

**Functional Post-operative
Treatment of Upper Extremity
Orthopedic Trauma**

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Thailand, March 20, 2016

Introduction

- **Titles!**
 - | PT = Physical Therapist
 - | DPT = Doctor of Physical Therapy
 - | CHT = Certified Hand Therapist
 - | OCS = Orthopedic Clinical Specialist
 - | CLT = Certified Lymphedema Therapist
 - | WCC = Wound Care Certified

Introduction

- **Hospital for Special Surgery, New York City**
 - | 200 bed orthopedic hospital
 - | Hand Therapy Center (outpatient)
 - | 8 hand therapists
 - | 10 attending orthopedic hand surgeons
 - 2,500 surgeries/year
- **19 Years at HSS**
- **Patient Population**
 - | Trauma/fracture
 - | Tendon Lacerations
 - | Nerve Lacerations
 - | Brachial Plexus
 - | Cumulative Trauma
 - | Arthritis
 - | Arthroplasties
 - Carpometacarpal, Elbow, Metacarpophalangeal, Proximal Interphalangeal

Introduction

- **Hobbies**
 - | Running, hiking, reading, quilting, sewing, crossword puzzles
- **Membership in Professional Organizations**
 - | American Physical Therapy Association
 - | American Society of Hand Therapists
 - | American Society for Surgery of the Hand-Associate Member
 - | American Association for Surgery of the Hand-Associate Member
 - | National Strength and Conditioning Association

How FCT and Emily Crossed Paths

- Booth at the American Society of Hand Therapist annual conference in 2004
- Contacted BSN representative
- Inservice by Mike Gill
- Practice, practice, practice
- Surgeon buy-in
- Now a staple in the clinic

What is Functional Cast Therapy?

- FCT technique cast will provide strong, functional, and lightweight support to the affected area
- Cast can be uni-valve or bi-valve with scissors to adjust for initial fit or edema
- Cast provides a customized fit to the patient and can be quickly and easily refitted
- Trimming is easily done with scissors and therefore eliminates the need for a cast saw

What is Functional Cast Therapy?

- The development of the FCT technique resulted from the revolutionary technological breakthrough in non-fiberglass casting tape
- This technology allows us to combine safety, durability, strength, and comfort that is as easy to use as fiberglass and thermoplastics

Advantages of FCT For Practitioner

- Fast, individual, and versatile treatment of the patient
- Quick and easy application
- Long lasting and cost effective treatment
- Very little waste
- No need for cast saws, heating, or drawing patterns

Advantages of FCT For Patient

- Fast Treatment
- Light Weight Immobilization
- Will never change its shape or size due to heat exposure
- Machine Washable
- User Friendly

Overview

- The FCT technique is an easy to learn technique that can be implemented into any treatment area with ease
- **FCT/Splints 5 Steps**
 1. Material preparation
 2. Application of under padding
 3. Application of Delta-Cast Conformable
 4. Removal and customization
 5. Fit test of the application

Short Arm Cast

Recommended Materials

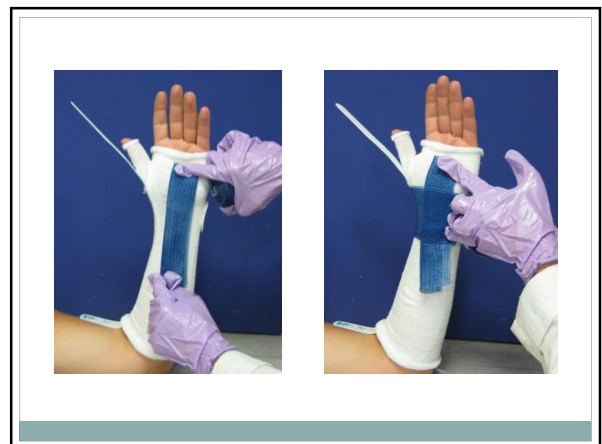
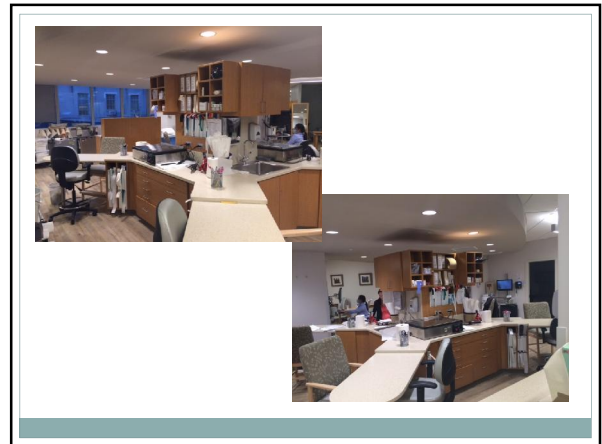
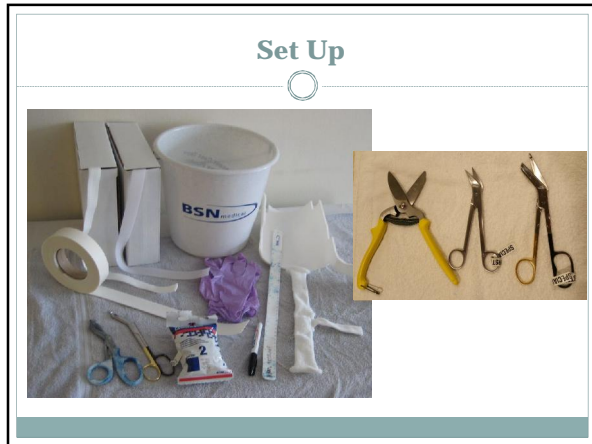
- One roll of Delta-Cast Conformable 3"
- 18-20" Terry-Net Stockinette 2" or 3"
- Gloves
- Black Sharpie Pen
- Bandage Scissors
- BSN Black & Gold Scissors
- Cutting Strip
- Foam Padding (adhesive)
- BSN Sticky-back Hook Velcro
- BSN Stretch Loop Strap (or non-stretch)
- Bucket of water

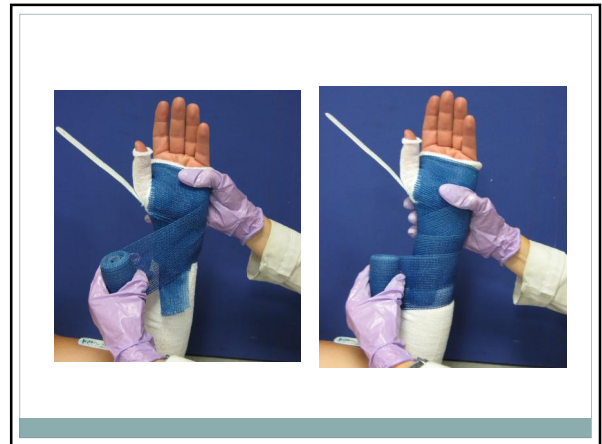
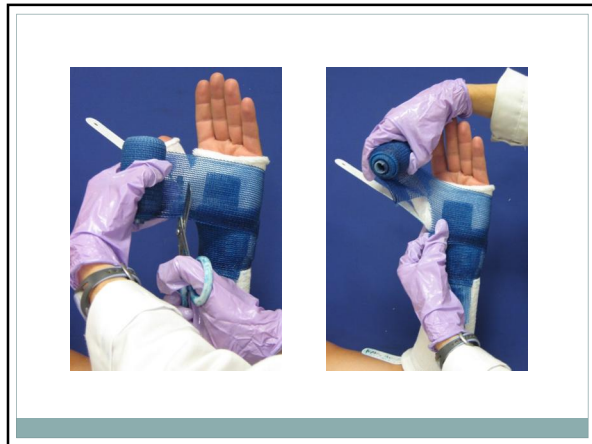
Possible Indications

- Distal Radius Fracture
 - Post-op
 - Non-op
- TFCC injury
- Post-op Distal Radioulnar Joint (DRUJ) Reconstruction
- Wrist extensor/flexor tendonitis

!!Concept of Layers!!

- **One** Layer: Flimsy
- **Two** Layers: Adequate. Target for areas to be cut
- **Three** Layers: Rigid, very difficult to cut with scissors
- **Four** Layers: Very rigid, cannot cut
- Focused rigidity, yet easy to don/doff
- Plan ahead
- Use different # of layers in different areas to achieve your specific goals







Post-Operative Care

Goal of surgical fixation is to achieve enough stability to permit early active range of motion of the involved joints

Most upper extremity surgeries are "Ambulatory"

Follow up with surgeon ~3-5 days post-operatively
 Splint fabrication and ROM exercises at that time
 Suture removal ~10-14 days post-operatively

Post Operative Care

We use BSN Delta Cast Conformable for postoperative:

- Fractures
 - | Mid-shaft Humerus
 - | Distal Humerus
 - | Radial Head
 - | Olecranon
 - | Both Bone Forearm
 - | Distal Radius
 - | Scaphoid
 - | Thumb Metacarpal
- Arthroplasties (joint replacements)
 - | CMC
 - | Elbow
- Reconstructions
 - | Distal radioulnar joint
 - | Biceps tendon repair

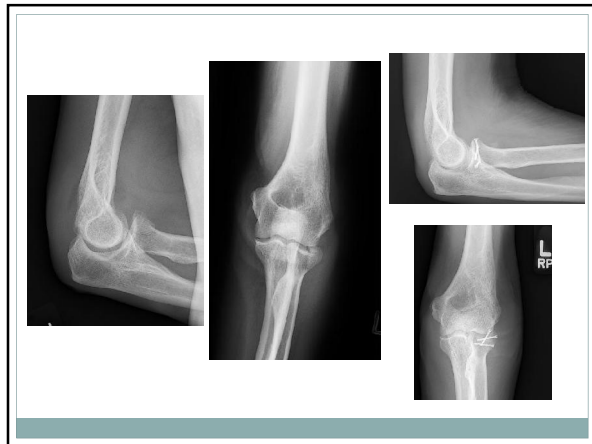
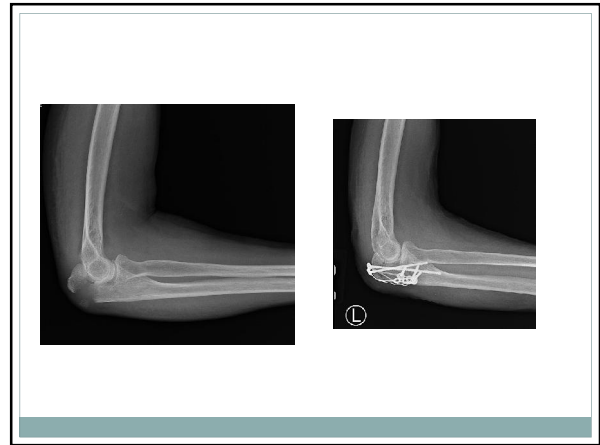
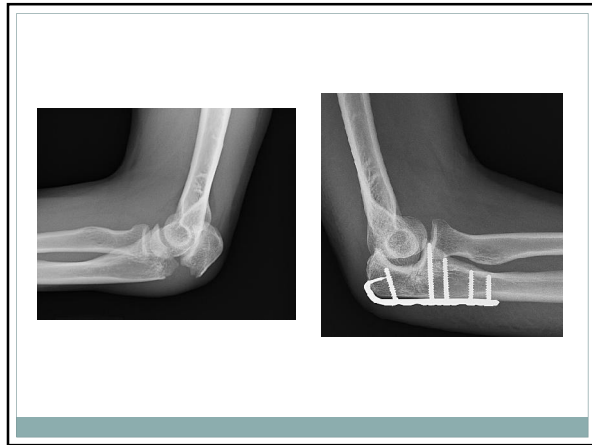
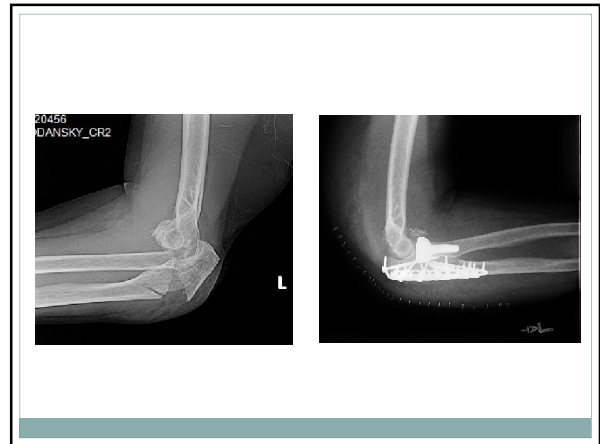
Mid-shaft Humerus Fracture

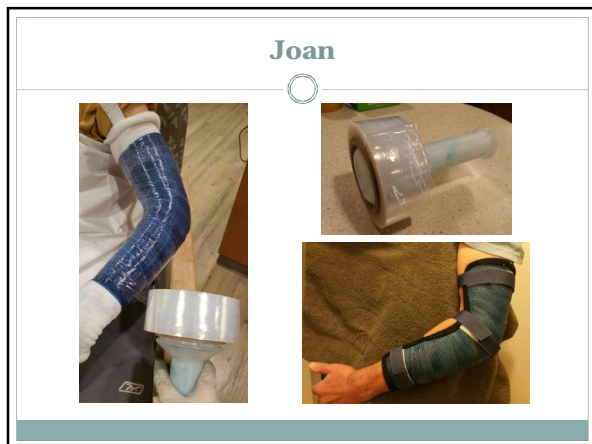
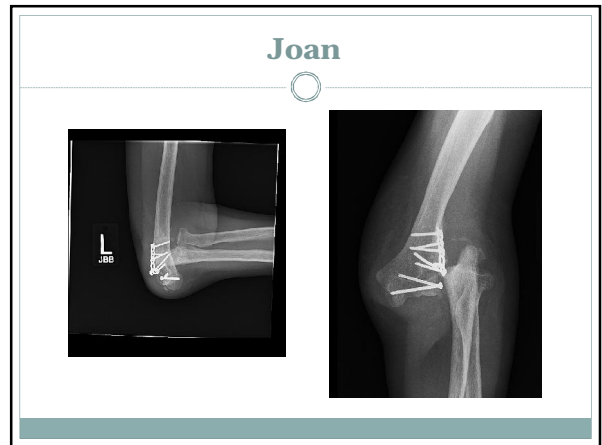
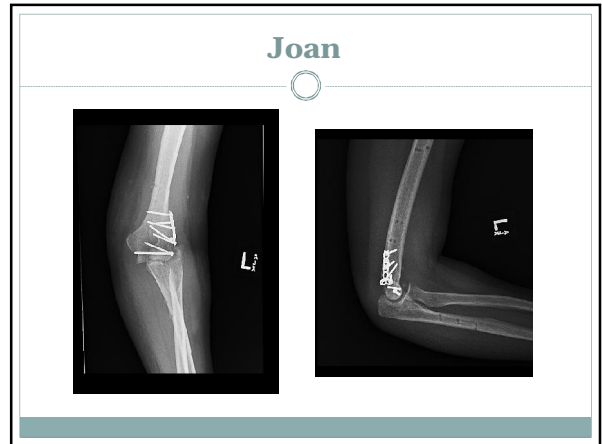
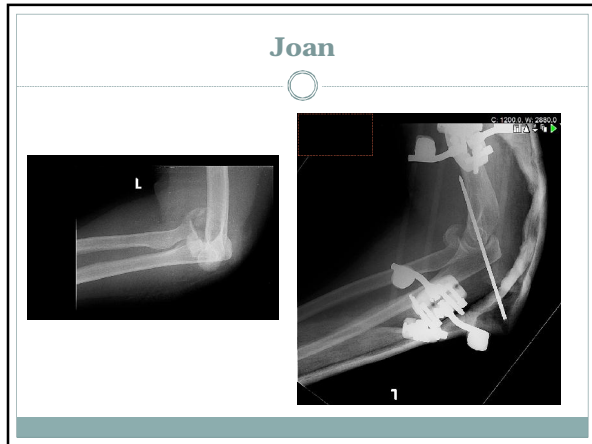
Mid-shaft Humerus Fracture

Mid-shaft Humerus Fracture

Elbow Fractures

- Distal Humerus
- Radial Head
- Olecranon
- Total Elbow Replacement





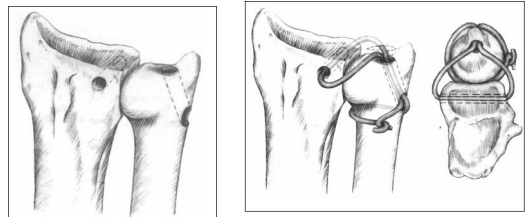
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Both Bone Forearm Fractures

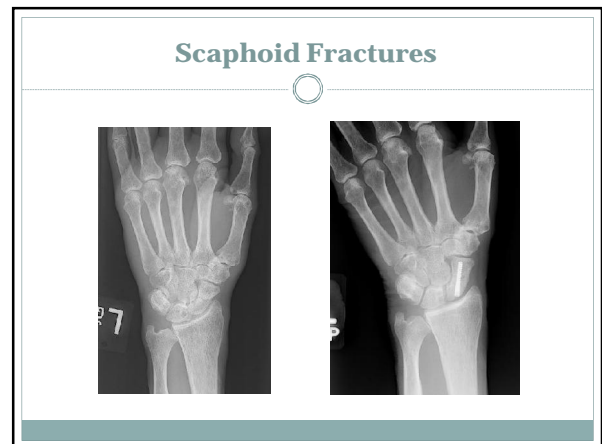
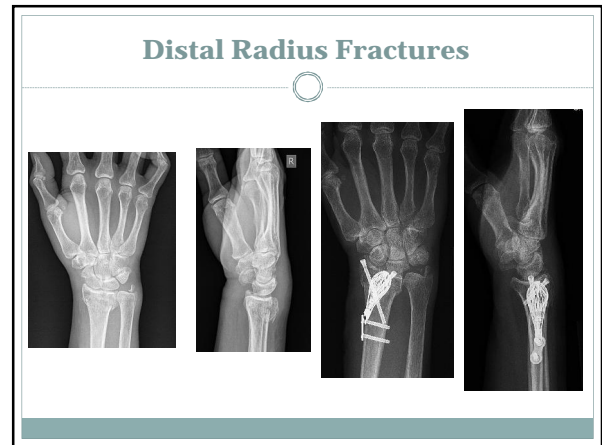
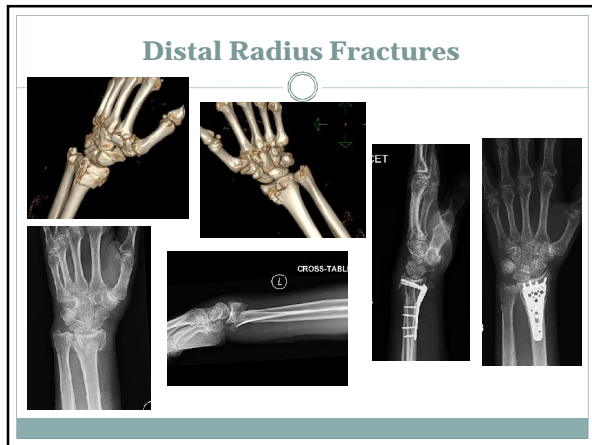
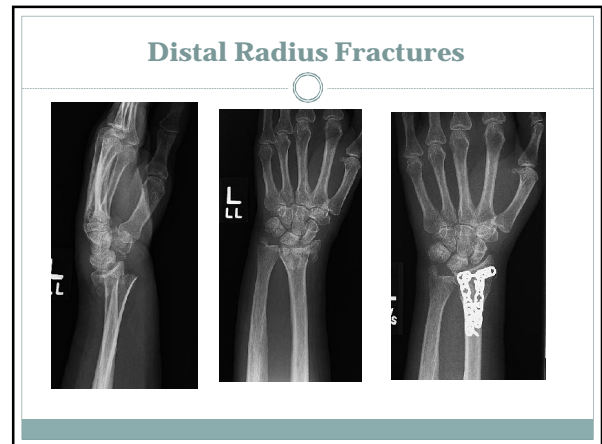
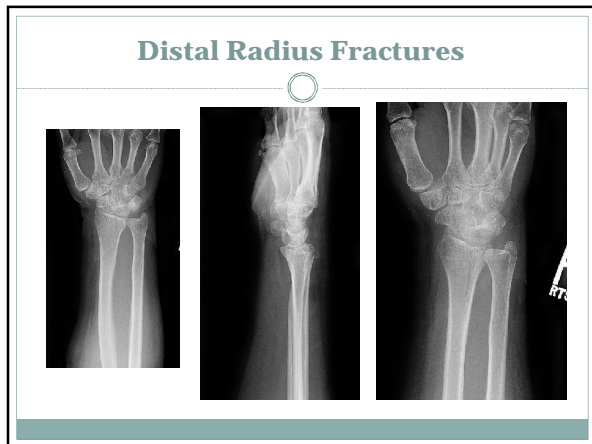


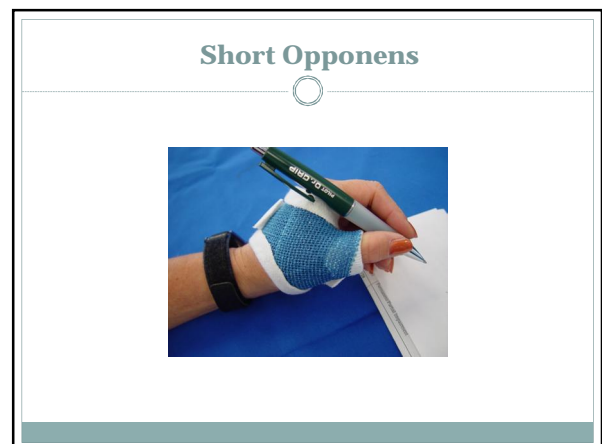
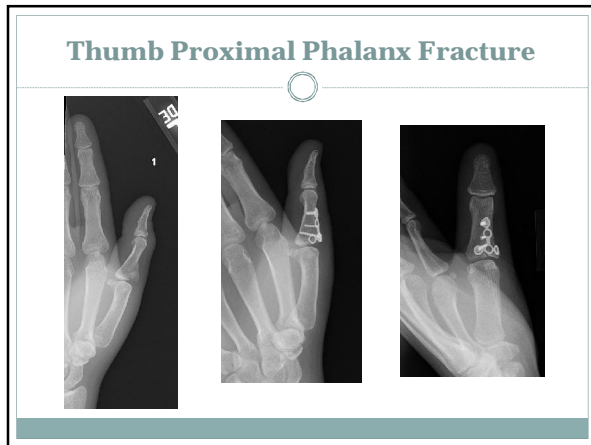
DRUJ Instability/ECU Subluxation



Distal Radius Fractures







Pediatric Elbow Shell



Thumb Spica



Adult Posterior Elbow Shell



Creative Solutions

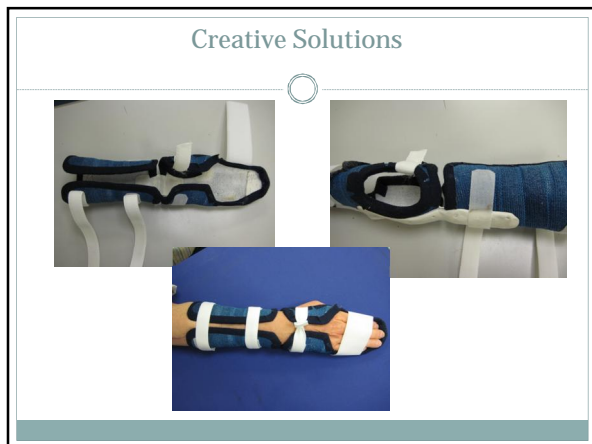
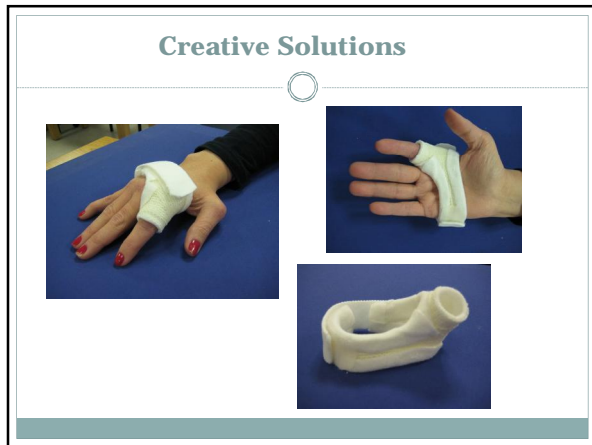
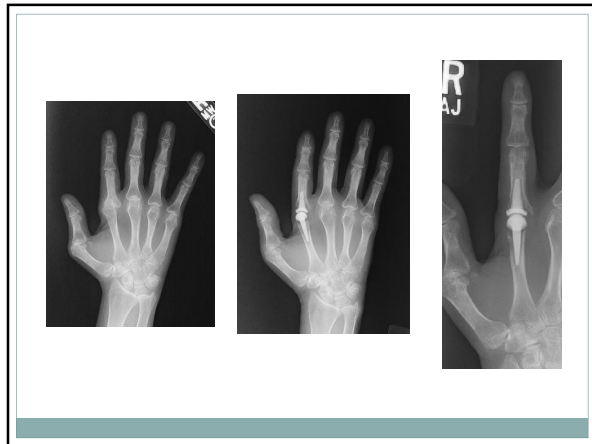


Creative Solutions



Creative Solutions









THANK YOU
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HOSPITAL FOR SPECIAL SURGERY

HOSPITAL FOR SPECIAL SURGERY WHERE THE WORLD COMES TO GET BACK IN THE GAME