Survey of early Mobilization if ICU Patients: Current Knowledge, Perspectives and Practices

Please complete the following questions. All responses will be held in confidence.

Glossary of Terms

ICU: Intensive Care Unit

ICU-acquired weakness: polyneuropathy, polyneuromyopathy or neuropathy acquired during critical illness.

Mobilization: physical therapy that involves active or assisted patient mobility. This may include bed mobility, sitting, standing, ambulation or active exercise training. This does not include passive range of motion.

Early Mobilization (EM): physical therapy and acute rehabilitation measures initiated as soon as possible following admission to the ICU. Patients who receive EM will be progressively rehabilitated through a series of exercises that may begin while they are still receiving life support (i.e., mechanical ventilation).

Non-Mobility Physiotherapy
• **Cardio-respiratory/Chest physiotherapy:** physical therapies to improve ventilation-perfusion matching and respiratory mechanics including deep breathing exercises, airway secretion clearance, and percussion techniques • **Passive Range of Motion:** passive movement facilitated by providers
Mobility Physiotherapy
• **Active Assisted Motion:** Patient movement that is assisted by the therapist • **Active Range of Motion:** unassisted patient movement • **Strengthening exercises:** muscle strengthening (can include bedside cycle ergometer), neuro-developmental play (i.e., play activities to facilitate fine and gross motor development) for infants and developmentally delayed children. • **Bed mobility:** activities done while recumbent (e.g., active or partially assisted repositioning in bed or rolling from side to side) • **Transfers:** trunk control, unsupported sitting, sitting on edge of bed, sit to stand, from bed to chair or commode • **Pre-Gait:** weight shifting, stepping in place and sideways • **Ambulation:** walking/gait training with or without walking aid or assistance

PERCEPTIONS

1.0 Personal view of Early Mobilization in the ICU

1. Please select ONE option below that best describes your view of early mobilization:

☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
crucial, should be top priority in the care of ICU patients	very important, should be a priority in the care of ICU patients	important, should be a priority in the care of ICU patients	somewhat important, should be considered in the care of ICU patients	not of great importance, but clinicians should bear it in mind	of minimal importance to the care of ICU patients	of no importance to the care of ICU patients

1.1 Barriers to Early Mobilization in the ICU

2. a) What is (are) the <u>most</u> important institutional barrier(s) to early mobilization in YOUR ICU? By institutional barriers we mean customs and behavior patterns in your work environment. Please check ALL that apply or "no institutional barriers"· if there are none.

- ☐ routine bed rest orders on ICU admissions
- ☐ physician orders required prior to mobilization
- ☐ insufficient equipment for early mobilization (e.g. ceiling lifts, chairs, walkers etc)
- ☐ no written guidelines or protocols for early mobilization
- ☐ not enough physical space
- ☐ no clinician champion/advocate to promote early mobilization in the ICU
- ☐ perceived to be an expensive intervention by administrators or unit leader
- ☐ no institutional barriers
- ☐ other institutional barrier(s), please specify _____

_____

2. b) What is (are) the most important patient level barrier(s) to early mobilization in YOUR ICU? Please check ALL that apply or "no patient barriers• if there are none.

- ☐ medical instability
- ☐ endotracheal intubation
- ☐ physical restraints
- ☐ risk of dislodgement of devices or lines
- ☐ cognitive impairment/cognitive age
- ☐ excessive sedation
- ☐ inadequate analgesia
- ☐ obesity
- ☐ frailty
- ☐ inadequate nutritional status no patient barriers
- ☐ other patient barrier(s), please specify _____

_____

3. Providers are critical care physicians (MD), physiotherapists (PT), registered nurses (RN), respiratory therapists (RT), referring consultants/primary surgeons (CS). What is (are) the most important provider level barrier(s) to early mobilization (EM) in YOUR ICU? If you believe that the listed barrier is important, please select ALL provider(s) who contribute to the existence of that barrier. Alternatively, if you believe the listed barrier is NOT an important barrier, select "None".

Potential Provider Barrier	MD	PT	RN	RT	CS	None
a) limited staffing to routinely mobilize patients						
b) EM in the ICU is generally supported but it is not perceived as a priority in the care plan of a critically ill patient						
c) EM in the ICU is generally not supported by some specific individuals						
d) lack of communication among clinician groups during bedside rounds to facilitate EM						
e) lack of communication about rehabilitation during hand-over at shift change						
f) lack of coordination among providers to facilitate EM						
g) slow to recognize when patients should begin EM						
h) lack of specific decision-making authority to initiate EM						
i) conflicting perceptions about suitability of EM in some patients						
j) safety concerns about EM						
k) inadequate training to facilitate EM						
l) other provider level barrier(s), please specify: _____ _____						

1.2 When to Initiate Mobilization in the ICU

4. Generally speaking, when do YOU think mobilization should be initiated in the ICU? Please select ALL that apply.

- ☐ as soon as possible following ICU admission
- ☐ as soon as the patient's cardio-respiratory status has stabilized (i.e. no escalation in hemodynamic or ventilatory support)
- ☐ as soon as the patient is extubated
- ☐ as soon as the patient is off all vasoactive infusions
- ☐ as soon as the patient is conscious and can cooperate
- ☐ as soon as all sedative infusions are discontinued
- ☐ as soon as the patient is ready to be transferred out of the ICU
- ☐ other, please specify _____

1.3 Level of Activity

5. For each of the following scenarios, assume that the patients are previously ambulatory and are currently physiologically stable on mechanical ventilation, no inotropes and on minimal sedation infusion. These patients have purposeful motor response and can obey verbal commands (unless otherwise stated). In YOUR opinion, what would you consider as the greatest permissible level of activity for a patient with the following diagnosis, condition, device or drug? Please select **ONE** response for each diagnostic group.

Diagnosis, Condition, Device or Drug	**Bed rest**	**Passive range of motion**	**Active range of motion**	**Standing**	**Transfers to chair**	**Ambulation**	**Not sure**
Diagnosis/Condition a) head trauma without increased intracranial pressure							
b) head trauma with increased intracranial pressure							
c) stabilized cervical spinal injury							
d) stabilized thoraco-lumbar spinal injury							
e) within 24 hrs of treated myocardial infarction (cardiac enzymes persistently elevated)							
f) within 24 hrs of treated myocardial infarction (cardiac enzymes decreasing)							
g) coagulopathy (INR > 3)							
h) thrombocytopenia (platelet count < 20 x10g/L)							
i) delirium (fluctuating level of consciousness, at times inattentive or agitated)							
j) within 24 hrs of uncomplicated coronary bypass surgery							

Diagnosis, Condition, Device or Drug	Bed rest	Passive range of motion	Active range of motion	Standing	Transfers to chair	Ambulation	Not sure
k) deep vein thrombosis (receiving therapeutic anti-coagulation)							
l) obesity							
m) frailty							
Devices n)pulmonary artery catheter							
o) intra-aortic balloon pump							
p) femoral central venous catheter							
q) radial arterial catheter							
r) dialysis line inserted at the subclavian site (during non-dialysis periods)							
s) dialysis line inserted at the femoral site (during non-dialysis periods)							
t) continuous renal replacement therapy (during dialysis such as PRISMA)							
u) extra corporeal membrane oxygenation							
v) high frequency oscillation							
w) conventional mechanical ventilation with an endotracheal tube							
x) conventional mechanical ventilation with a tracheostomy							

Diagnosis, Condition, Device or Drug	Bed rest	Passive range of motion	Active range of motion	Standing	Transfers to chair	Ambulation	Not sure
y) non-invasive positive pressure ventilation (e.g. BiPAP)							
z) chest tube							
aa) foley catheter							
Drugs (bb) full anti-coagulation (i.e. heparin infusion, warfarin)							

6. Consider a patient admitted to the ICU who is intubated and mechanically ventilated (unless otherwise stated). What maximum level of activity would you prescribe for this patient under each of the following independent circumstances?

Please select **ONE** response for each condition.

Physiological Status	Bed rest	Passive range of motion	Active range of motion	Standing	Transfers to chair	Ambulation	Not sure
Cardiovascular a) three or more vasopressors or inotropic infusions							
b) two vasopressors or inotropic infusions							
c) one high dose vasopressor or inotropic infusion							
d) one medium dose vasopressor or inotropic infusion							
e) one low dose vasopressor or inotropic infusion							
f) no vasopressors or inotropes							

Diagnosis, Condition, Device or Drug	Bed rest	Passive range of motion	Active range of motion	Standing	Transfers to chair	Ambulation	Not sure
Respiratory g) minimal pressure support on conventional mode of mechanical ventilation							
h) moderate pressure support on conventional mode of mechanical ventilation (e.g., FiO_2 0.5,PEEP 10)							
i) advanced mode of mechanical ventilation (e.g., high frequency oscillation)							
Neurologic j) unresponsive to verbal and motor							
k) purposeful motor response, not obeying verbal commands							
i) purposeful motor response, obeys verbal commands							

KNOWLEDGE

2.0 Intensive Care Unit Acquired Weakness (ICU-AW)

7. What do YOU think is the approximate incidence of ICU-AW in the population of general medical-surgical ICU patients?

- ☐ < 5%
- ☐ 5-10%
- ☐ 11-20%
- ☐ 21-40%
- ☐ > 40%
- ☐ Don't know

2.1 Current Literature

8. Are YOU familiar with any clinical trials or literature evaluating early mobilization of critically ill patients?

- ☐ yes
- ☐ no

9. What do the clinical studies about early mobilization of critically ill patients (i.e., general medical surgical ICU population) show? Select ALL TRUE responses only.

- ☐ I am not sufficiently familiar with the current literature/clinical studies on early mobilization in the ICU.
- ☐ early mobilization of critically ill patients can improve their functional independence (i.e. activities of daily living) at hospital discharge
- ☐ early mobilization of critically ill patients is associated with reduced mortality at hospital discharge
- ☐ early mobilization of critically ill patients is associated with a reduced incidence of delirium
- ☐ early mobilization of critically ill patients reduces the incidence of deep vein thrombosis
- ☐ early mobilization of critically ill patients reduces their time requiring mechanical ventilation

2.2 Practical and Technical Skills

10. How well trained and informed do you feel to mobilize mechanically ventilated patients? Please select ONE response only.

- ☐ I feel well trained and informed to mobilize mechanically ventilated patients.
- ☐ I feel somewhat trained and informed to mobilize mechanically ventilated patients.
- ☐ I do not feel sufficiently trained or informed to mobilize mechanically ventilated patients

PRACTICE

3.0 Assessment for Need of Rehabilitation

11. Are all patients automatically assessed for appropriateness to begin mobilization by the physiotherapist in YOUR ICU without prompting or requests by other clinician groups?

- ☐ yes
- ☐ no
- ☐ unsure

12. Who is generally the first health care provider to identify if a patient is ready for mobilization? Please select **ONE** response only.

- ☐ registered nurse
- ☐ physician
- ☐ physiotherapist
- ☐ occupational therapist
- ☐ respiratory therapist
- ☐ other, please specify _____

13. Does the initial physiotherapist assessment on each patient require a written medical order by a physician?

- ☐ technically, yes
- ☐ no
- ☐ unsure

14. Does YOUR ICU have written protocols or policies that provide guidelines on when a patient should begin mobilization?

- ☐ yes
- ☐ no
- ☐ unsure

15. Does YOUR ICU have at least one clinician who serves as a champion for early mobilization?

- ☐ yes
- ☐ no
- ☐ unsure

16. If the ICU you work in has at least one champion who promotes early mobilization, what discipline is <u>the main</u> champion from?

- ☐ Physiotherapist
- ☐ Critical care physician
- ☐ Registered nurse
- ☐ Respiratory therapist
- ☐ unsure

17. Who performs passive range of motion exercises for the patients in your ICU?

- ☐ Physiotherapists
- ☐ Nurses
- ☐ Family members
- ☐ Others. Specify_____

3.1 Intensity & Frequency of Mobilization

18 a) On average, what is the daily duration of passive range of motion performed by physiotherapists in **YOUR ICU** on the following types of critically ill patients?

Condition	None	<15 min	16-30 min	31-45 min	46-60 min	>60 min	Unsure
i) a patient who is intubated, mechanically ventilated, deeply sedated and unconscious							
ii) a patient who is intubated, mechanically ventilated, inattentive and uncooperative							

18. b) On average, what is the daily duration of mobilization performed by physiotherapists in YOUR ICU on the following types of critically ill patients?

Condition	None	<15 min	16-30 min	31-45 min	46-60 min	>60 min	Unsure
i) a patient who is intubated, mechanically ventilated, alert, interactive and co-operative **but cannot ambulate yet**							
ii) a patient who is intubated, mechanically ventilated, alert, interactive/cooperative **and can ambulate**							

19. a) On average, how frequently is passive range of motion performed by physiotherapists in YOUR ICU on the following types of critically ill patients?

Condition	None	<1 /wk	1-2 /wk	3-4 /wk	5-6 /wk	once daily	twice daily	> twice daily	unsure
i) a patient who is intubated, mechanically ventilated, deeply sedated and unconscious sedated and unconscious									

Condition	None	<1 /wk	1-2 /wk	3-4 /wk	5-6 /wk	once daily	twice daily	> twice daily	unsure
ii) a patient who is intubated, mechanically ventilated, inattentive and uncooperative									

20. b) On average, how frequently is mobilization performed by physiotherapists in YOUR ICU on the following types of critically ill patients?

Condition	None	<1 /wk	1-2 /wk	3-4 /wk	5-6 /wk	once daily	twice daily	> twice daily	unsure
i) a patient who is intubated, mechanically ventilated, alert, interactive and co-operative **but cannot ambulate yet**									

Condition	None	<1 /wk	1-2 /wk	3-4 /wk	5-6 /wk	once daily	twice daily	> twice daily	unsure
ii) a patient who is intubated, mechanically ventilated, alert, interactive/cooperative **and can ambulate**									

3.2 Staffing in the ICU

21. Who participates in the mobilization of patients in YOUR ICU? Please select ALL that apply.

- ☐ registered nurse
- ☐ physician
- ☐ physiotherapist
- ☐ occupational therapist
- ☐ health care aide (i.e. physical therapy assistant, nurse aide, orderlies etc)
- ☐ respiratory therapist
- ☐ family member or home caregiver
- ☐ others, please specify_____

22. Is there a designated physiotherapist working in YOUR ICU during the following times?

Time	Available for full assessments & mobilization	Available for limited assessments & mobilization	Available only for cardiorespiratory /chest physiotherapy	Not available	Unsure
Regular weekday hours (Mon-Fri)					
Weekend evenings (after 17:00, Mon-Fri)					
Weekends (Sat, Sun) & holidays					

3.3 Types of Physiotherapy Techniques Performed

23. In general, how often are these physiotherapy techniques used in ICU patients who are eligible/suitable for rehabilitation? Please select only ONE answer for each type of treatment.

Type of physiotherapy	Never	Infrequently	Sometimes	Frequently	Routinely	Unsure
a) chest physiotherapy						
b) passive range of motion						
c) active range of motion						
d) strengthening exercises						
e) bed mobility						
f) transfers						
g) pre-gait activities						
h) gait training/ambulation						
i) treadmill						

Type of physiotherapy	Never	Infrequently	Sometimes	Frequently	Routinely	Unsure
j) neuromuscular electrical stimulation						
k) cycle ergometer						
l) dynamic tilt table						
m) other, please specify						

3.4 Workload of the Physiotherapist *(If you are a not PT, got to section 3.6)*

24. Please answer the following questions about YOUR workload 1n the ICUIPCCU:
a) On average, how many ICU patients do you see each per day? _____
b) On average, how many hospital patients (including ICU) do you see per day? _____

c) Do you work full time or part time in the ICU?
- ☐ full time
- ☐ part time

d) What is the duration of your shift? ____ hours

3.5 Sedation Practices

25. Are daily interruption of sedation or sedation protocols used in YOUR ICU?
- ☐ routinely
- ☐ frequently
- ☐ sometimes
- ☐ infrequently
- ☐ never
- ☐ unsure

26. Do YOU use standardized sedation scales to titrate sedation, according to patient activity level?
- ☐ Routinely
- ☐ Frequently
- ☐ Sometimes
- ☐ Infrequently
- ☐ Never
- ☐ Unsure

3.6 Rehabilitation following ICU Discharge

27. Are patients with suspected ICU acquired weakness routinely referred to an outpatient clinic after ICU discharge for long term rehabilitation?
- ☐ yes
- ☐ no
- ☐ unsure

28. To whom are the patients with suspected ICU acquired weakness referred?
- ☐ family physician
- ☐ general internist/pediatrician
- ☐ neurologist
- ☐ physiotherapist
- ☐ occupational therapist
- ☐ rehabilitation specialist
- ☐ intensivist
- ☐ other, please specify _____
- ☐ patients with ICU acquired weakness are not routinely referred to outpatient clinics
- ☐ unsure

4.0 Clinician Demographics

29. What type of clinician are you?
- ☐ physiotherapist
- ☐ physician
- ☐ registered nurse
- ☐ respiratory therapist
- ☐ occupational therapist

30. What type(s) of ICU(s) do you work in? Please select ALL that apply.
- ☐ medical-surgical ICU
- ☐ cardiovascular ICU
- ☐ neurological ICU
- ☐ trauma ICU

Thank you very much for completing this survey!

Once the survey is completed, please seal it in the envelope provided and deposit the envelope in the designated reception box in your ICU.