

ICU

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EARLY MOBILISATION IN ICU - FROM CONCEPT TO REALITY

FOUR STEPS TO CHANGE PATIENT OUTCOMES

For years, 28-day survival was the holy grail of ICU physicians. As ICU survival continues to improve, a high proportion of these ICU survivors experience significant cognitive, psychological, and physically disabling side effects of their ICU stay. These consequences of critical illness, regardless of their admitting diagnosis, have a dramatic impact on quality of life. Nearly half of these individuals are unable to return to their previous work more than one year after hospital discharge (Pandharipande et al. 2013).

A change in ICU paradigm, sedation-ventilation-organs support, occurred in the last 15 years. Accumulating evidence suggests that the management of sedation can have an important effect on the outcomes of patients who are treated in ICUs. Nevertheless, a systematic review found that reduction of sedation levels decreased ICU

length of stay and ICU-related complications, but failed to improve long term outcomes (Minhas et al. 2015). If avoiding deep sedation is not efficient, by itself, to improve long-term outcomes, it allows early mobilisation in the ICU setting; **this is the first step**. Early rehabilitation in ICU was initially a concept, but several studies were published to highlight the feasibility (Schweickert et al. 2009). The benefits of early mobilisation include reduction in length of stay both in the ICU and hospital as well as improvements in strength and functional status. Such benefits can be accomplished with a remarkably acceptable patient safety profile.

All these studies include recommendations for implementing treatment programmes to improve ICU patients' physical, cognitive and mental health impairments, with structured reha-

ilitative patient physical activity timed closer to ICU admission rather than ICU discharge. This point is crucial. ICU mobilisation should not be reserved for difficult to wean patients, or at the time of discharge. ICU mobilisation must be implemented in the early phase of ICU stay.

Even if feasibility, safety and efficacy have been confirmed by several studies, implementation of early mobilisation in ICU remains anecdotal in daily practice, all over the world (Hodgson et al. 2015). The real question is how to move on from the *New York Times* article about early mobilisation as a "tactic" (Kolata 2009) to making it an integral part of standard care in ICU, as with glycaemic control or basic nursing. In our experience, early mobilisation is an integral part of standard care because it has been protocolised. Implementing an early rehabilitation programme in the ICU is teamwork, that must be built according to published data and adapted to the local environment. **This is the second step** (Hickmann et al. 2016; Morris et al. 2008; Laurent et al. 2016).

Most times, implementing a protocol is not enough, and reported reasons for not mobilising patients vary widely. They include mechanical ventilation, catecholamine infusion, impaired consciousness, poor functional status, safety considerations, limited staff capacities and so on. To identify local barriers encountered to early mobility is a major issue in this process, and this is the only way to move on. **This is the third step** (Dubb et al. 2016). Barriers and proposals from different hospitals are summarised in **Table 1**. To summarise barriers and proposals, when we hear: "It is too difficult for us, it's impossible in our ICU", just consider early mobilisation as a quality-of-care assessment tool in ICU. If everything is well done for our patients—light sedation, avoiding fluid overload, providing adequate nutritional support, perfect ventilator support—so early mobilisation will be like the cherry on top of a cake.

Table 1. Identified Barriers and Proposals for Early Mobilisation Programme Implementation in ICUs

Barrier	Proposal
My patients are too severe, too sick, unstable ...	Create exclusion guidelines. Consider beginning the protocol progressively, step by step. Promote multidisciplinary discussions.
Fears of patient-ventilator interaction during exercise	Begin slowly, consider ventilator settings in the protocol.
Pain	Pain evaluation before any exercise, with protocolised analgesia before exercise or mobilisation if mandatory.
Denutrition, muscle lost	Consider nutritional support, denutrition evaluation. Begin exercise with movements against gravity.
Obesity	Use specific protocol for obese patients. Enrol more manpower for these patients.
Patients are not conscious enough	Target light sedation for all patients except specified ones. Avoid long-acting drugs.
Delirium	Delirium assessment, treat if productive delirium, avoid benzodiazepines, use specific exercises for delirious patients.
Patient refusal, low motivation	Explain goals of early mobilisation, highlight quality of life.
Tubes, catheters, ...	Secure catheters and tubes before mobilisation, begin slowly.
Continuous renal replacement therapy (CRRT)	Promote jugular access, use long and smooth catheters if femoral, use safety procedures (decrease blood flow, stop ultrafiltration ...) when the patient is mobilised.
Safety doubts	Prospectively set adverse events recorded.



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Providing early mobilisation with a high degree of supportive care requires experienced and coordinated multidisciplinary teams. Nurses in the ICU, especially when they are young professionals, may be frightened to mobilise patients. These fears are justified; this is a mandatory aspect to ensure patients' security during early mobilisation implementation. Formation of professionals involved in mobilisation process is the good answer to fears. Because nurses' turnover in the ICU is sometimes really short, and because ICU staff teams are really large, it is important to identify and promote champions of education in the staff. These champions will be leaders of early mobilisa-

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tion, and they will be able to carry out formation programmes for all the staff. Because the initial and continuing training are key points of success, the formation programme is **the fourth step**.

Team motivation is probably not an issue in the process of early mobilisation; team motivation is just the result of the process. Short-term effects of early mobilisation on delirium and patient feeling, as the hope of long-term quality of life improvement, are sufficient encouragement for ICU staff. But motivation could be in the first plan if fears, doubts and inadequate workload have been removed by a protocol including an algorithm for patient-centred care with an adequate educational programme, which is part of the early Comfort using Analgesia, minimal Sedatives and maximal Humane care or e-CASH concept (Vincent et al. 2016). ■

References

Dubb R, Nydahl P, Hermes C et al. (2016) Barriers and strategies for early mobilization of patients in intensive care units. *Ann Am Thorac Soc*, 13(5): 724-30.

Hickmann CE, Castanares-Zapatero D, Bialais E et al. (2016) Teamwork enables high level of early mobilization in critically ill patients. *Ann Intensive Care*, 6(1): 1-11.

Hodgson C, Bellomo R, Berney S et al. (2015)

Early mobilization and recovery in mechanically ventilated patients in the ICU: a bi-national, multi-centre, prospective cohort study. *Crit Care*, 19: 81.

Kolata G (2009) A tactic to cut I.C.U. trauma: get patients up. Jan 11. [Accessed: 21 October 2016] Available from nytimes.com/2009/01/12/health/12icu.html

Laurent H, Aubret S, Richard R et al. (2016) Systematic review of early exercise in intensive care: a qualitative approach. *Anaesth Crit Care Pain Med*, 35(2): 133-49.

Minhas MA, Velasquez AG, Kaul A et al. (2015) Effect of protocolized sedation on clinical outcomes in mechanically ventilated intensive care unit patients: a systematic review and meta-analysis of randomized controlled trials. *Mayo Clin Proc*, 90(5): 613-23.

Morris PE, Goad A, Thompson C et al. (2008) Early intensive care unit mobility therapy in the treatment of acute respiratory failure. *Crit Care Med*, 36(8): 2238-43.

Pandharipande PP, Girard TD, Jackson JC et

al. (2013) Long-term cognitive impairment after critical illness. *N Engl J Med*, 369(14): 1306-16.

Schweickert WD, Pohlman MC, Pohlman AS et al. (2009) Early physical and occupational therapy in mechanically ventilated, critically ill patients: a randomised controlled trial. *Lancet*, 373(9678): 1874-82.

Vincent JL, Shehabi Y, Walsh TS et al. (2016) Comfort and patient-centred care without excessive sedation: the eCASH concept. *Intensive Care Med*, 42(6): 962-71.