Proximal Humeral Fractures

Introduction

Patient Group: Those with proximal humeral fractures with a NEERS classification of 1. NEER 1 = No bony segment should be displaced more than 1cm or angled more than 45 degrees in relation to each other.

Current Management: Non-operative, conservative management.

Scope of Practice

These guidelines are designed to guide physiotherapists when treating patients following proximal humeral fracture (NEER 1). These guidelines were produced by a process of systematic review of current evidence based literature, medical and peer consultation. They were correct at time of writing. The guidelines should be used in conjunction with the clinical reasoning skills of the physiotherapist and patients should always be treated on a case-by-case basis.

Aim

The aim of these guidelines is to provide physiotherapy staff with a series of recommendations from the current evidence base, to assist in the management of patients following proximal humerus fracture with a NEERS classification of 1.

Literature Review Question

What is the most effective and safe rehabilitation approach to follow for patients who have sustained a proximal humeral fracture with a NEER classification of 1?

Search Process

Appraisal Process: Literature searches using the key words were performed on the databases below.
Total number of articles selected: 43
Total number of articles discarded: 34
CASPS used: 1

Data Bases:

Database	Dates	Limitations
AMED	2008 – 2018	English language Adults only
CINAHL	2008 – 2018	English language Adults only
Cochrane Library	2008 – 2018	English language Adults only
EMBASE	2008 – 2018	English language Adults only
MEDLINE	2008 – 2018	English language Adults only
PEDRO	2008 – 2018	English language Adults only

Key Words:

proximal humeral fracture	mobilisation
conservative management	non-surgical management
physiotherapy management	NEER 1
rehabilitation	exercise

Results

Research suggests conservative management is favourable over surgical management of proximal humeral fractures.

Current research supports early physiotherapy intervention, within 1 week post fracture, with a resultant reduction in pain and disability therefore improving outcomes throughout the stages of rehabilitation (Handoll & Brorson 2015; Hodgson et al 2003 & 2006; Lefevre-Colau et al 2007).

Studies suggest sling immobilisation immediately, followed by early gentle mobilisation at 1 week as pain allows, resulted in reduced pain and increased range of movement and function (Lefevre-Colau et al 2007, Handoll et al 2017).

Mid to late stage rehabilitation should consider rotator cuff strengthening. Evidence links persistent pain, past the point of fracture healing, to rotator cuff pathology (Jellad et al 2011) and therefore should be treated as such.

Incidence of proximal humeral fracture rapidly increases with age. Therefore, it is important to consider individual patient needs, frailty and co-morbidities which may influence recovery, functional outcomes and compliance (Torrens et al 2011, Handoll & Brorson 2015).

Caution should be used with interpreting these results however, as some studies had small sample sizes, and cannot be entirely generalised. Rath et al 2013 suggest average recovery takes 8 months, however full function can take up to 1 year to achieve.

Phase 1 **A**
Immediately post fracture (0-7 days)

Goals	Recommendations
• Protection of fracture site	• Sling immobilisation
• Decrease effects of immobilisation	• AROM exercises for elbow/wrist/hand
	• Scapular exercises

Phase 2 **A**
Approximately 1-3 weeks

Goals	Recommendations
• Early mobilisation	• Pendular exercises
	• Active assisted ROM within pain free range
	• Pain free active exercises
• Decrease effects of immobilisation	• Wean off sling as able
	• Scapular exercises
	• Postural advice

Phase 3 **C**
Approximately 3-6 weeks

Goals	Recommendations
• Progress mobilisation	• Pendular exercises
	• Full active assisted ROM
	• Painfree active ROM
	• Passive shoulder mobilisation
• Improve function	• Light functional tasks

Phase 4 **C**
Approximately 6-12 weeks

Goals	Recommendations
• Progress mobility	• Active ROM exercises
	• Passive shoulder stretches
• Improve strength	• Isometric exercises within pain free limits
	• Theraband exercises within pain free limits
	• Submaximal strengthening exercises
• Improve proprioception	• Proprioceptive retraining
• Improve function	• Encourage ADLs

C

Phase 5
Approximately 12 weeks +

Goals	Recommendations
• Normalise range of movement	• Shoulder stretches • Active ROM exercises
• Progress strength and endurance	• Strengthening exercises through full range • Concentric / eccentric work of rotator cuff
• Increase function (e.g ADLs, work)	• Functional progression as able

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