

[The Impact of Critical Care Neuropathy on Hand Grip Strength in the Burn Population- A

Systematic Review]

Andrea Mc Kittrick^{1, 2}, [Click here and enter an author]³

1 Occupational Therapist NSW State-wide Severe Burn Injury Service Royal North Shore Hospital, St Leonards, NSW 2065
andrea.mckittrick@health.nsw.gov.au

2 Student in the Masters of Science in Hand Therapy Programme, University of Derby, Kedleston Old Road, Derby DE22 1GB
United Kingdom

3 [Click here and enter an Organisation, Postal Address, State, Postcode, Email Address for Author 3]

Objective: The Impact of Critical Care Neuropathy on Hand Grip Strength in the Burn Population

Design: A Systematic Review

Method: AMED (The Allied and Complementary Medicine data base), CINHALL, Medline, OT Seeker, PEDro, PubMed, Joanna Briggs Institute (JBI) and the Cochrane Collaboration were searched for studies to determine the impact of critical care neuropathy on grip strength in the burn population. Grey literature was explored through the International Society for Burn Injuries (ISBI) and the Australian and New Zealand Burn Association (ANZBA) conference programmes. Studies were categorised by patient population, therapy intervention and outcome measures. Data was analysed using the Critical Appraisal Skills Programme (CASP) checklist and the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines.

Results: No studies were found looking specifically at critical care neuropathy, hand grip strength and hand burns. Twelve studies were included in this systematic review. One paper was a Cochrane review, one paper was a systematic review, one paper was a literature review, four papers were narrative reviews, one paper was a randomised control trial and four papers were cohort studies either prospective or retrospective in design. The population in eleven papers had a diagnosis of critical care neuropathy and one study had a trauma and burn population. Eleven of the papers were focused in the intensive care unit (ICU) and one paper was focused in a rehabilitation setting. Moderate evidence was found to support early interventions (passive range of motion PROM) in sedated ICU patients. Moderate evidence was found to support early PROM in ICU as soon as patients were hemodynamically stable.

Conclusion: Early PROM in ICU does not show any statistically significant change on hand grip strength at hospital discharge. Early PROM in ICU limits duration of mechanical ventilation, ICU length of stay (LOS) and reduces long term functional impairment.

Key Words

[Critical care neuropathy, hand function, early therapy interventions]

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