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1.0 Policy Statement

1.1 It is the policy of Cappagh National Orthopaedic Hospital to provide a patient focused physiotherapy service delivered by chartered physiotherapists and support staff working in a well-equipped environment.

1.2 It is the policy of Cappagh National Orthopaedic Hospital to provide health professionals and the public with the necessary advice and guidance on physiotherapy rehabilitation.

2.0 Purpose

2.1 The purpose of this guideline is to advise health professionals and patients on the physiotherapy rehabilitation of a person undergoing an Elbow Arthroplasty.

3.0 Scope

3.1 This guideline applies to all staff involved in the care of a person undergoing an Elbow Arthroplasty, community staff involved in the pre and post-operative care of the patient, the patient and their family.

4.0 Health & Safety

4.1 There are health and safety risks involved in patient care, namely risk of physical injury to patient and staff, risk of infection.

4.2 Physiotherapists have the necessary qualifications and clinical experience to carry out this guideline and to supervise unqualified support staff.

4.3 They must be eligible for membership of their professional body, the Irish Society of Chartered Physiotherapists (ISCP).

4.4 They undertake mandatory manual handling, basic life support training, fire safety, infection prevention and control and risk management.

4.5 They complete a minimum of 100 hours continuing professional development every three years as required by the ISCP.

5.0 Responsibilities

5.1 It is the responsibility of physiotherapists to implement this guideline.

6.0 Definitions and Abbreviations

Elbow Arthroplasty Surgery involving the excision of damaged bone and resurfacing of the joint surfaces of the elbow with implants
7.0 Guideline

7.1 Indications

7.1.1 Severe pain due to degenerative joint disease e.g. end stage rheumatoid arthritis or osteoarthritis, elbow ankylosis.

7.1.2 Progressive loss of functional range of movement of elbow joint.

7.1.3 Elbow joint instability.

7.1.4 Trauma e.g. flail elbow, non-union of supracondylar fractures. (Wheeless, 2009)

7.2 Types of Prosthesis

7.2.1 Non-constrained resurfacing elbow prosthesis - used when collateral ligaments are intact and sufficient bone stock (Poll and Rozing, 1991).

7.2.2 Semi-constrained hinged elbow prosthesis - used for revision arthroplasty or when there is significant joint instability (Wheeless, 2009).

7.3 Pre-Operative

7.3.1 Assessment as appropriate, to include neck, scapula, shoulder, wrist and hand range of movement, muscle strength, elbow stability and general upper limb function.

7.3.2 Explanation of post-operative physiotherapy management.

7.3.3 Teach exercise programme.

7.4 Post-Operative

7.4.1 Review operation notes, noting the type of prosthesis used, the range of movement achieved in theatre and any special instructions. Rehabilitation depends on the type of prosthesis used, the surgical approach, the degree of ligamentous integrity and overall elbow joint stability.

7.4.2 Day 1

7.4.2.1 Circulatory and respiratory exercises.

7.4.2.2 Elbow immobilized in back slab, collar’n’cuff fitted for comfort.

7.4.2.3 Begin neck, scapula, shoulder, wrist and hand movements.

7.4.2.4 Positioning and management of swelling.
7.4.3 Semi-Constrained Hinged Prosthesis
7.4.3.1 Immobilise in a backslab for 2 weeks. Following review by the surgeon, the patient begins elbow range of movement exercises and is encouraged to use the elbow for activities of daily living, depending on pain and wound healing.

7.4.4 Non-Constrained Resurfacing Elbow Prosthesis
Day 3 - 2 Weeks
7.4.4.1 Positioning and management of swelling.

7.4.4.2 On day 3 the occupational therapist fits a static resting splint to the elbow joint. This is sometimes delayed for 2 weeks - discuss with consultant.

7.4.4.3 Active assisted elbow flexion/extension exercises with elbow joint in mid position. Commence exercises in supine with therapist, control emphasized. Avoid varus/valgus strain.

7.4.4.4 Progress to active assisted or active elbow flexion/extension exercises with patient in sitting with elbow resting on a pillow on knee, as pain and control allows.

7.4.4.5 Progress to active assisted/active elbow supination/pronation exercises with patient in sitting as above.

7.4.5 2 - 6 Weeks
7.4.5.1 Cryotherapy and scar management as appropriate.

7.4.5.2 Continue to wear splint at night but gradually wean out of splint during the day - wear during high risk activities to avoid full elbow extension and supination if the prosthesis is unconstrained.

7.4.5.3 Continue with active flexion/extension exercises with emphasis on control.

7.4.5.4 Progress to active assisted end of range stretches. Note that outcome studies show extension is not improved post surgery and should not be forced at any stage of rehabilitation (Little et al, 2005), and average elbow range of movement following elbow arthroplasty is limited to 35º to 135º (South Australian Orthopaedic Registrar’ Notebook, 2009).

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7.4.5.5 Progress to supination/ pronation exercises through active range of flexion/ extension as control improves. PNF patterns may be introduced. Note that combined elbow extension and supination can put stress on the lateral soft tissue repair and result in instability, therefore introduction of combined movements should be dictated by joint stability and muscle control. (Sayles (2007).

7.4.5.6 Functional rehabilitation – movement patterns of daily living e.g. hand to mouth, hand to head, reaching etc. Note that functional activities involving shoulder abduction can also stress the lateral structures and should be avoided for the first 6 weeks (Sayles, 2007).

7.4.6 6-12 Weeks
7.4.6.1 Maintain splint at night for 12 weeks.

7.4.6.2 At 6 weeks begin sub-maximal pain free elbow, wrist and hand isometrics at midrange of available range (all planes).

7.4.6.3 At 10-12 weeks progress to sub-maximal pain free shoulder, elbow, wrist and hand isotonic strengthening as motor control improves. Initially single plane then progress to composite movements.

7.4.6.4 Begin anti-gravity control of triceps, active assisted in supine. Progress to active as control and strength improves with holds throughout range.

7.4.6.5 Progress to light weights, no greater than 2 lbs

7.4.7 Outcomes
7.2.3.1 A pain-free joint with functional range for activities of daily living.

7.2.3.2 No lifting of objects over 10-15 lbs for life.

7.2.3.3 No hobbies involving repetitive throwing for life.
8.0 Related Documents
Individual Physiotools exercise sheets

9.0 Appendices
N/A

10.0 References


