Physiotherapy following blunt chest trauma

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Blunt chest injury is a prevalent traumatic injury which remains associated with high levels of mortality and morbidity. Acute post-injury complications include pain, pneumonia, haemothorax, pulmonary contusion and in severe cases, respiratory failure. Longer term physical, psychological and socio-economic sequelae have also been identified (Baker et al. 2018.). Studies over the past 10 years have investigated the development and implementation of multi-disciplinary bundles and clinical pathways to reduce complications and improve outcomes for patient suffering blunt chest trauma (Unsworth et al. 2015; Curtis et al. 2016; Chrvsou et al. 2017; Kourouche et al. 2018; Kelley et al. 2019). It is particularly noted in this body of literature that respiratory physiotherapy, more traditionally referred to as 'pulmonary hygiene' or 'pulmonary toileting', is an integral part of optimum supportive care for patients after chest wall injury. However, there remains very little high quality empirical evidence to determine the efficacy of specific physiotherapy interventions with this patient population.

Given that many respiratory complications following chest wall trauma stem from lung contusion, and are exacerbated by pain, it is understandable that interventions often employed by physiotherapists to aid in increased functional lung volume, optimal ventilation-perfusion (V/Q) matching and secretion mobilisation are most commonly used (van Aswegen et al. 2020). From a clinical perspective, it could be determined that the physiological effects of these interventions (predominantly positioning, mobilisation, and thoracic expansion exercises) would translate to positive outcomes in the patient with lung contusion following chest trauma. However, we need to consider whether we can continue to rely on clinical practice expertise alone,

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Keywords

Blunt chest wall trauma, respiratory, physiotherapy

without investigating the efficacy of physiotherapeutic and multi-modal interventions in this particular population.

This is clearly a 'hot' topic; since ACPRC members identified this as a priority area for guidance development and scoping work began, a state-of-the-art review has been published (van Aswegen 2020) and work is in progress to develop international consensus on physiotherapy best practice. Some key physiotherapy researchers are leading the field in this area of practice and research. Ceri Battle is a key figure driving physiotherapy and multidisciplinary research in the area of blunt chest trauma management and is working closely with international experts to develop guidance for best practice. Helena van Aswegen's state-of-the-art review on physiotherapy management of trunk trauma, provides the most recent comprehensive overview of current practice and evidence. In the absence of high-quality experimental trials, or expert consensus to determine best practice, we would currently refer ACPRC members to this review.

The ACPRC recognise the need to provide guidance for members on recommendations for best practice, optimum delivery of intervention and use of adjuncts, but we also recognise the need to consider the contextual and organisational factors within which every physiotherapist works. It is likely that each local organisation and department has policies and guidelines for the management of patients following blunt chest trauma. It would be surprising if these did not incorporate physiotherapy assessment and treatment as a core component, and we encourage physiotherapists working in these clinical areas to contribute to development of local practice guidance where possible.

Like for many other areas of respiratory physiotherapy, we recognise the need for further research to develop best practice recommendations for physiotherapy management of patients with blunt chest trauma. Research to determine best practice should consider the recommendations made by Rodrigues and colleagues in their recent narrative review of developments and future directions in respiratory physiotherapy (Rodrigues et al. 2020). In addition to need

intervention,
clinical commentary.

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for high quality, sufficiently powered experimental studies, we also recognise the value of developments in practice. We encourage all ACPRC members who work with patients suffering blunt chest trauma to share their best practice case studies, feasibility studies and quality improvement projects, and to participate in future research in order to continue to grow this evidence base.

This work has been completed by the ACPRC editorial board.

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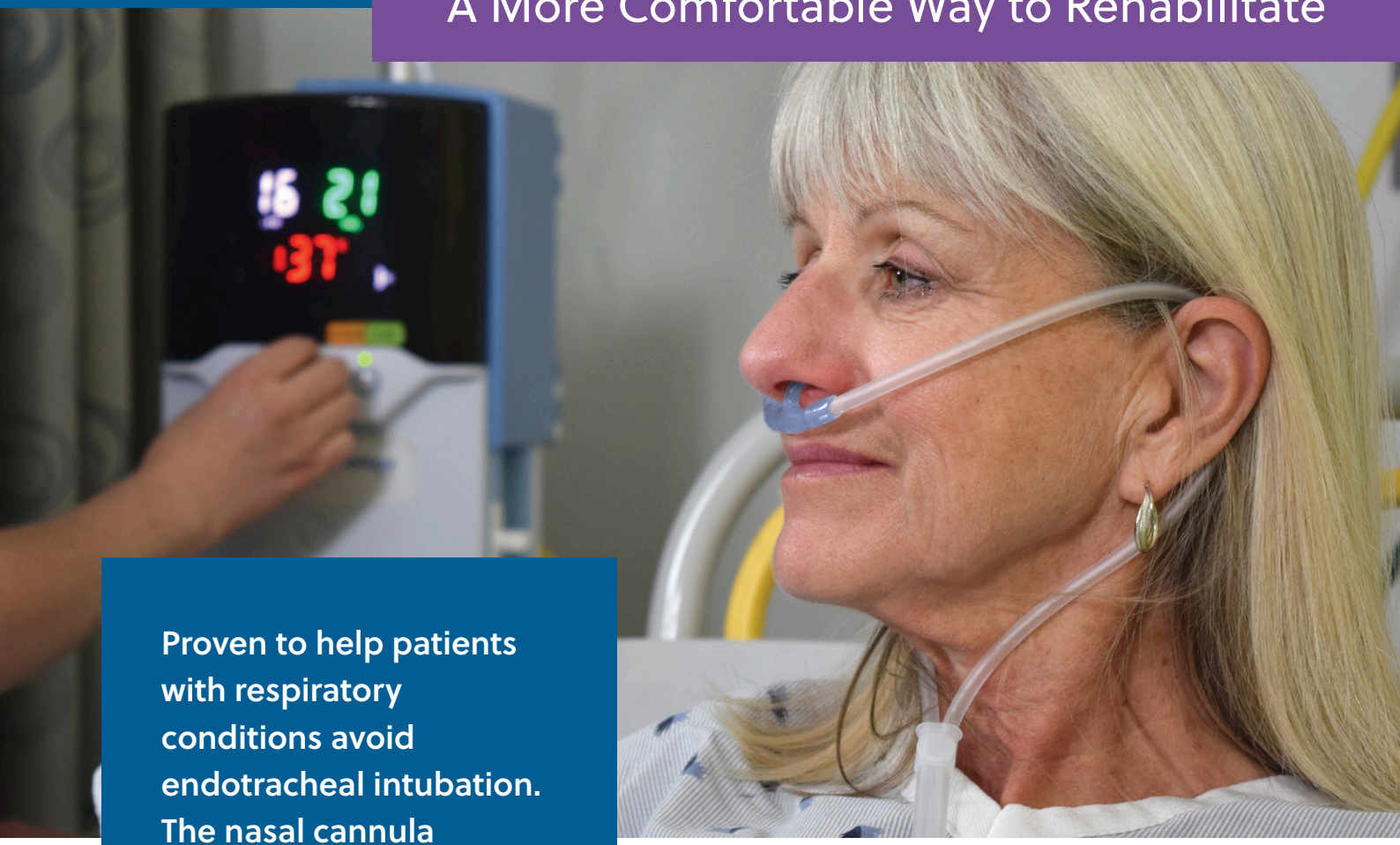

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