Elbow Rehab
Distal Humeral Fracture

Stiffness, Dysfunction, Weakness

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Disclaimer

I acknowledge no affiliations with or financial involvement in any organization or entity with a direct financial interest in the subject matter discussed

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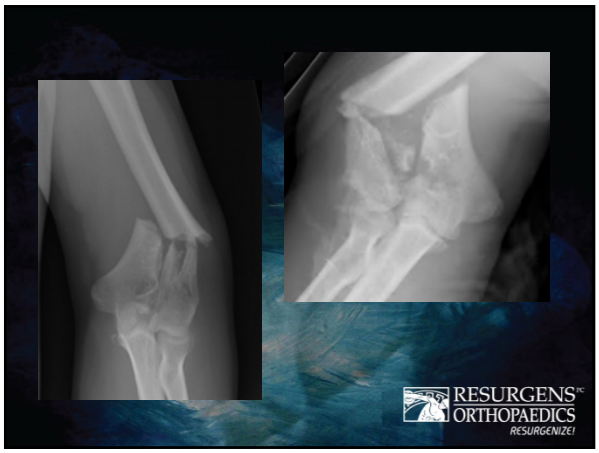
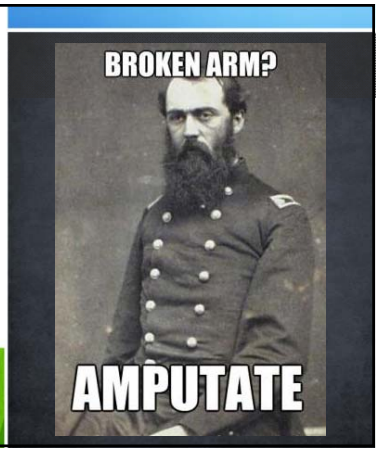
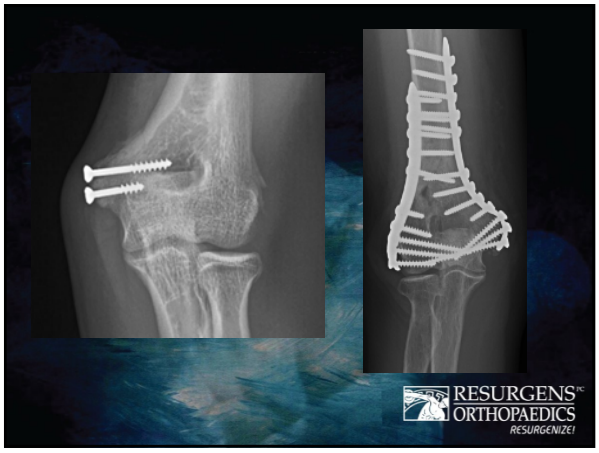


THANKFUL FOR TRAUMA ORTHOPAEDIC SURGEONS





OBJECTIVES

Assessment
Plan of care
Clinical vs Home Based
After care programming

Goals:
Design program to assist patient ability to return to daily activities and enjoy an active and healthy lifestyle

Program design structured to help return to work, recreation/sport

Knowing who our patients are helps determine:

Plan of Care
Compliance
HEP

ASSESSMENT

Prescription / Precautions
Surgical Report
Patient History / Subjective
Disability of Arm Shoulder Hand
Posture
PROM / AROM
MMT
Goals

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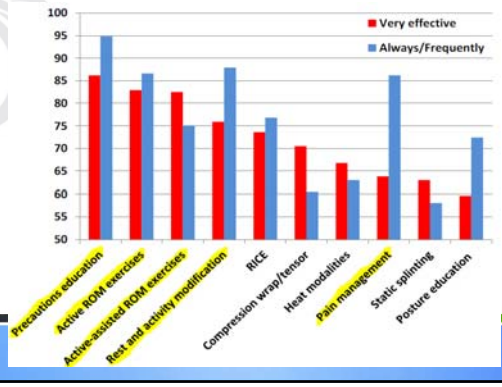
A Survey of Practice Patterns for Rehabilitation Post Elbow Fracture

The Open Orthopaedics Journal, 2012, 6, 429-439



PATIENT EDUCATION

Symptom management

Emphasis on compliance

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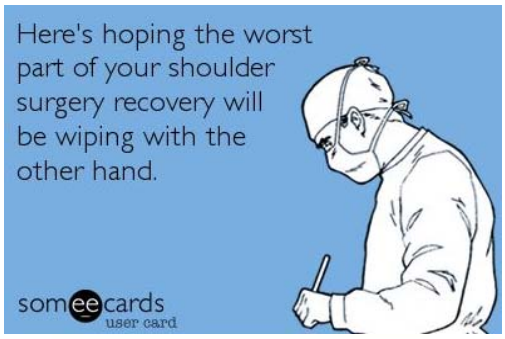
SYMPTOM MANAGEMENT

Rest	Stay off the injured joint or muscle. When this is not possible, a cane, walker, or crutches may be needed. Avoid activities that cause severe pain.
Ice	Ice the affected area every 2 to 3 hours for no longer than 20 minutes per application. Ice packs/gels are better than frozen peas.
Compression	Use an elastic compression support/wrap to secure the injured joint, add support, and help reduce swelling.
Elevation	Raise the affected limb above your heart to promote good circulation. This position also helps reduce swelling and pain.

RANGE OF MOTION

PROM / AAROM / AROM
Patient / Family education
Avoidance of contracture
HEP



Range of Motion
Ways to incorporate ROM to ADL's

Joint exercised	ADL	Movement
Shoulder	Reaching to turn on overhead light Reaching to bedside table Rotating shoulders toward chest Rotating shoulders toward back	Flexion, extension Hyperextension Abduction Adduction
Elbow & Wrist	Eating, bathing	Flexion, extension
Fingers & Thumb	All activities requiring fine motor coordination	Flexion, extension, abduction, adduction, opposition

FUNCTIONAL ROM

- Elbow Flex/Ext: 30-130 degrees
- Pron/Supination: 50-50 degrees
- Functional elbow ROM on positional and functional tasks has been reported previously by Morrey et al. It was determined that **30°ext to 130°** of flexion, **50° of pronation, and 50° of supination** are required for personal hygiene and sedentary tasks.

Do you like me?

Breathe for yes,
lick your elbow for no.

Range of Motion Exercises

Body Part	Type of Joint	Type of Movement
Elbow	Hinge	Flexion: Bend elbow so that lower arm moves toward its shoulder joint and hand is level with shoulder (bicep curl) Extension: straighten elbow by lowering hand
Forearm	Pivotal	Supination: turn lower arm and hand so that palm is up Pronation: Turn lower arm so that palm is down
Wrist	Condyloid	Flexion: Move palm toward inner aspect of forearm (fingers point to the ground) Extension: Move fingers and hand posterior to midline (fingers point to the ceiling) Hyperextension: Bring dorsal surface of hand back as far as possible Radial Deviation: Bend wrist laterally toward fifth finger Ulnar Deviation: Bend wrist medially toward thumb


A/AAROM
Shoulder Elbow Forearm Wrist
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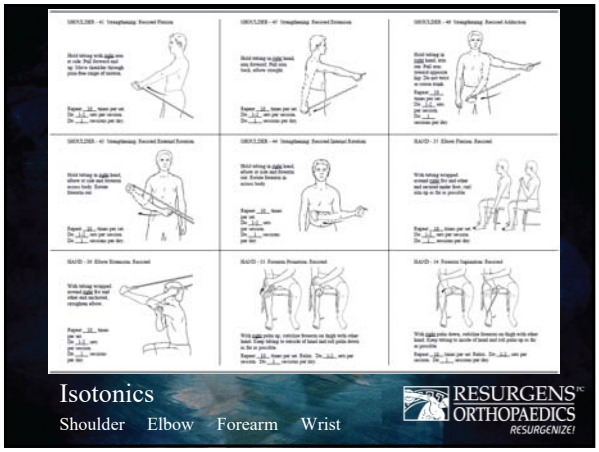
Isotonics
Shoulder Elbow Forearm Wrist
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SPLINTING RECOMMENDATIONS
Fibroplastic Phase
(2 to 8 weeks) to help restore or gain range of motion
Remodeling Phase
(2 to 6 months) to enhance collagen orientation and plastic elongation of tissues
Static Progressive
Holds elbow at end range, fixed position

SPLINTING RECOMMENDATIONS

A prospective randomized controlled trial of dynamic versus static progressive elbow splinting for posttraumatic elbow stiffness

The Journal of Bone and Joint Surgery. 94(8):694-700, Apr 2012

Posttraumatic elbow stiffness can improve with exercises and dynamic or static splinting over a period of six to twelve months, and patience is warranted

There were no significant differences in improvement in motion between static progressive and dynamic splinting

Static Progressive vs Three-point Elbow Extension Splinting

Journal of Hand Therapy, January/March issue, 2009

All splints appear to be effective for elbow flexion contractures greater than 30 degrees

Open static progressive splints are ineffective in gaining the final 20-30 degrees of extension

IF ALL ELSE FAILS

MANUAL THERAPIES

Accessory joint mobilization

Elbow / Forearm

Wrist

It is recommended that joint mobilization techniques be delayed until 6 to 8 weeks after injury or fracture union is evident

MANUAL THERAPIES

Humeroulnar Distraction (flex / ext)

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Distal Radial Glide (ext)

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Humeroradial Approximation (sup / pro)

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AFTER THERAPY CARE
Finalize HEP
Expectations / Functional / Sport
MD Follow Up
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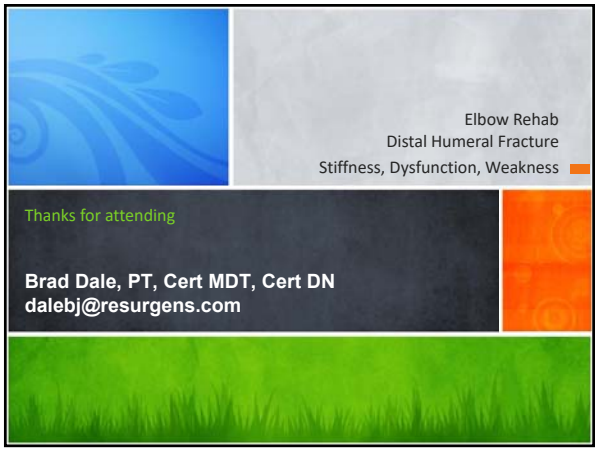
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Thanks for attending
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