Splinting Made Easy

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Disclosures

Orthopedic Centers of Colorado - President

COPIC Insurance Companies – Director

Clarify Health – Shareholder

Objectives

- **Internists who attend this workshop should be able to:**
  - **Perform common splinting and safe immobilization techniques for the finger, wrist, elbow, knee and ankle**
  - **Describe frequent pitfalls that occur when splinting/immobilizing a joint**
  - **Understand when it is better to use a hand-made vs. a pre-fabricated splint**

Objectives

- Splinting
  - Why?
  - When?
  - What?
  - How?
  - Pitfalls?

Orthopedic History

“You put your finger where?”

Splinting – Why?

- Control
  - Position
  - Swelling
  - Motion
  - Rotation
  - Neurovascular Status
  - Pain
  - Timing

Splinting – Why?

- Protection
  - Skin
  - Nerve
  - Vessels
  - Muscles (compartment)
  - Bone
- Transition of Care

Splinting – When?

- Transition of care or definitive care
  - Emergent
    - Open fracture or dislocation
    - Compartment Syndrome
  - Urgent
    - Pain control
    - Swelling management
  - Definitive
    - Injury, rehab, and outcome objectives

BEWARE

- Lack of Communication
  - Acute or Chronic Mental Status Limitations
  - Age
- Secondary Injury
- Change in status
  - Pain as a vital sign
  - Ability to adjust treatment quickly
- Abrasion or open fracture

Splinting - What?

- **Pre-Fab**
  - **Sling**
  - **Aluminum and Foam**
  - **Joint Specific**

Splinting – What?

- Materials
  - Fiberglass
  - Padding
  - Elastic or Cotton Wrapping
  - Water – temperature?
  - Scissors
  - Patience

BEWARE

- Wearing a Splint is not natural
- Extreme positions are not good
- Bony Prominences need extra attention
  - Ulnar styloid, olecranon, fibular head, ankle malleoli
- Don’t create an emergency and increase cost

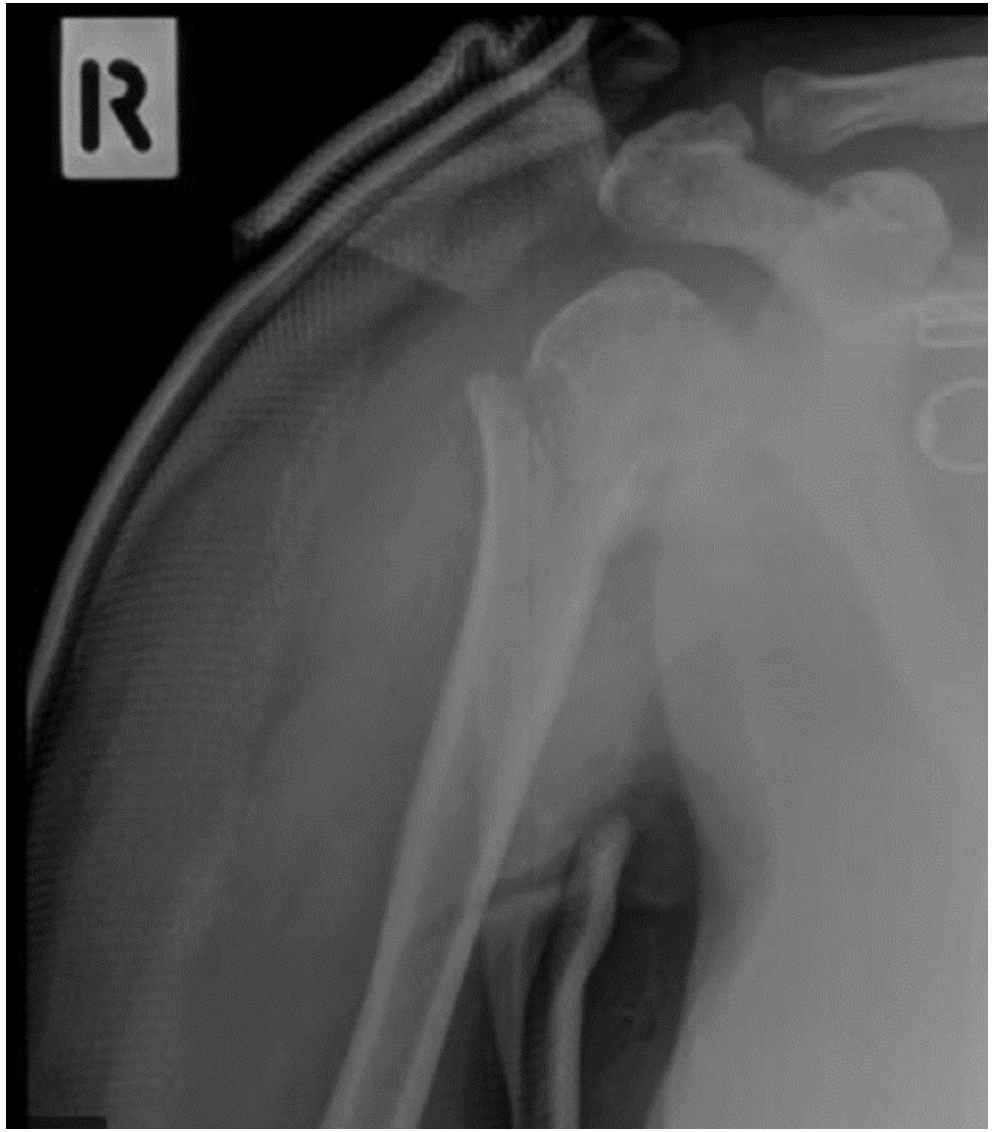
Splinting – How?

- **Natural and Neutral positions are the safest**
    - **“Make it look like a hand”**
- **How much to include**
    - **Fingers / No fingers**
    - **Elbow / No elbow**
    - **Shoulder / No shoulder**
    - **Knee/ No knee**

Humerus

Long Arm Splint Demonstration

Long arm Splint X-Ray



Elbow Splint Demonstration

- **Posterior Padding**
- **Wrist Padding**
- **Rotation control**

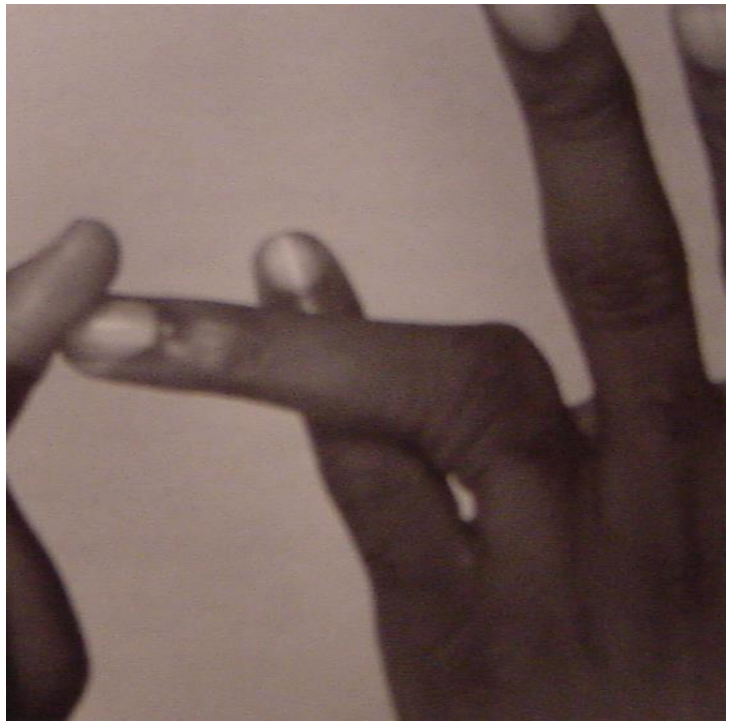
Elbow

Wrist/Hand Splinting Demonstration

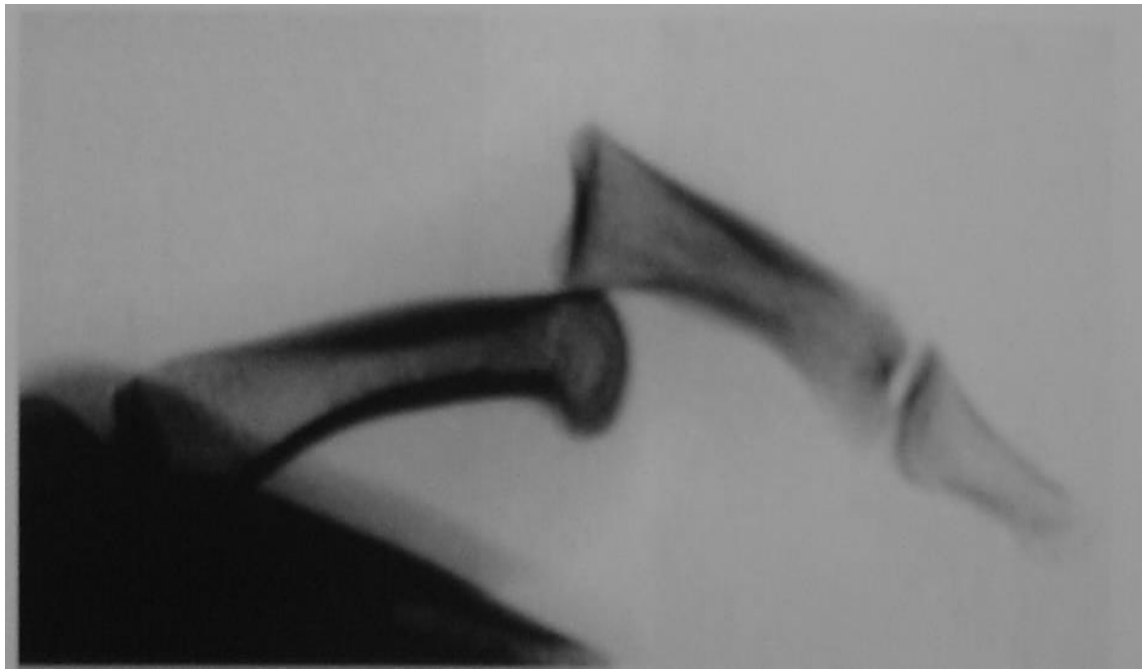
Finger or No Fingers?

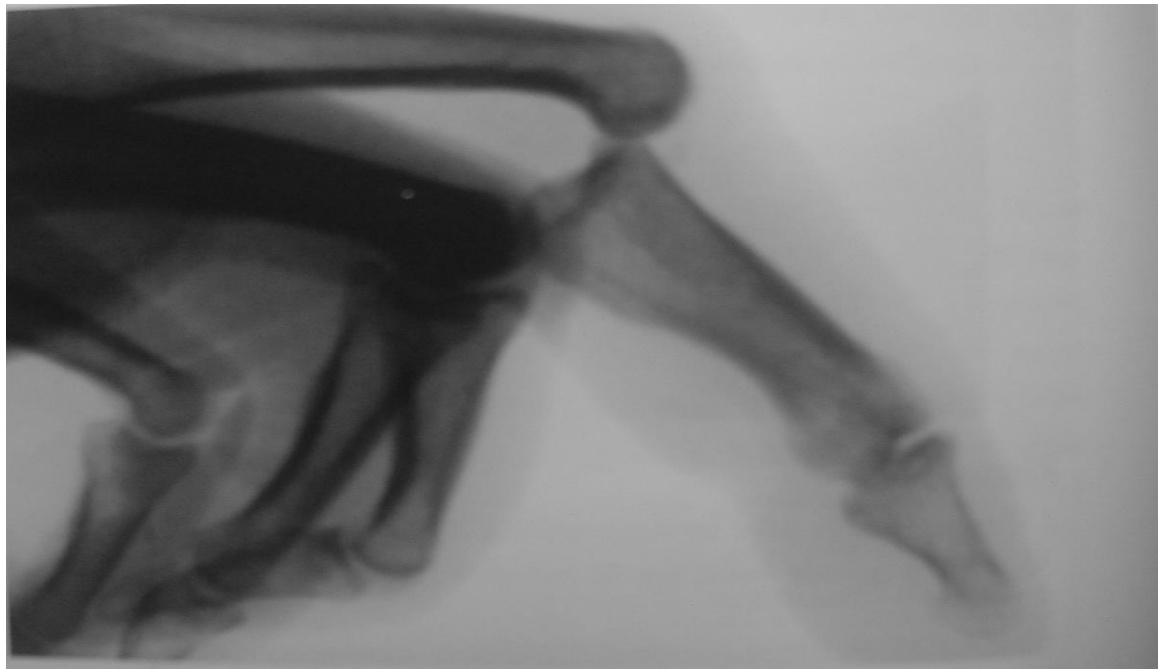
Wrist

Finger



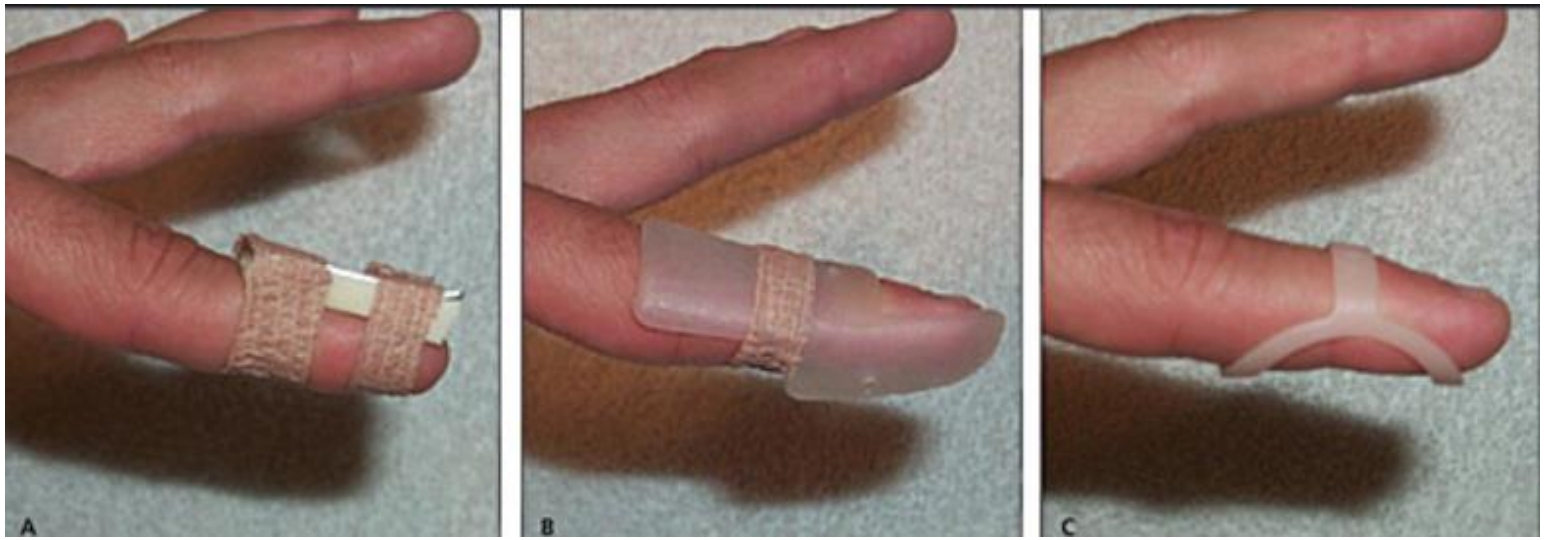
Fingers





Finger Splinting

Fingers



Knee

Ankle

Patience, Patience

Foot

Toes

Splinting – Style Points

- No Wrinkles
- 50% cotton overlap
- Extra padding on bony prominences
- No Prickles
- Rolling not Pulling
- Modifiable
- Only what you need

Splinting - Pitfalls

- Skin Breakdown
- Too Much / Too Little
- Unrelieved Swelling
- Urgent becomes Definitive Treatment

BEWARE - Compartment Syndrome

- Pain out of proportion
- Pain with passive ROM

Clinical Diagnosis

- Paresthesias
- Pallor
- Poikilothermia - cold
- Paresis
- Pulseless

Splinting - Documentation

- Swelling controlled
  (Compartments Soft)
- Capillary Refill
  (less than 2 seconds)
- Sensation intact
- Motor intact
- Position
- Type of splint
- Well Padded
- Patient Aware
- Signs and Symptoms of Compartment Syndrome
- Timing for Follow up

Splinting – Materials

- Custom
  - Fiberglass
  - Padding
  - Elastic or Cotton Wrapping
  - Water
  - Scissors
  - Tape
  - Patience
- Pre-fab
  - Sling
  - Straight leg immobilizer
  - Boot
  - Aluminum

Costs and Reimbursement (Medicare)

- **Material Reimbursement**
  - Long-Arm splint $ 15.07
  - Short-Arm splint $ 12.62
  - Long-Leg splint $ 35.45
  - Short-Leg splint $ 19.38
- **Application Reimbursement**
  - Long-Arm splint $ 84.56
  - Short-Arm splint $ 66.84
  - Long-Leg Splint $ 88.52
  - Short-Leg Splint $ 73.56

Evaluation and Management

- Office Visit: New - Level 3 $ 77.44
- Urgent Care $$
- ER visit $$$$$

Thank You