



HAUTE ÉCOLE
CONDORCET



EpiCURA
mon hôpital



réanimation 2024
PARIS 12-14 JUIN

Sortir le patient du lit en réanimation OUI

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PARIS 12-14 JUIN

Cheryl HICKMANN, Bruxelles

☒ Je n'ai pas de lien d'intérêt potentiel à déclarer



ChatGPT



Peut-on sortir le patient du lit en réanimation ?

Oui, il est possible de sortir un patient du lit en réanimation, mais cela dépend de plusieurs facteurs, notamment l'état de santé général du patient, la nature de sa maladie ou de ses blessures, et les recommandations spécifiques du personnel médical.

Sortir un patient du lit, même en réanimation, peut avoir des avantages significatifs, tels que :

1. **Prévention des complications liées à l'immobilité** : L'immobilisation prolongée peut entraîner des complications comme les escarres, la thrombose veineuse profonde, et la perte de masse musculaire. Mobiliser le patient peut aider à prévenir ces problèmes.
2. **Amélioration de la fonction respiratoire** : S'asseoir ou se tenir debout peut améliorer la capacité pulmonaire et faciliter la respiration.
3. **Réduction du délire** : Pour les patients conscients, sortir du lit peut aider à réduire le risque de délire en fournissant une stimulation cognitive et en rétablissant des cycles de sommeil plus normaux.
4. **Promotion de la récupération** : La mobilisation précoce est souvent associée à une meilleure récupération fonctionnelle et à des séjours plus courts en soins intensifs.



ChatGPT

Cependant, la décision de mobiliser un patient en réanimation doit être prise avec prudence et en concertation avec l'équipe soignante. Certains critères à considérer incluent :

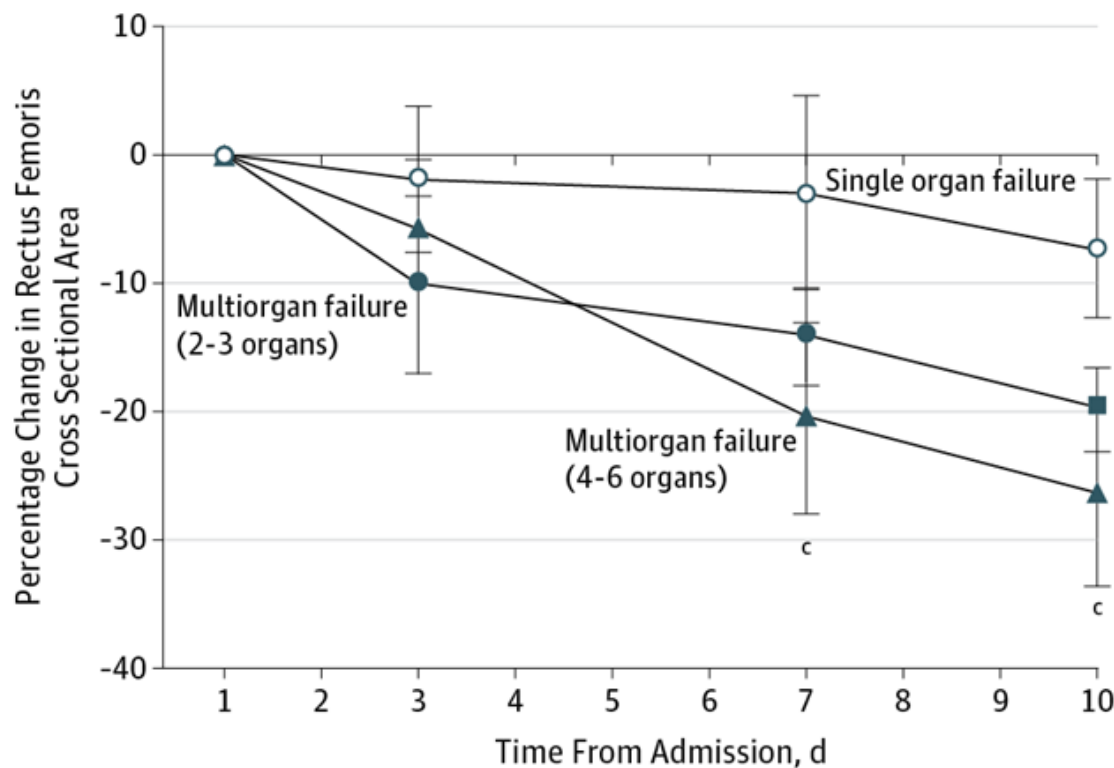
- La stabilité hémodynamique du patient
- Le niveau de conscience
- La capacité respiratoire
- L'absence de contre-indications spécifiques (comme une fracture instable, une plaie non cicatrisée, etc.)

Les physiothérapeutes, les infirmières et les médecins jouent tous un rôle crucial dans l'évaluation de l'aptitude du patient à sortir du lit et dans la supervision de cette mobilisation pour assurer la sécurité et le bien-être du patient.



Severity

Muscle wasting occurred early and rapidly during the first week of critical illness and was **more severe** among those with **multiorgan failure** compared with single organ failure.



Puthuchearry ZA.
Jama 2013



Historique

Early ambulation

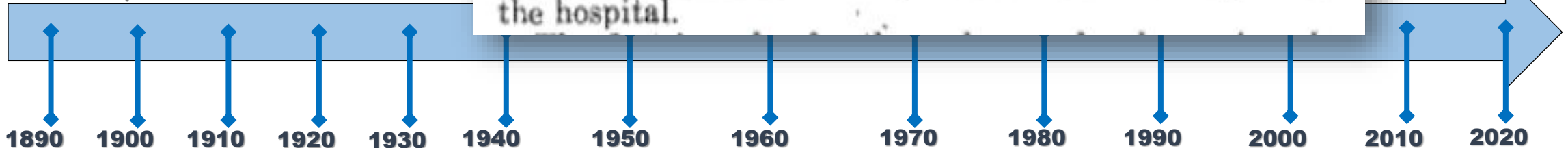
Ries, E. Some radical changes in the after-treatment of celiotomy cases, *J.A.M.A.*, 1899, 33:454.

SOME RADICAL CHANGES IN THE AFTER-TREATMENT OF CELIOTOMY CASES.*

BY EMIL RIES, M.D.

PROFESSOR OF GYNECOLOGY, POST-GRADUATE MEDICAL SCHOOL,
CHICAGO.

The purpose of the changes which I have worked out within the last four years has been to free the patients from many irksome and disagreeable features of the after-treatment as usually carried out, and at the same time to make their **recovery more rapid and more complete**, so that they are able to **leave the hospital at a much earlier date** than has been customary and in such a **condition of strength** that they can follow their wonted occupations within a few days after their discharge from the hospital.



1899



EARLY AMBULATION IN ABDOMINAL SURGERY*

JOHN C. BURCH, M.D.†

NASHVILLE

AN

H. C. FISH

It is known that these functions are ten-
disturbed as a result of confinement, a
prolonged labour, and prolonged immo-

bed. Lack of exercise of the chest muscles and
impaired pulmonary metabolism leads to les-
sened vital capacity, circulation stagnation,
shock, thrombosis, phlebitis, and embolism. In-
testinal and muscular atony from inactivity
prolongs the period of recovery and undermines
the patient's general health and depresses her
morale.

Canad. M. A. J.
Sept. 1947, vol. 57]

BRYANT: EARLY

EARLY AMBULATION IN THE PRACTICE OF OBSTETRICS

E. Cullen Bryant, M.D.

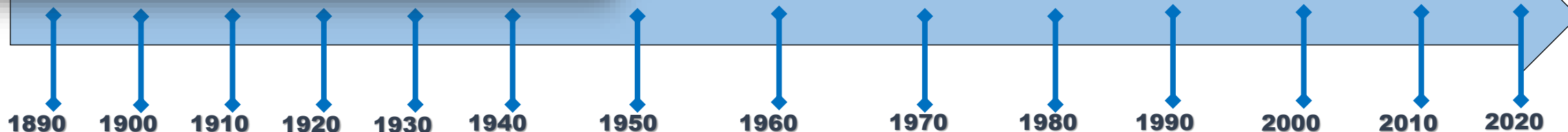
Toronto, Ont.

FOR 401 CASES OF EARLY
AMBULATION*

KIM CANAVARRO

Assistant Resident, Presbyterian Hospital

kindness of early
great benefit to pa-



1899

ICU

EARLY AMBULATION IN ABDOMINAL SURGERY*

JOHN C. BURCH, M.D.†

NASHVILLE, TENN.

AND

H. C. FISHER, M.D.†

It is known that these functions are temporarily disturbed as a result of confinement, anæsthetic, prolonged labour, and prolonged immobility in bed. Lack of exercise of the chest muscles and impaired pulmonary metabolism leads to lessened vital capacity, circulation stagnation, shock, thrombosis, phlebitis, and embolism. Intestinal and muscular atony from inactivity prolongs the period of recovery and undermines the patient's general health and depresses her morale.

Canad. M. A. J.
Sept. 1947, vol. 57]

BRYANT: EARLY

EARLY AMBULATION IN THE PRACTICE OF OBSTETRICS

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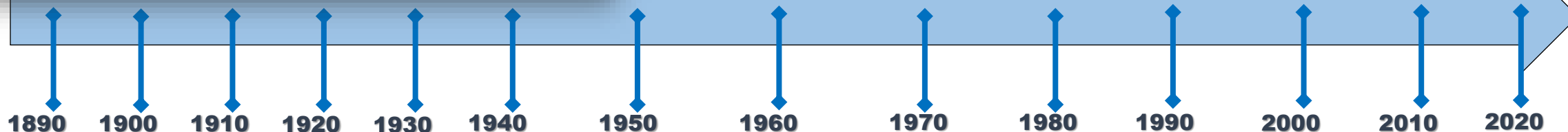
Toronto, Ont.

REVIEW OF 401 CASES OF EARLY AMBULATION*

KIM CANAVARRO

Senior Assistant Resident, Presbyterian Hospital

at benefit to pa-



1899

ICU



HAUTE ÉCOLE
CONDORCET



EpiCU

Physiotherapy in the Intensive Care Unit

Unit



réanimation 2023
PARIS 14-16 JUIN



Strategies for Promoting Activity in Critically Ill Ventilated Patients

A Combined Physical Therapy and Occupational Therapy Approach to Increase Ambulation in Intensive Care Settings

Tilt Table Practice Improved Ventilation in a Patient with Prolonged Artificial Ventilation Support in Intensive Care Unit

What Are the Barriers to Mobilizing



Critical Care 2013, 17:207
http://ccforum.com/content/17/1/207

REVIEW

Clinical review: Early patient mobilization in the ICU

Carol L Hodgson^{1,2}, Sue Benney³, Megan Harrold⁴, Manoj Saxena^{5,6} and Rinaldo Bellomo⁷

Anne Drolet, Patti DeJulio, Sherri Harkless, Sherry Henricks, Elizabeth Kamin, Elizabeth A. Leddy, Joanna M. Lloyd, Carissa Waters, Sarah Williams

Canad. M. A. J.
Sept. 1947, vol. 57

EARLY AMBULATION PRACTICE OF OBSERVING Early Ambulation of Patients Requiring Ventilatory Assistance

E. Cullen Bryant, M.D.

Toronto, Ont.

THE modern practice of early ambulation of surgical patients, now widely accepted throughout America, is intimately related to early rising in the puerperium. Ambulation is practised more widely. Lack of exercise of the chest, impaired pulmonary metabolism, decreased vital capacity, circulation shock, thrombosis, phlebitis, and intestinal and muscular atony from inactivity prolongs the period of recovery and undermines the patient's general health and morale.

Septic Autocannibalism

A Failure

FRANK B. C. RAPPIER R. M. CHARI From De Unit, Victoria

Impact of w

Ubaldo

Fun

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Expert consensus and recommendations on safety criteria for active mobilization of mechanically ventilated critically ill adults

Carol L Hodgson^{1,2}, Kathy Siller³, Dale M Needham⁴, Claire J Tipping⁵, Megan Harrold⁶, Claire E Baldwin⁷, Scott Bradley⁸, Sue Benney⁹, Lawrence R Caruana¹⁰, Doug Elliott¹¹, Margot Green¹², Kimberley Haines¹³, Alastair M Higgins¹⁴, Kristin Kauler¹⁵, Rachel Anne Leach¹⁶, Marc R Nadeau¹⁷, Jennifer Paus¹⁸, Shane Patman¹⁹, Elizabeth H Skinner²⁰, Paul J Young^{21,22}, Jennifer M Zanni²³, Linda Denney²⁴ and Steven A Webb²⁵

Figure 1. Mobilization methods. A. Active mobilization (left frame). B. Active transfer (middle frame)

The TEAM Study Investigators Critical Care (2015) 19:81
DOI:10.1186/s13054-015-0763-4



Early mobilization and recovery in mechanically ventilated patients in the ICU: a bi-national, multi-centre, prospective cohort study

The TEAM Study Investigators

episode. If mobilized, consideration should be given to doing so gradually and cautiously. Significant potential risk or consequences of an adverse event. Active mobilization should not occur unless specifically authorized by the treating intensive care specialist in consultation with the senior physical therapist and senior nursing staff.

on sessions.

Mermingas, K.: Early Rising after Operation. Z. September 27, 1930

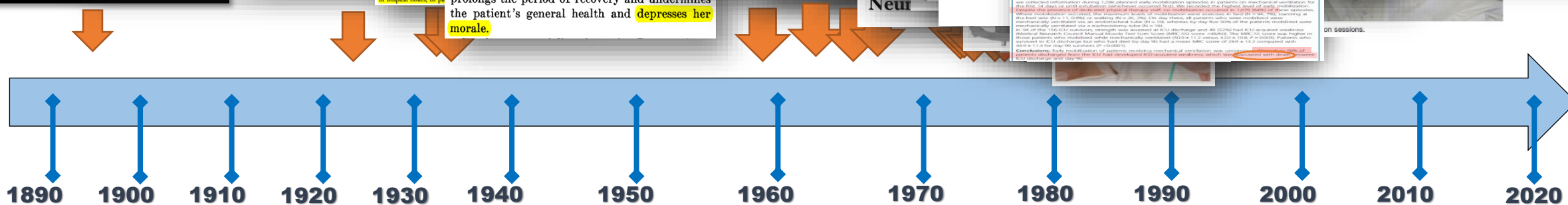
EARLY AMBULATION

A REVIEW

SOME RADICAL TREATMENTS BY PROFESSOR OF GYNECOLOGY
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Ries, E. Some after-treatment J.A.M.A., 1899, 33:454.

In conclusion, our experience of many su postoperative ambulation patients and is deservir

1. There is a complication of bronchopneumonia, third, phlebotomy are no cases of any complications.
2. There has been ambulation and no ag hernia to date. (Six
3. We believe the optimum time to amb occur in the early post
4. The return to a state. As a result the in hospital hours, to pa



ICU

Hodgson *et al. Critical Care* (2014) 18:658
DOI 10.1186/s13054-014-0658-y



RESEARCH

Open Access

Expert consensus and recommendations on safety criteria for active mobilization of mechanically ventilated critically ill adults

Carol L Hodgson^{1,2*}, Kathy Stiller³, Dale M Needham⁴, Claire J Tipping², Megan Harrold⁵, Claire E Baldwin^{6,7}, Scott Bradley², Sue Berney⁸, Lawrence R Caruana⁹, Doug Elliott¹⁰, Margot Green¹¹, Kimberley Haines^{8,12}, Alisa M Higgins¹, Kirsi-Maija Kaukonen^{1,13}, Isabel Anne Leditschke^{14,15}, Marc R Nickels¹⁶, Jennifer Paratz^{17,18}, Shane Patman¹⁹, Elizabeth H Skinner^{20,21}, Paul J Young^{22,23}, Jennifer M Zanni²⁴, Linda Denehy²⁵ and Steven A Webb^{1,26}

	Low risk of an adverse event. Proceed as usual according to each ICU's protocols and procedures.
	Potential risk and consequences of an adverse event are higher than green, but may be outweighed by the potential benefits of mobilization. The precautions or contraindications should be clarified prior to any mobilization episode. If mobilized, consideration should be given to doing so gradually and cautiously.
	Significant potential risk or consequences of an adverse event. Active mobilization should not occur unless specifically authorized by the treating intensive care specialist in consultation with the senior physical therapist and senior nursing staff.

RESPIRATORY CONSIDERATIONS	IN-BED EXERCISES	OUT-OF-BED EXERCISES
Intubation		
Endotracheal tube ^a		
Tracheostomy tube		
Respiratory parameters		
Fraction of inspired oxygen		
≤ 0.6		
> 0.6		
Percutaneous oxygen saturation		
≥ 90%		
< 90% ^b		
Respiratory rate		
≤ 30 bpm		
> 30 bpm		
Ventilation		
Mode HFOV		
PEEP		
≤ 10 cmH ₂ O		
> 10 cmH ₂ O		
Ventilator dyssynchrony ^c		
Rescue therapies		
Nitric oxide		

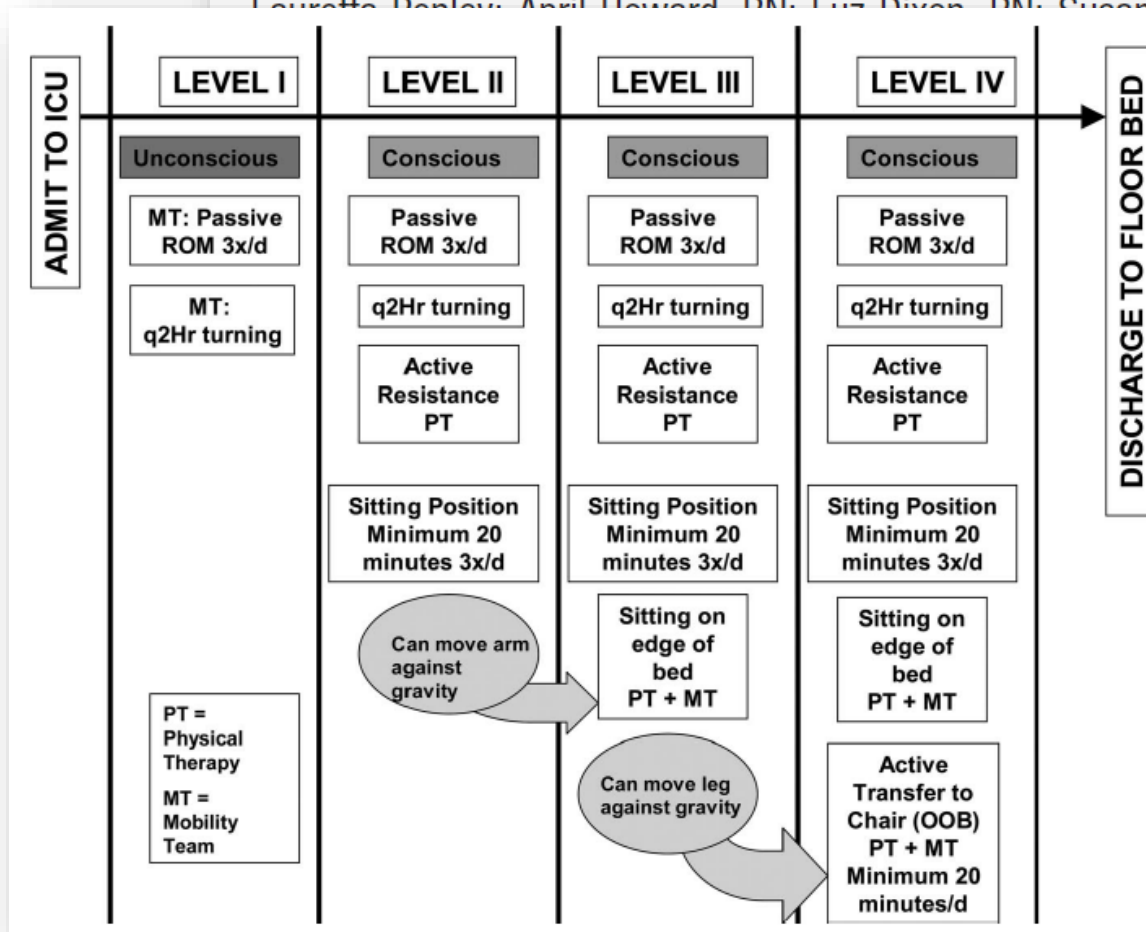
Early intensive care unit mobility therapy in the treatment of acute respiratory failure*

Peter E. Morris, MD; Amanda Goad, RN; Clifton Thompson, RN; Karen Taylor, MPT; Bethany Harry, MPT; Leah Passmore, MS; Amelia Ross, RN, MSN; Laura Anderson; Shirley Baker; Mary Sanchez;

Protocole adapté à la population spécifique/hétérogène.

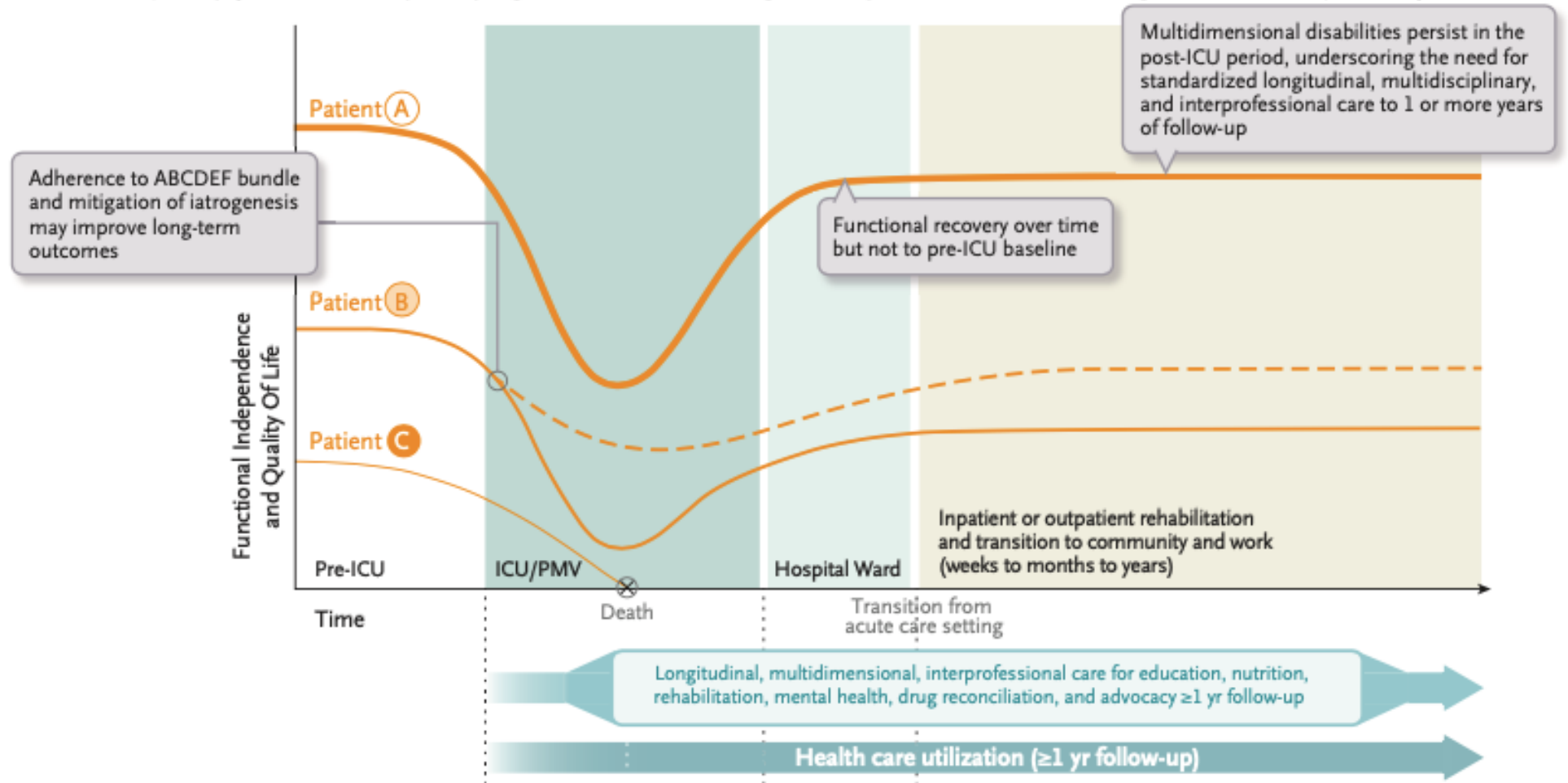
Similar health cost
↓ICU stay

Morris 2008



Des trajectoires différentes

A Patient Trajectory (risk stratified by frailty, age, burden of coexisting illness, pre-ICU function, and cognitive health trajectories)



Herridge SM. and
Azoulay E.
NEJM 2023



Early mobilization protocol

M. Patri, CE. Hickmann, E. Bialais, J. Dugernier, P-F Laterre , J. Roeseler
Intensive care unit, Saint Luc university hospital, Brussels.

RASS > +1 → Adjust sedation

Level 0	Level 1	Level 2	Level 3	Level 4
Unconscious		Awake		
RASS -5/-2 Glasgow ≤ 8		RASS -1/+1 Glasgow >8		
		Muscular strength (MRC):		
		≤ M2 M3 ≥ M4		

Passive / active-assisted / active / active-resisted manual mobilization

Passive	Active		
	Passive transfer in chair	Active transfer in chair	
	Cycle-ergometer in bed / chair (legs / arms)		
	Verticalization	Standing	Leg press
			Assisted walk

Contraindications of early mobilization (level 1 to 4)

- Acute myocardial infarction (confirmed by ECG)
- Active bleeding
- Increased intracranial pressure with major in
- Spine or pelvis instable fracture
- Therapy withdrawal

Unstable condition

Hickmann
Annals of Int
Care 2016

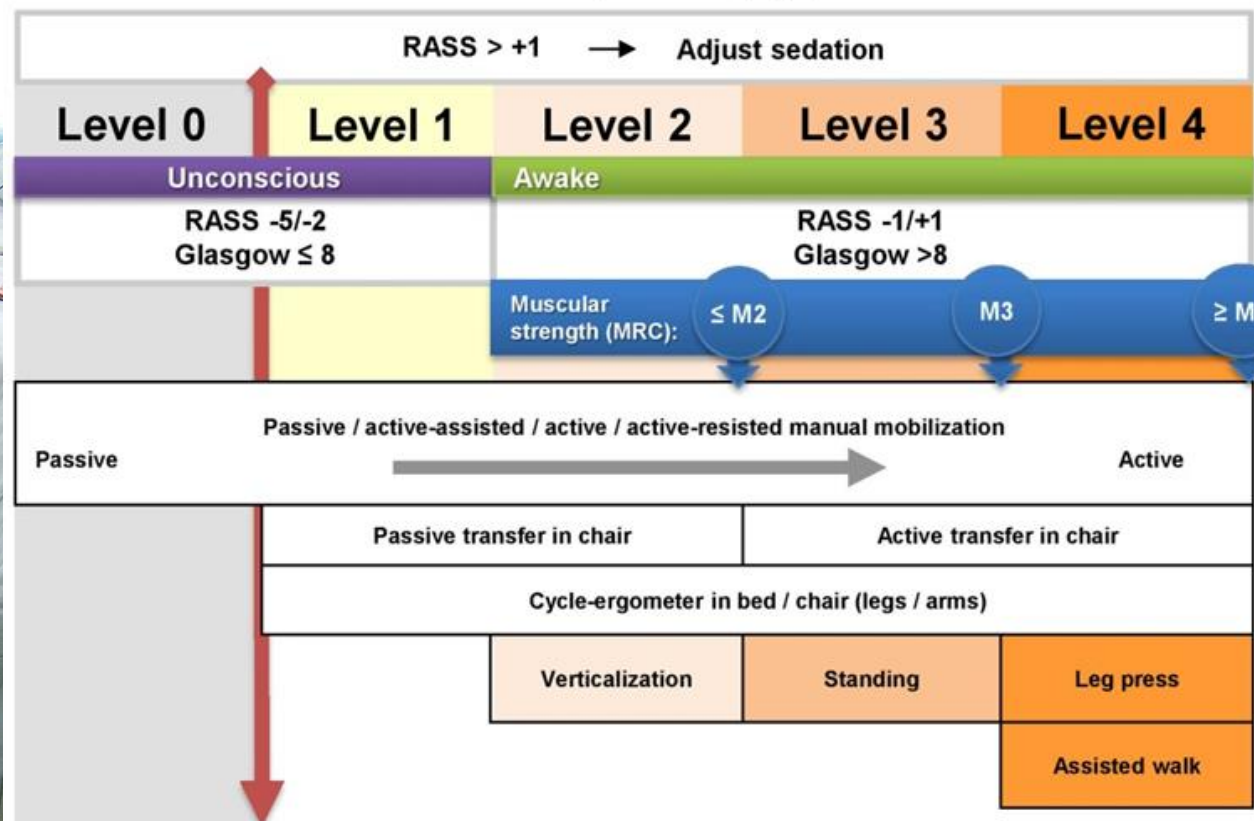


La mise au fauteuil précoce : réalisée par l'équipe multidisciplinaire.



Early mobilization protocol

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Unstable
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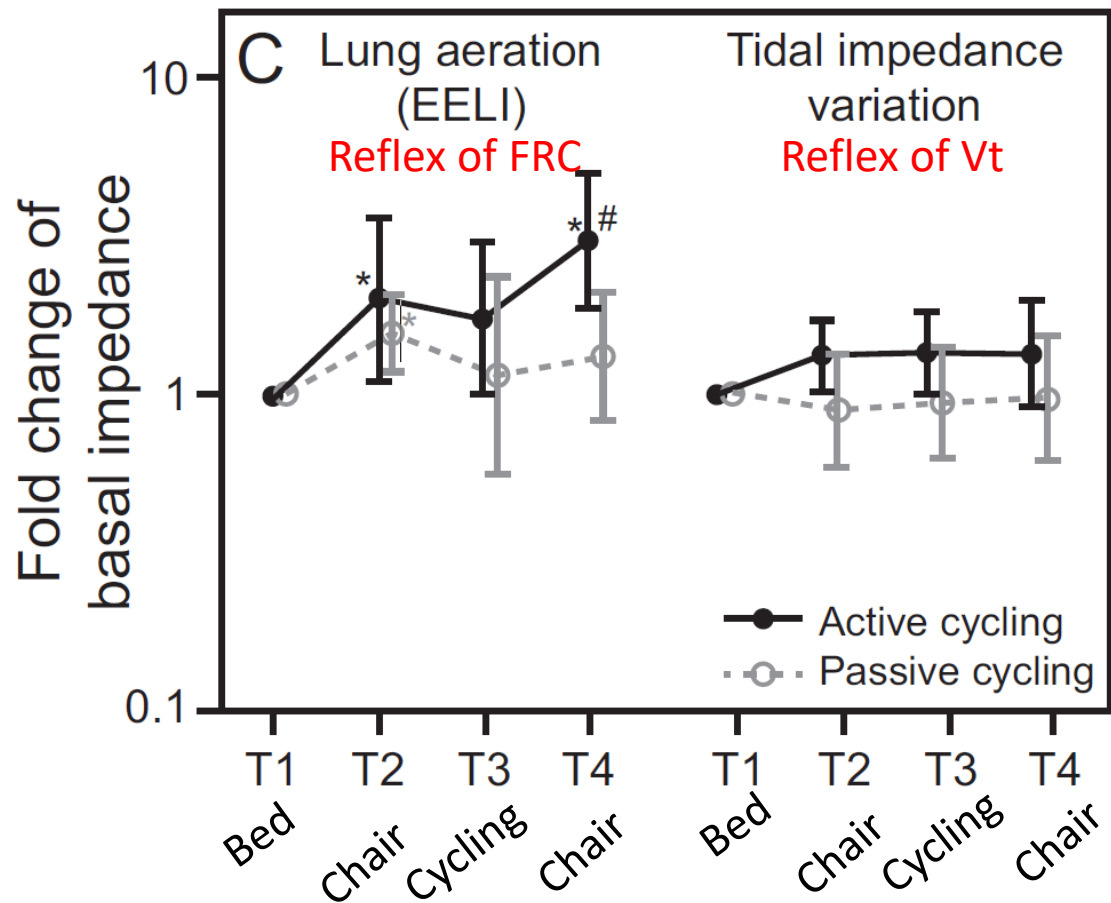


Acute Effects of Sitting Out of Bed and Exercise on Lung Aeration and Oxygenation in Critically Ill Subjects

n=17 MV patients

n= 6, active chair-cycling

n= 11 passive chair-cycling



RESEARCH

Open Access



Teamwork enables high level of early mobilization in critically ill patients

Cheryl Elizabeth Hickmann, Diego Castanares-Zapatero, Emilie Bialais, Jonathan Dugernier, Antoine Tordeur, Lise Colmant, Xavier Wittebole, Giuseppe Tirone, Jean Roeseler and Pierre-François Laterre*

Table 2 Characteristics of mobilized and non-mobilized patients

	ICU patient-days	EM performed			No EM performed	
		Sitting in chair		In bed PTS+		
		All sitting in chair	PTS+	PTS-		
Total	709	527	337	190	83	99
Invasive mechanical ventilation (MV)	327	223 (68 %)	142 (43 %)	81 (25 %)	40 (12 %)	64 (20 %)
Severe sepsis/sepsis shock	241	166 (69 %)	102 (42 %)	64 (27 %)	28 (12 %)	47 (20 %)
Vasoactive drugs (VAD)	211	149 (71 %)	99 (47 %)	50 (24 %)	25 (12 %)	37 (18 %)
Renal replacement therapy (RRT)	115	76 (66 %)	59 (51 %)	17 (15 %)	11 (10 %)	28 (24 %)
Sedatives (SD)	260	193 (74 %)	122 (47 %)	71 (27 %)	22 (8 %)	45 (17 %)
MV + VAD	158	104 (66 %)	72 (46 %)	32 (20 %)	21 (13 %)	33 (21 %)
MV + VAD + RRT	77	46 (60 %)	38 (49 %)	8 (10 %)	8 (10 %)	23 (30 %)
MV + without SD	122	77 (63 %)	49 (40 %)	28 (23 %)	22 (18 %)	23 (19 %)
RASS -1 to +1	576	454 (79 %)	284 (49 %)	170 (30 %)	58 (10 %)	64 (11 %)
RASS >+1	25	21 (84 %)	18 (72 %)	3 (12 %)	1 (0.4 %)	3 (12 %)
RASS <-1	108	50 (46 %)	33 (31 %)	17 (16 %)	22 (20 %)	36 (33 %)

Values expressed as number (percentage)

MV mechanical ventilation, VAD vasoactive drugs, RRT renal replacement therapy, SD sedatives drug, RASS Richmond agitation-sedation scale, PTS+ physical therapy session carried out, PTS- no physical therapy session carried out, EM early mobilization



ECMO



MRC > 36 - 48



MRC < 36

mobiliz





RESEARCH

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Supplemental Digital Content3: Multivariate analyses for risk factors associated with mortality.

ICU mortality

	AOR (95% CI) <i>Adjusted on 15 covariables</i>	p-value	AOR (95% CI) <i>Adjusted on 4 covariables</i>	p-value
Early Mobilization	0.06 (0.01-0.42)	0.004 *	0.06 (0.01-0.29)	0.001 *
ICU length of stay	1.10 (1.04-1.17)	0.001*	1.08 (1.03-1.12)	0.001*
Male	1.78 (0.27-11.63)	0.55		
Age (years)	1.09 (1.01-1.17)	0.04*	1.07 (1.02-1.13)	0.01*
Tracheotomy	0.67 (0.05-8.47)	0.76		
Berlin classification	1.95 (0.78-4.90)	0.15	2.26 (1.01-5.03)	0.04*
Surgery [#]	1.54 (0.50-4.69)	0.45		
Cirrhosis	2.81 (0.35-22.77)	0.33		
BPCO	0.24 (0.01-5.07)	0.36		
Cancer	1.32 (0.21-8.18)	0.77		
Neurologic	1.24 (0.06-26.49)	0.89		
APACHE II score	1.06 (0.91-1.23)	0.49		
SOFA score	1.24 (0.92-1.69)	0.16	1.38 (1.14-1.67)	0.001*
Sedatives drug use	1.04 (0.07-15.33)	0.98		
Vasoactive drug use	1.99 (0.15-26.70)	0.60		
Renal replacement therapy	0.24 (0.04-1.40)	0.11		

AOR: Adjusted Odd-Ratio; [#]surgery: elective or urgent surgery; *denotes p-value < 0.05

Early mobilization
Mortality risk protector factor

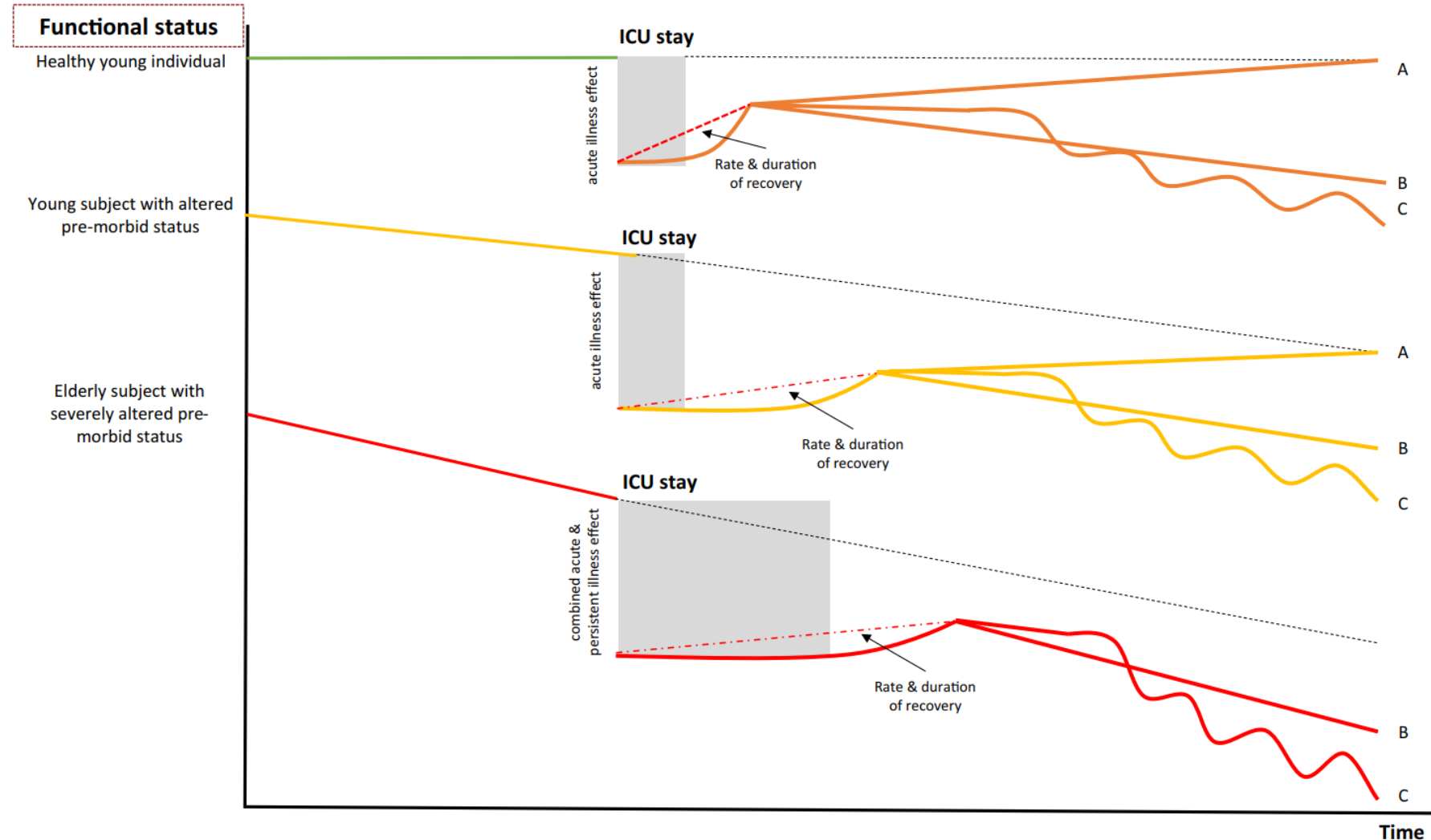
Starting at
19h (IQR 15-23h)
from ICU admission

Hickmann
2016



Des trajectoires différentes

Individualization



Latronico N. et al.
Intensive Care
Med.2017



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Wallonie - Bruxelles
International.be



réanimation 2024
PARIS 12-14 JUIN







réanimation 2024
PARIS 12-14 JUIN



Physiotherapy Provision and Practice: A EuropeAn Intensive CarE Unit (ICU) Survey (PEAiCE)

The international online survey to investigate current provision and practice of physiotherapy within Intensive care units in European countries is ready for completion in 11 languages.

We need one person per ICU to answer.



One response per ICU



9th European Norway - Oslo 2.-3. November 2024

9th European Conference on Weaning and Rehabilitation in Critically-ill Patients

MERCI