

CRITICAL CARE PROTOCOL

Early Mobility

Structured progressive mobilization for ICU patients. Screen every patient every day — most can start within 24–48 h. Early mobility shortens ICU and hospital stay, reduces delirium, preserves muscle mass, and accelerates return to function. Safety requires defined stop criteria, adequate staffing, and the ABCDEF bundle as the backbone.

MUSCLE

Prevents ICU-acquired weakness; preserves function

DELIRIUM

Reduces duration & incidence

VENTILATION

Shorter MV duration & ICU stay

FUNCTION

Better 6-month QoL & functional independence

01 ABCDEF bundle backbone

COORDINATE Early mobility is Element **E** — it works best when pain is controlled (A), sedation is light with daily SAT (B–C), delirium is being managed (D), and family is engaged (F). Run all six elements together.

A Pain managed — analgesia first

B Daily SAT + SBT

C Light sedation (RASS 0 to -1)

D Delirium screen (CAM-ICU) each shift

E Early mobility — this protocol

F Family engagement & empowerment

02 Interprofessional team roles

Physician / APC

Physical therapy (PT)

Order mobility level daily; document contraindications; approve escalation; discuss goals with family.

Assess and advance levels; lead L3–L5 sessions; document functional outcomes; discharge planning.

Occupational therapy (OT)

ADL training; cognitive and upper-extremity assessment; splinting; adaptive equipment.

Nursing

Conduct L0–L2 activities; daily readiness screen; reposition q2h; coordinate timing with RT and PT; document in flow sheet.

Respiratory therapy (RT)

Manage vent circuit and ETT during OOB activity; coordinate SBT timing to enable sessions.

Family / caregiver

Encouraged to participate; assist with reorientation; provide familiar objects; reinforce mobility goals.

STAFFING Minimum **2–3 staff** for sit-to-stand and ambulation — 1 dedicated to airway / lines at all times.

03 Daily readiness screening

EVERY DAY Screen on morning rounds. If safe — set a mobility level, plan the session, and document before the next 24 h.

PROCEED WHEN ALL FOUR ARE MET

- Cardiovascular** — HR 40–130; MAP \geq 55 mmHg; no new vasopressor start or escalation in last 2 h; no active decompensated HF / arrhythmia requiring immediate intervention
- Respiratory** — SpO₂ \geq 88%; RR 5–40/min; FiO₂ \leq 0.60; PEEP \leq 10; ETT/trach secured; no vent escalation in last 2 h
- Neurologic** — RASS \geq -2 (awakens/responds to voice); no active seizures; ICP < 20 if monitored; no NMB active
- Structural safety** — no immediate airway threat; no active major hemorrhage; no unstable spine or long-bone fracture in last 24 h; sufficient staff available

RELATIVE CONTRAINDICATIONS — INDIVIDUALIZE

- Open chest / open abdomen; aortic or vascular surgery < 12–24 h
- Severe ARDS (FiO₂ > 0.6 / PEEP > 10) with impending resp failure
- High-dose vasopressors (NE > 0.1–0.2 mcg/kg/min); active DVT < 24–48 h on
- Combative delirium with safety risk; femoral sheath / dialysis catheter unsafe

04 Progressive mobility level ladder

ADVANCE Move to the next level when the patient tolerates one session without hitting stop criteria. Advance daily if appropriate; de-escalate without penalty if condition changes.

L0

Bed positioning & passive ROM

HOB 30–45° unless contraindicated. Passive ROM all extremities 2–3× daily (nursing/PT). Reposition q2h. Anti-contracture positioning; hand splints if GCS < 7. Apply when readiness criteria are not met.

L1

Active and active-assisted exercises in bed

RASS ≥ -2. Active ROM all extremities; in-bed cycling; upper extremity strengthening (bands, 5–10 reps × 3); core engagement; breathing exercises. Nursing can lead; PT/OT to guide daily.

L2

Sitting at edge of bed (dangle)

Tolerated L1 without adverse events. Raise HOB to 90° first, then dangle legs 5–20 min. UE exercises while seated; balance facilitation; deep breathing. 2 staff minimum. Check orthostatic BP if > 48 h bed rest.

L3

Transfer to chair / standing

Tolerated L2. Stand with pivot transfer or standing frame; goal sit in chair 20–60 min. Weight-bearing exercises (marching in place, mini-squats). Tilt table if standing not yet safe. 2–3 staff; PT/OT lead.

L4

Marching in place / ambulation at bedside

Tolerated L3. March in place 2–5 min building to 10+ min; walk 5–10 m at bedside with assist. Rolling walker or gait belt. RT manages vent/ETT throughout. 2–3 staff plus RT for intubated patients.

L5

Ambulation in hallway / progressive distance

Tolerated L4. Walk progressively longer distances (aim ≥ 30 m); stair practice if indicated; ADL reintegration (brushing teeth, feeding, dressing). Functional goal-setting for discharge. Coordinate with PT/OT daily.

05

Stop criteria — terminate session immediately

STOP & RETURN TO BED Stop at any point if any criterion appears. Return patient to bed, notify RN and physician immediately. Document the stop criterion and clinical status in the mobility flow sheet.

Cardiovascular

New HR < 40 or > 130; SBP < 90 or > 180; MAP < 55; new arrhythmia requiring tx; chest pain / ischemic sx

Respiratory

SpO₂ < 88% or drop ≥ 4% from baseline; RR < 8 or > 40; new respiratory distress; ETT displacement / cuff leak; patient-ventilator asynchrony

Neurologic

RASS drops ≥ 2 points; new agitation or combative behavior; fall / near-fall; seizure; new focal neurologic sign

Other / safety

Patient request or refusal; device / line displacement risk; excessive pain (NRS ≥ 7 uncontrolled); severe diaphoresis / pallor; staff cannot maintain safe control of patient and all devices

06

Mobility in intubated / ventilated patients

PRE-SESSION PREPARATION

- RT present throughout any L3–L5 session on ventilator; confirm ETT cuff pressure, ETT cm marking at teeth, and circuit security
- Suction ETT and mouth before activity; have manual ventilation bag at bedside; preoxygenate if FiO₂ > 0.5
- Secure all lines (CVC, arterial, Foley); coil and clip circuits with adequate slack; portable monitor and pump on IV pole

ADDITIONAL CRITERIA SPECIFIC TO VENTILATED PATIENTS

- FiO₂ ≤ 0.60, PEEP ≤ 10 cm H₂O, SpO₂ stable, ventilator dyssynchrony manageable; RASS ≥ -2
- Early mobility can coexist with ongoing SAT/SBT — coordinate timing with RT so sessions don't conflict

07 Equipment & technology

In-bed cycling

Passive/active leg ergometers; start passive, progress to active-resisted as tolerated

Tilt table

Graded orthostatism when standing not yet safe; esp. prolonged immobility or autonomic dysfunction

Mechanical lifts

Safe transfer for heavy or dependent patients; reduces staff injury risk

Walking aids

Gait belt, rolling walker, parallel bars; select per balance and strength

NME / NMES

Neuromuscular electrical stimulation for very weak / deeply sedated patients (adjunct)

Portable monitoring

Continuous SpO₂, HR, BP on portable unit for all OOB sessions at L3+

08 Documentation & communication

DOCUMENT EACH SESSION

- Readiness criteria met / not met
- Vital signs before, during, and after
- Functional outcome measures** (MRC-SS, FIM, 6MWT, SPPB as applicable)
- Mobility level performed and duration
- Stop criteria triggered (yes/no); reason if stopped
- Plan for next session / recommended level

DAILY ROUNDS COMMUNICATION

- PT/OT updates on rounds: today's level, barriers, next level target, discharge planning needs
- Discuss with family – set realistic goals; involve them as mobility coaches when present

FOR ROUNDS – ONCE DAILY

Daily mobility checklist

Complete on morning rounds for every ICU patient.

1 Readiness screen

- CV, respiratory, neurologic, structural safety – all met?

2 Sedation / pain

- RASS ≥ -2 ? Pain controlled (NRS ≤ 3)? SAT done or planned?

3 Level today

Current level: ___ Target today: ___ PT/OT session planned: ___

4 Barriers

Barriers to mobility today? Staffing / equipment / relative CI — plan to address?

5 Delirium

CAM-ICU documented? Mobility is a key non-pharmacologic intervention.

6 Discharge planning

PT/OT discharge needs identified? Rehab facility / home PT arranged if needed?

EDUCATIONAL USE ONLY

Not a substitute for clinical judgement. Verify readiness criteria, stop criteria, and contraindications before each session. Adapt all levels and thresholds to your unit's capabilities and the individual patient.

Spreading knowledge
Improving outcomes