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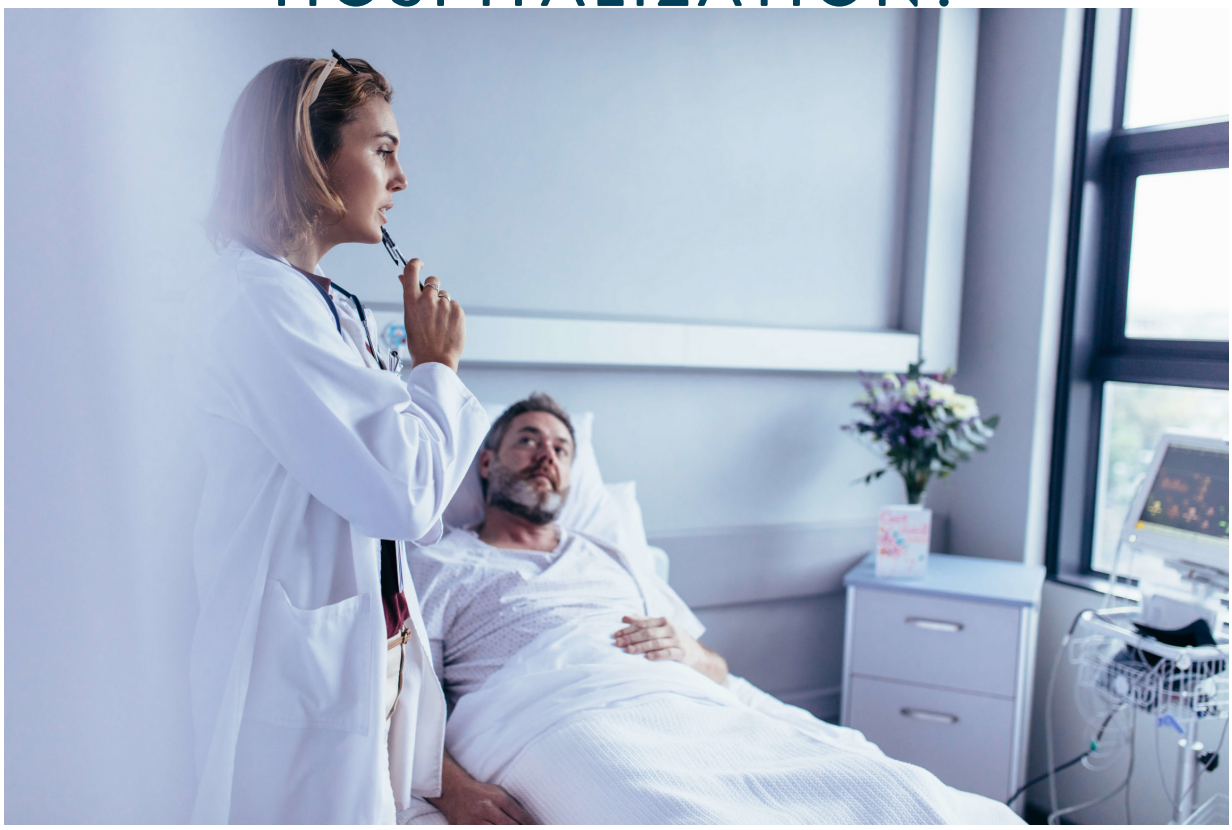
SHOULD RESPIRATORY MUSCLE TRAINING (RMT) BE STANDARD OF CARE FOR ALL PATIENTS AT RISK OF PROLONGED HOSPITALIZATION?



Respiratory muscle training (RMT) has proven effective in the pre- and postoperative care to prevent respiratory muscle weakness. Evidence has shown that RMT reduces length of stay (LOS) and readmission rates, as well as the risk of postoperative pulmonary complications (PPC).

All-cause prolonged hospitalization has emerged as an independent risk factor for potential adverse events. These include increased morbidity, reduced respiratory and peripheral muscle weakness, decline in physical functionality and reduced quality of life.

A Brazilian study now investigated the effect of RMT as a standard intervention for all patients at risk of prolonged hospital stay, independent of the condition of their respiratory system [1]. Eligible patients had to meet at least two of the following criteria:

- Two or more comorbidities
- Sepsis
- Liver, lung or kidney disease
- Neoplasia
- Mechanical ventilation
- Use of vasopressor
- Dialysis therapy

Eligible patients were randomized into experimental and control group and underwent 4 weeks of either RMT focussing on their inspiratory muscles, or sham training. RMT consisted of 30 breaths twice a day at 50% of maximum inspiratory pressure (MIP). Diagnosis of enrolled patients included stroke, brain tumor, sepsis, pneumonia, abdominal surgery, spinal cord tumor, endovascular revascularization, and others.

Compared to the control group, 4 weeks of RMT resulted in the following significant benefits:

- All respiratory and functional parameters (MIP, MVV, MRC, BI, FIM)
- Shorter LOS – 16% reduction
- Reduced risk of endotracheal intubation – 64% reduction
- Hospital mortality – 78% reduction
- Muscle weakness – 64% reduction

These findings clearly demonstrate that RMT is a cheap and highly effective method to reduce hospitalization, complications, mortality and healthcare costs, while improving patient outcomes.

While larger-scale studies need to confirm these results, the use of RMT in all patients at risk of prolonged hospitalization appears advisable. RMT has no known side effects and is usually a patient-appreciated therapy. The benefits of extending the use of RMT to a wide inpatient population therefore greatly outweigh the risks.

Reference:

1. Nepomuceno BRV Jr, Barreto M de S, Almeida NC, Guerreiro CF, Xavier-Souza E, Neto MG. Safety and efficacy of inspiratory muscle training for preventing adverse outcomes in patients at risk of prolonged hospitalisation. Trials. 2017;18: 626.

https://trialsjournal.biomedcentral.com/articles/10.1186/s13063-017-2372-y