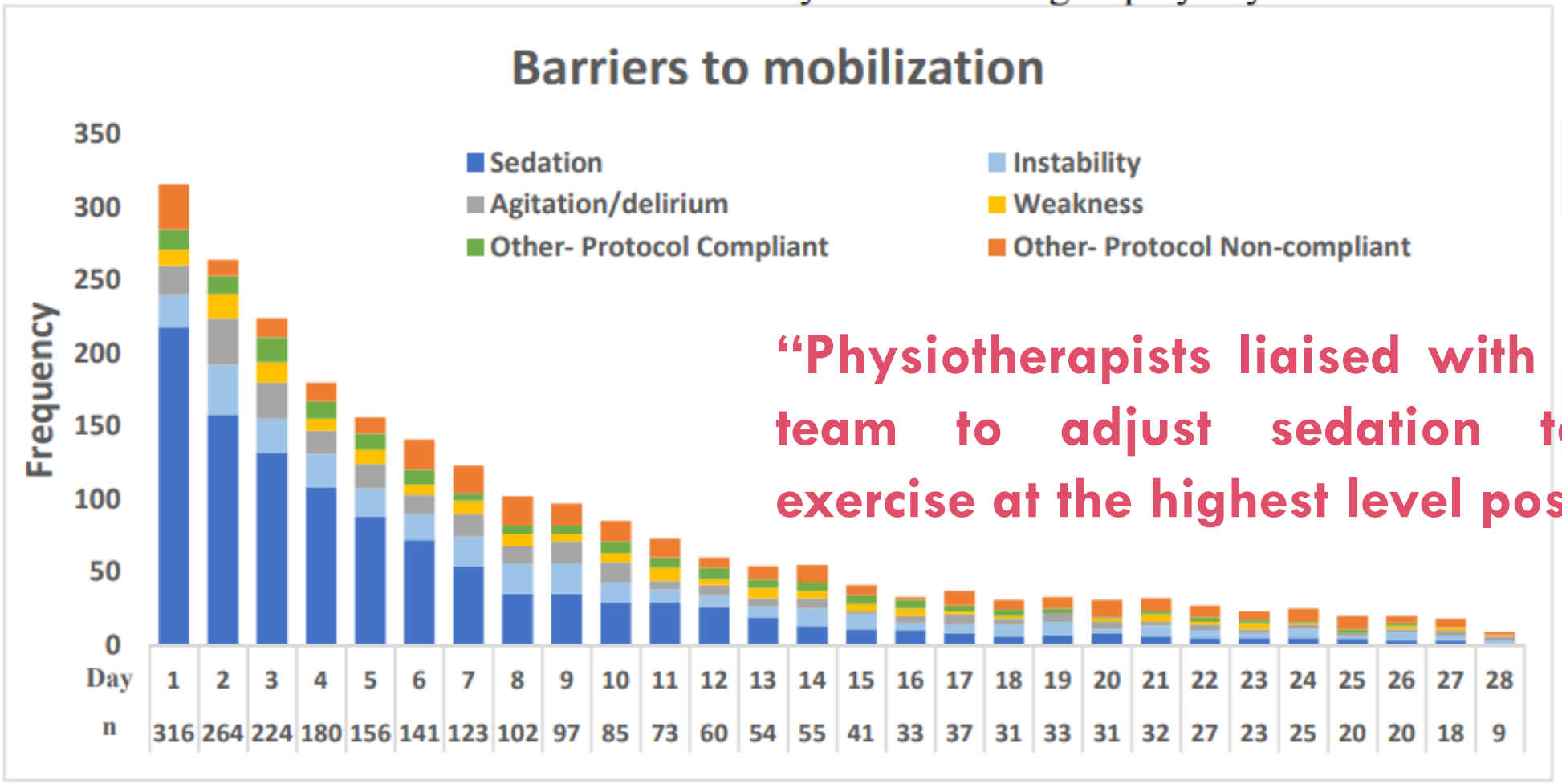


38 (38%) vs 21 (21%) patients;
–17.1% (–29.7 to –4.7;p=0.0083

Patel et al, Lancet Respir Med, 2023

COMMENT EXPLIQUER CES DIFFÉRENCES ?

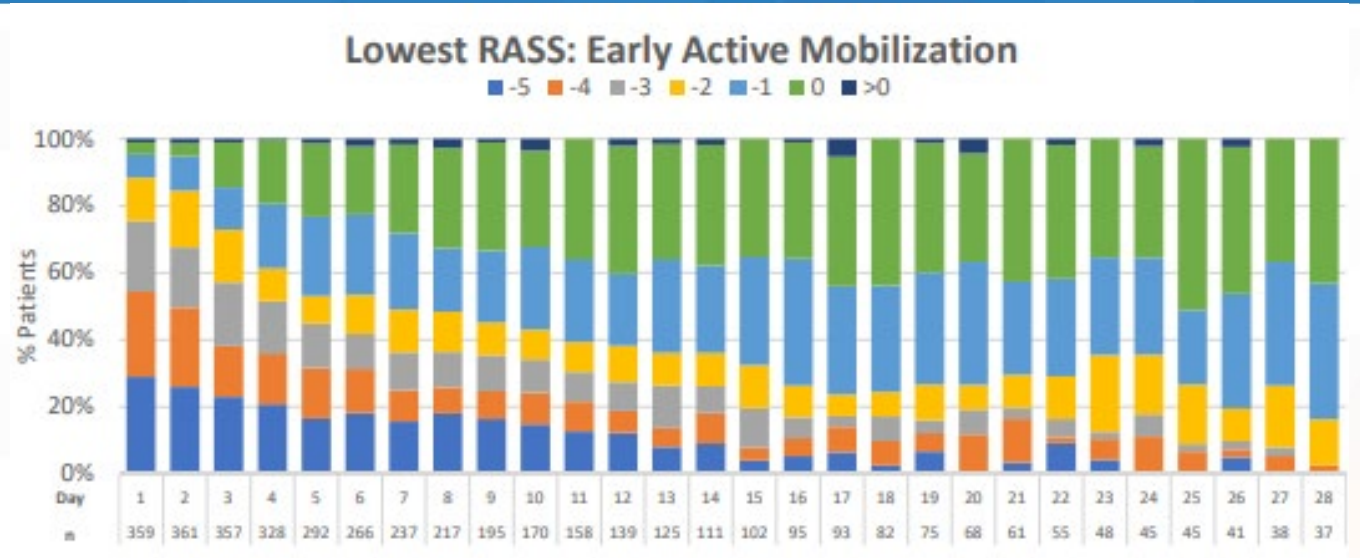
A. Barriers to mobilization out of bed in the early mobilization group by day

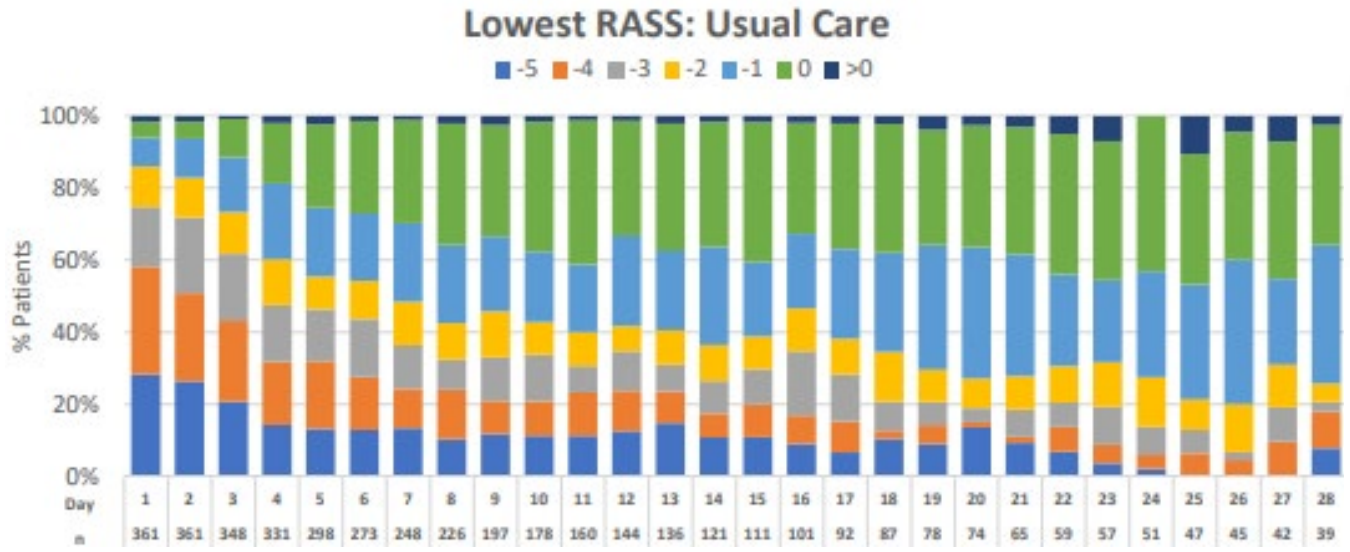


"Physiotherapists liaised with the medical team to adjust sedation to facilitate exercise at the highest level possible"

Hodgson et al, N Engl J Med, 2022

ETAT DE VIGILANCE DES PATIENTS





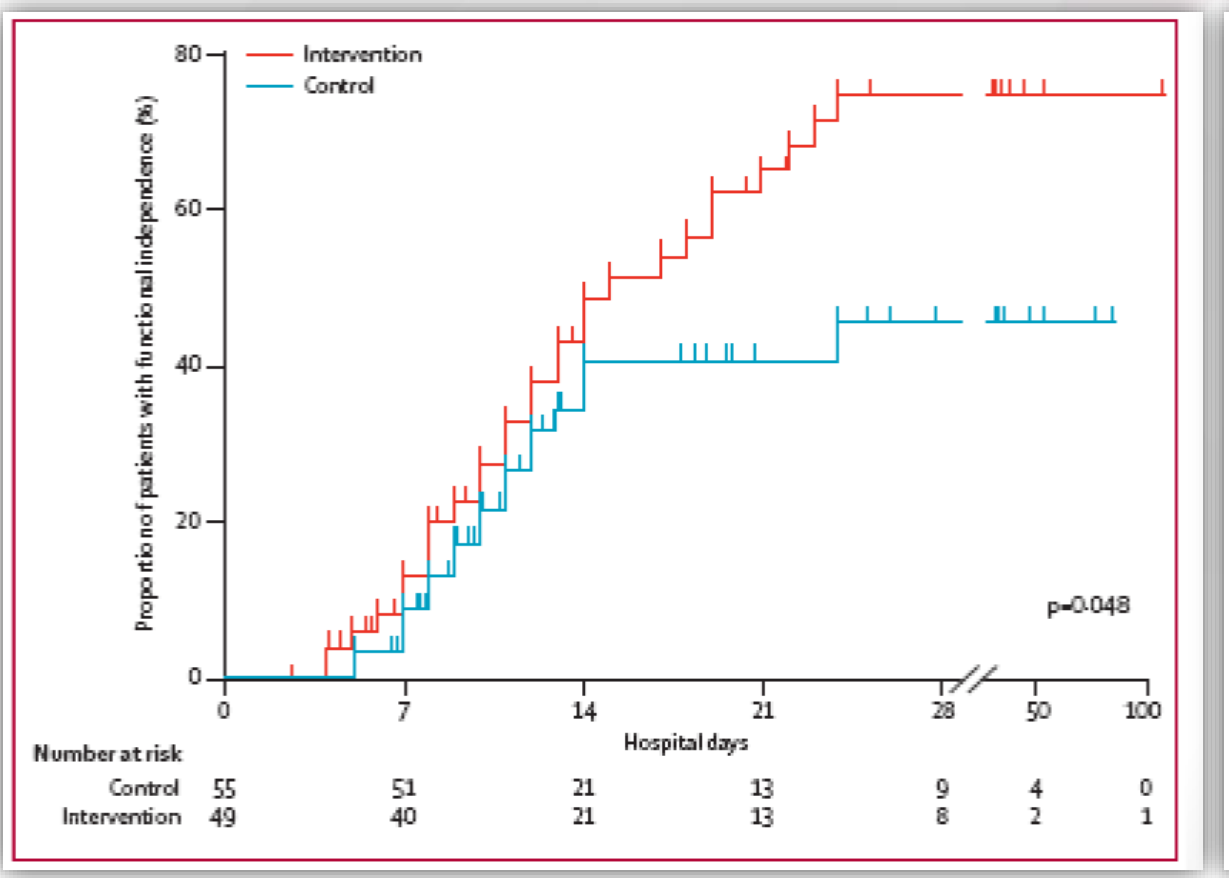
Hodgson et al, N Engl J Med, 2022

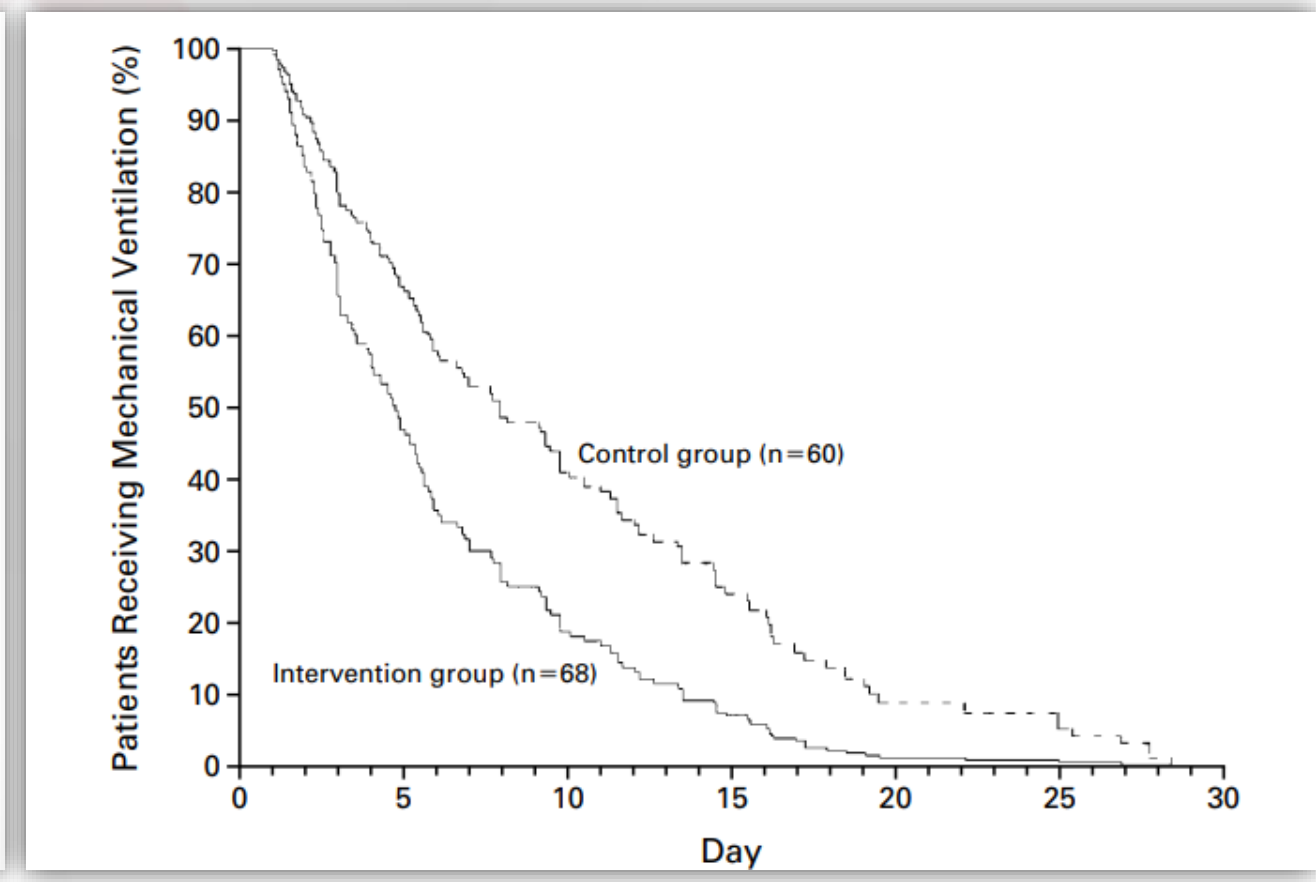
DIFFÉRENCES DE POSSIBILITÉS

Table S6: Comparison to TEAM study(46) intervention

	Usual Care		Early Mobilisation	
Mobilisation Milestone	**UChicago Study** n=99	**TEAM Study** n=370	**UChicago Study** n=99	**TEAM Study** n=371
Sitting or higher				
Patients--(%)	77·8%	89·2%	98%	89·2%
Time from randomisation to sitting (days)	3·6	4	0·094	3
Standing of higher				
Patients--(%)	71·7%	77·3%	93·9%	77.4%
Time from randomisation to standing (days)	4	5	0·33	3
Walking or higher				
Patients--(%)	62·6%	40·5%	85·9%	47.4%
Time from randomisation to walking (days)	4·4	7	0·58	5

SÉDATION MINIMALE = COOPÉRATION





Schweickert et al, Lancet, 2009
Kress et al, N Engl J Med, 2000

RAPPEL ET CONCLUSION

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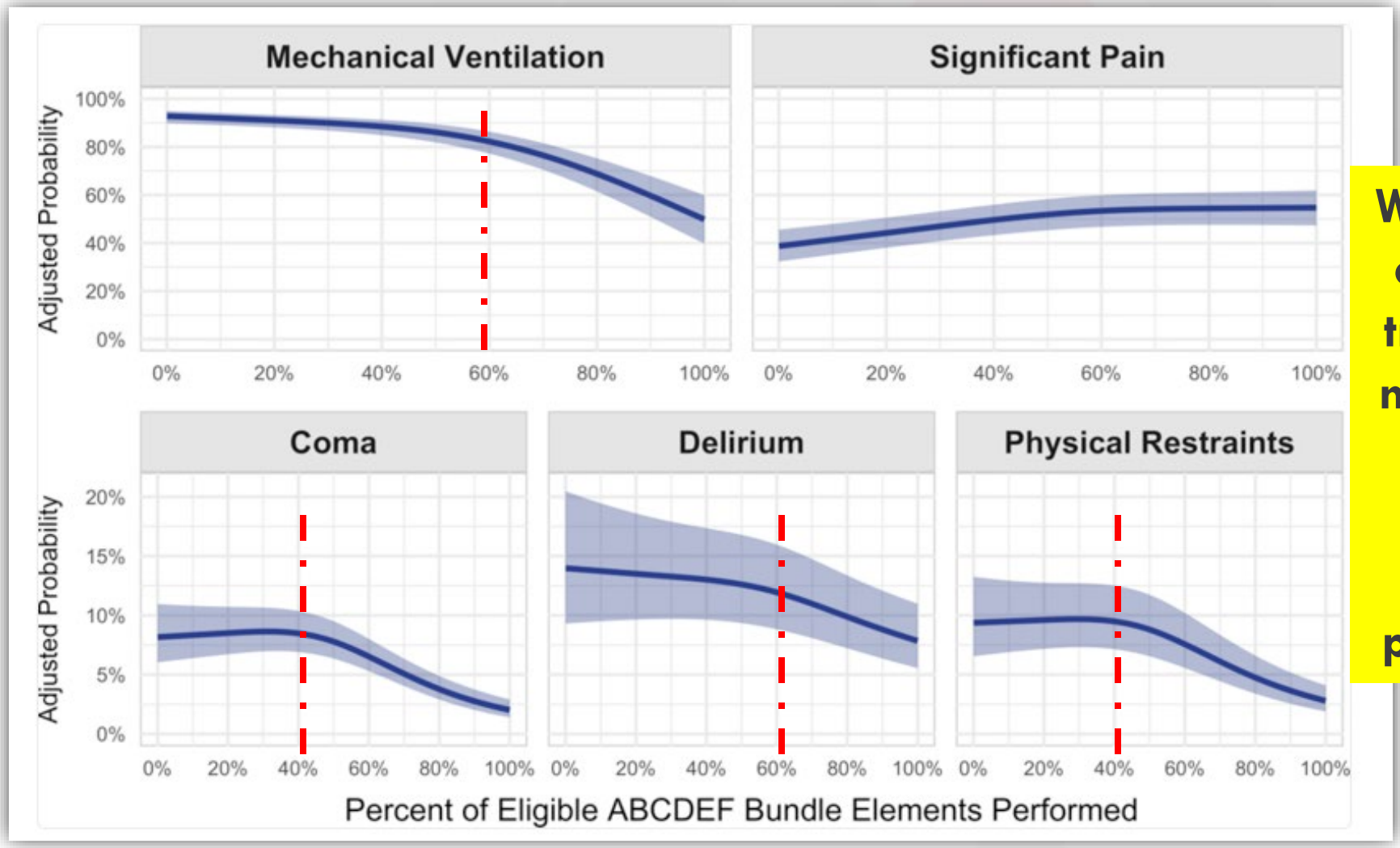
Patients in the intervention and control groups were managed with goal-directed sedation (…) had daily interruption of sedation, and paired awakening and breathing trials for weaning from mechanical ventilation

Rôles synergiques de la medication et de la rehabilitation précoce

COORDINATION ET COLLABORATION



We recommend the integration of (early) mobilisation into a treatment bundle covering the management of pain, anxiety, agitation, delirium, and conduction of spontaneous breathing trials in ventilated patients (e.g. ABCDEF bundle)

Schaller et al, Intensive Care Med, 2024
Pun et al, Crit Care Med, 2020

CONCLUSIONS

- Quelques éléments mais surtout des questions pour la suite :

- La réhabilitation, pour quelle population ? Comment définir le plus tôt possible la dose d'investissement MK pour chaque patient ?
- Comment rapporter la réhabilitation dans les études ? Et les traitements contrôles ?
- Comment optimiser la réhabilitation ? Quelles modalités ? Comment parvenir à un niveau efficace de stimulation

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