

Myths about Mobilization



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OUTLINE



- Benefits of Mobility
- Mobility Protocol
- Considerations of Mobilizing
- Mobility Protocol Implementation
- Myths about Mobility

Benefits of Mobility



- Mobilization of secretions
- Improved lung capacity
- Increased pulmonary lymphatic drainage
- Improves alveolar ventilation
- Increases cardiac output
- Improved muscular strength
- Improves psychological status of the patient

Benefits of Early Mobilization



Early mobilization has physical and psychological benefits:

- Improved lung function through optimizing lung volumes and airway clearance.
- Improved level of consciousness and psychological stimulation.
- Decreased incidences of ICU delirium.
- Decreased incidences of pressure ulcers.
- Improved sleep.
- Reduced number of mechanical ventilation days, ICU and hospital length of stays.

<http://journal.publications.chestnet.org/article.aspx?articleid=1148953&issueno=6&rss=1>

What is Considered Mobilization?



- **DANGLE**
- **STANDING OR SIT TO STAND**
- **CHAIR/WHEELCHAIR**
- **MOTO MED (BED BIKE)**
- **WALKING**

Mobility Protocol



Our mobility protocol is a document that provides staff guidance on mobilization of patients in an acute care setting.

It looks at what to assess, what to monitor, when not to mobilize and how to mobilize and progress.

It is part of our acute care standards!

SAFE PRESCRIPTION OF MOBILIZING PATIENTS IN ACUTE CARE SETTINGS

WHAT TO ASSESS, WHAT TO MONITOR, WHEN NOT TO MOBILIZE AND HOW TO MOBILIZE AND PROGRESS

PURPOSE, SCOPE & DISCLAIMER: The purpose of this document is to provide physical therapists with guidance on safe mobilization of the patient in acute care settings. This decision-making guide is evidence informed and where there is insufficient evidence, expert informed. It is not intended to replace the clinician's clinical reasoning skills and interprofessional collaboration. Mobilization, for the purposes of this document, has been defined as "To work towards the functional task of locomotion"

WHAT TO ASSESS

The chart

- Medical history.
- Premorbid level of function (e.g., mobility aids), activity and exercise response.
- Primary diagnosis.
- Medications.
- Investigations, lab work (e.g., Hgb, RBC, Blood sugar, ECG, fluid/electrolytes).
- Risk factors and lifestyle conditions.
- Physician orders re specific restrictions on mobilization.

The patient, family and team member

- Multisystem review (e.g., cognition, respiratory, cardiac, musculoskeletal & neuro systems)
- Level of cooperation.
- Ask patient what he/she currently feels about mobilization concerns and readiness.
- Consider the impact of the illness or medical procedures & medications on the patient's mobility (e.g., weakness from disuse, incision, trauma, pain, equipment needs, e.g., walker).
- Coordinate with team members the timing of treatment with medication, availability of equipment and of personnel to optimize effectiveness.

WHEN TO CONSIDER NOT MOBILIZING¹⁻⁶

*Please note: the cited values are not absolute criteria for withholding mobilization but are within the range of concern that could benefit from team discussion

Cardiovascular status

- **Mean arterial pressure:** $<65^{1,3}$ or $>110^3$.
- **BP:** A drop in systolic pressure (>20 mm Hg) or below pre-exercise level **OR** a disproportionate rise i.e., >200 mm Hg for systolic or >110 mm Hg for diastolic⁴.
- **HR:** $<40^3$ or $>130^{1,6}$; requiring temporary pacer.
- **Hemodynamic:** Administration of a new pressor e.g., inotropes agent¹; two or more pressor or frequent increase⁵; uncontrolled systemic hypertension; active bleeding.^{3,5}
- **Acute or unstable cardiac status;** New MI¹; dysrhythmia requiring new medications¹; active cardiac ischemia²; unstable rhythm¹; intra aortic balloon.³
- **Pulmonary embolus:** Discussion with physician required to determine suitability.
- **Deep venous thrombosis:** May mobilize as tolerated immediately after low molecular weight heparin (e.g., enoxaparin (lovenox®), dalteparin (fragmin®), tinzaparin (innohep®), nadroparin (fraxiparine®)) is given. If patient is on any other form of anticoagulation (e.g., IV heparin) please check mobility orders with the physician. Monitor patient for changes in pain, swelling, colour and sudden shortness of breath.⁶

Respiratory Status

- **SpO₂:** $<88\%^{1,3}$ or undetermined cyanosis.
- **RR:** <5 or $>40^3$.

- **F_IO₂:** $>60\%^5$.
- **Ventilator issues:** Decreased ventilatory support that could precipitate fatigue or increased ventilatory support.
- Ventilator asynchrony³; unsecure airway³; pressure control ventilation⁵; uncontrolled airway irritability.
- **Uncontrolled asthma.**

Neurological status

- **Patient status:** Severe agitation, distress, or combative^{2,3}; not able to understand instructions thus risking patient or therapist safety.
- **ICP:** Increased³ i.e., >20 mm Hg, however, ICP needs to be considered in conjunction with cerebral compliance.
- Uncleared, unstable/non fixated spinal cord injury⁶ or head injury.

Other

- Intermittent hemodialysis³.
- Unstable fracture.
- Excessive muscle soreness or fatigue that is residual from last exercise or activity session.
- Other contraindications specific to a given setting/unit.

WHAT TO MONITOR DURING MOBILIZATION

Subjective: Dizziness, vertigo, shortness of breath, fatigue, nausea, pain *consider use of scales e.g., Borg scale of perceived exertion.

Objective: Cognition, balance, perspiration, cyanosis, heart rate, oxygen saturation, respiratory rate and blood pressure and all other factors relevant to patient and mobility task, for example, cardiac rhythm in those patients when ECG is essential during mobilization.

HOW TO MOBILIZE AND PROGRESS⁷

Step 1 Prepare

- Note obstacles or challenges related to the patient and environment and plan appropriately (e.g., set up equipment – chairs, transfer belt, mobility aids, length of leads/wires).
- Determine whether the benefits outweigh the risk.
- Ensure pre-medication as indicated (analgesia, bronchodilators, oxygen).
- Obtain baseline vital signs (heart rate, blood pressure, oxygen saturation).
- Have objective end-points such as limits of blood pressure, heart rate, oxygen saturation and level of exertion pre-determined before mobilization.

Step 2 Safety first

- Use proper body mechanics during transfer and allow gradual change from lying to upright position. Encourage circulation exercises i.e., foot and ankle, knee flexion/extension before commencing more demanding mobilization procedures.

- If postural hypotension is suspected, monitor BP and ask patient about lightheadedness at each phase of the mobilization i.e., sitting on edge of bed, standing, walking a few paces.

Step 3 When to quit while you are still ahead

- Monitor closely. Watch for signs of fatigue, pain, diaphoresis and intolerance during activity. Frequently ask patient how he/she feels.
- Evaluate patient's status at each progression to determine whether to continue or stop.

Step 4 Monitor and progress

- Determine the limiting factor of the mobilization and any undesirable response(s).
- Use objective outcome measures to monitor progress e.g., ease of transfer, sitting duration, walking distance, HR, RR, oxygen saturation, Borg scales, and pain scales.
- After mobilization, monitor patient until vital signs have returned to pre-activity level.

HOW TO PROGRESS^{1,3,8-13} Continue to monitor vitals to guide progression*

LEVEL (Morris ¹)	LEVEL I	LEVEL II	LEVEL III	LEVEL IV
TARGET LEVEL OF CONSCIOUS (RASS) ¹⁴	RASS -5 to -2	RASS -2 to -1	RASS -1 to +1	RASS -1 to +1
STRENGTH CRITERIA FOR ENTERING THIS LEVEL			Able to move arm vs. gravity.	Able to move arm and leg vs. gravity.
TURNING AND BED MOBILITY	Q2H Patient to assist as able.	Q2H Same as Level I, plus: • Scooting/bridging • Supine ↔ sitting.	Q2H Gradual withdrawal of assistance. Initiation of training to promote patient's independence.	Q2H Focus on training to promote patient's independence.
POSITIONING AND DEVICES	Keep HOB >30°. Apply splints, other positioning devices as per OT/PT instructions. Focusing on preventing pressure ulcers, especially on heels and sacrum.	Same as Level I.	Same as Level I. Assess for seating needs.	Same as Level III.
EXERCISE PROGRAM	PROM ex to incorporate into patient care e.g., during washing, turns.	Encourage pt assist with ROM during patient care e.g., during washing, turns.	Same as Level II with more active involvement.	Same as Level III.
		Consider inclusion of: • Breathing exercises. • Stretching exercises. • Balance/coordination exercises for head, neck, and trunk.	Same as Level II with more active involvement. Consider inclusion of: • Arm ergometry.	Same as Level III with more active involvement. Consider inclusion of: • Weight bearing/ weight shifting exercises.
	Additional exercise/mobilization as per physio assessment.	Same as Level I.	Same as Level I.	Same as Level I.
MOBILIZATION	HOB >45° x 30-60 minutes BID, support to achieve midline head and trunk position.	High fowlers or cardiac chair position x 30-60 minutes TID.	Assist physio with dangle on side of bed. May need ceiling lift if patient heavy. Sitting balance exercises with physio as appropriate, 5 to 10 minutes to start. Initially OD, progress to BID as patient tolerates.	If dangle and stand at bedside successful, physio assesses ability to weight shift, ability to transfer to chair. Initial time in chair 30 minutes, progress per OT/PT assessment. Initially OD, progress to BID as patient tolerates.
		Mobilization may include* tilt table, dangle or to chair with mechanical lift pm. <i>*Use caution for patients at risk of hypotension.</i>	As per physio assessment of patient strength, assist physio with sit to stand, walking in place: +/- walker. Patients with neuro/ortho status precluding WB require individualized mobilization prescription.	If patient able to transfer to chair, tolerates well, physio assesses ambulation, begins walking practice with appropriate aids, increasing distance and frequency as patient tolerates.

Richmond Agitation Sedation Scale (RASS)¹⁴:

- +4 Combative; violent, immediate danger to staff
- +3 Very agitated; pulls or removes tubes/lines; aggressive
- +2 Agitated; frequent non-purposeful movement, fights ventilator
- +1 Restless; anxious but movement not aggressive or vigorous
- 0 Alert and Calm
- 1 Drowsy; not fully alert, sustained wakening (eye-opening/contact) to voice >10 sec
- 2 Light sedation; briefly awakens with eye contact to voice < 10 sec
- 3 Moderate sedation; Movement or eye opening to voice but no eye contact
- 4 Deep sedation; No response to voice but movement or eye opening to physical stimulation
- 5 Unarousable; No response to voice or physical stimulation

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Considerations of Mobilizing



Cardiovascular Status

- Hemodynamic instability
- Acute or unstable cardiac status
- Clotting or bleeding disorders such as PE or DVT.

Considerations of Mobilizing



Respiratory Status

- Respiratory/Airway Instability

Contraindications of Mobilizing



- Spinal injury precautions
- NMBA
- Terminal wean patients
- Patient refusal/Pt combative
- RASS -3 to -5 and RASS +3 to +4

Mobility Protocol Implementation



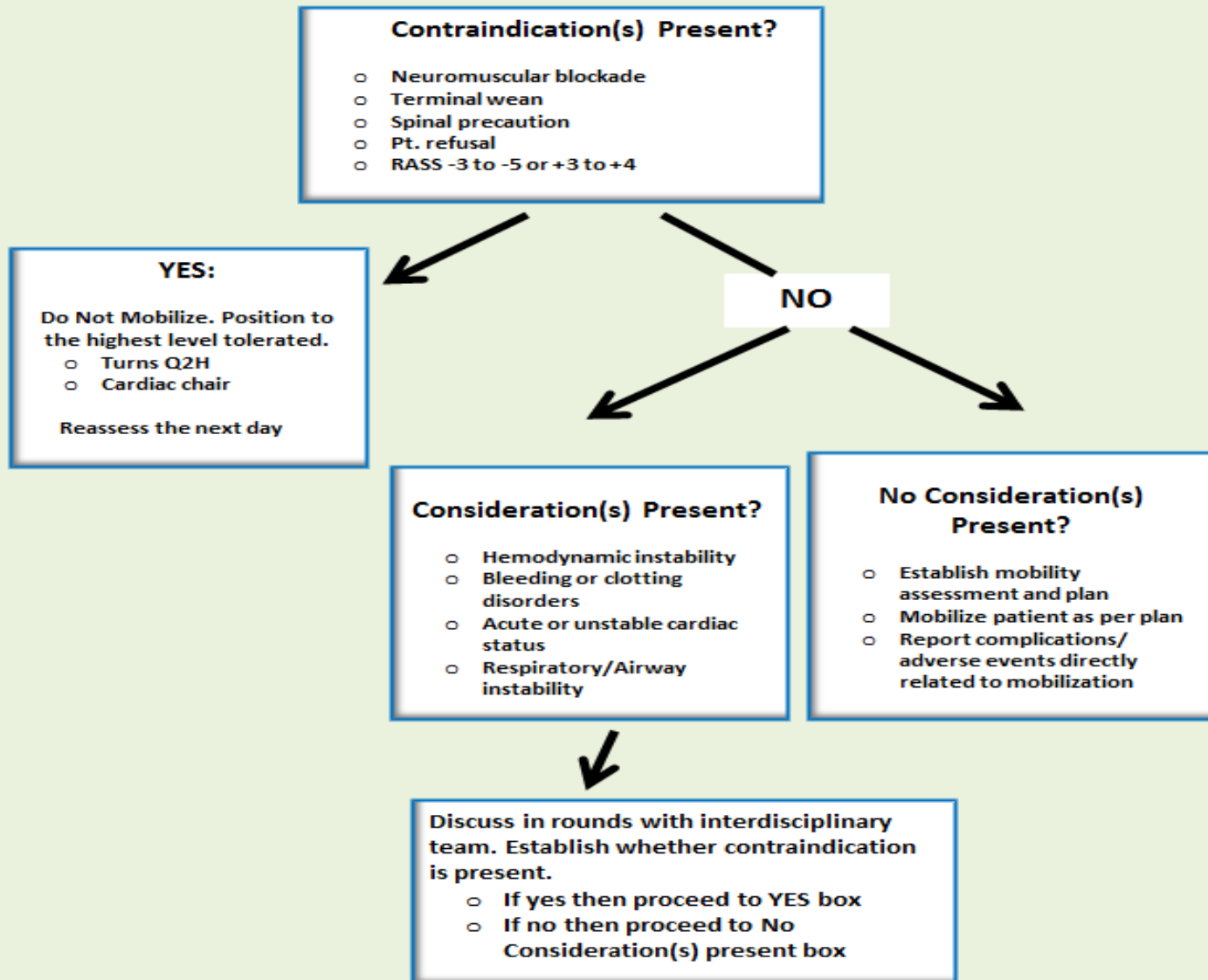
- **CONSULT AND INITIATE CONVERSATIONS WITH PHYSIOTHERAPY FOR A PLAN TO MOBILIZE.**
- **CONSIDER PREMEDICATION'S BEFORE TREATMENT BEGINS. PRE-EMPTIVELY GIVING ANALGESIA PRIOR TO MOBILIZATION.**
- **SAFE PRESCRIPTION FOR MOBILIZING PATIENTS IN ACUTE CARE SETTINGS PROTOCOL WILL BE USED AS A GUIDE FOR MOBILIZING PATIENTS.**
- **ASSESS YOUR PT.'S CURRENT RASS AND DETERMINE THE APPROPRIATE LEVEL (I,II,III OR IV) AS A REFERENCE GUIDE TO THEIR MOBILITY PLAN.**
- **MONITOR VITALS SIGNS AND STATUS PRE, INTRA AND POST MOBILIZATION.**

Myths about Mobility



- We cannot mobilize patients who have an FMS inserted.
- Patients on inotropes cannot mobilized.
- Difficult to wean patients should not mobilized.
- We cannot mobilize patients on CRRT.

Mobility Algorithm





The End!