ACUTE SPORTS INJURIES WHEN TO SEND TO ER WHAT INJURIES CAN WAIT

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SPORTS MEDICINE AND SHOULDER FELLOWSHIP AT THE HOSPITAL FOR SPECIAL SURGERY

American Orthopedic Society for Sports Medicine
Arthroscopy Association of North American
New England Shoulder and Elbow Surgeons

I have no conflicts of interest relative to this presentation

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SPORTS MEDICINE TEAM

CERTIFIED ATHLETIC TRAINER
PHYSICAL THERAPIST
PHYSICIANS ASSISTANT
NURSE PRACTIONER
PHYSICIAN MD DO

MUST ALL WORK TOGETHER TO PROVIDE CONTINUITY OF CARE

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COMMUNICATION

MUST HAVE COORDINATION WITH THE ENTIRE SPORTS MEDICINE TEAM
WE ARE TREATING ATHLETES AND THEIR PARENTS OR GUARDIANS
NEED CONSISTENT MESSAGE TO THE ATHLETE AND THEIR CARETAKER AND THEIR COACH

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TREAT ACUTE INJURIES

NEED TO DEVELOP TRUST BETWEEN THE SPORTS MEDICINE TEAM AND THE ATHLETES AND PARENTS
THREE As
ABILITY
AVAILABILITY
AFFABILITY

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CURRENT COST OF MEDICINE

VALUE BASED MEDICINE
MEASURE OF QUALITY VERSUS COSTS

INSURANCE COMPANIES PREACH VALUE BUT MOSTLY CARE ABOUT COSTS

ATHLETES AND PARENTS WANT HIGH QUALITY BUT ARE ALSO COST SENSITIVE

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ACUTE SPORTS INJURIES

ON THE FIELD MANAGEMENT
TREAT INITIAL INJURY
THEN
OPTIONS
IN INCREASING ORDER OF COST
REFER TO TEAM PHYSICIAN
SEND TO URGENT CARE
SEND TO ER

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ACUTE SPORTS INJURIES

Most important message

No one gets a MRI at the ER or at Urgent care !

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ACUTE SPORTS INJURIES

SHOULDER
ELBOW
WRIST AND HAND

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SHOULDER

CLAVICLE FRACTURES

AC SEPARATION

GLENOHUMERAL DISLOCATION
SUBLUXATION

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CLAVICLE FRACTURES

MEDIAL
MIDSHAFT
LATERAL
CLOSED FRACTURE
NEUROVASCULAR INTACT
PLACE IN SLING OR IMMOBILIZER FOLLOW UP IN ORTHOPEDIC OFFICE
NO VALUE BUT ADDED COST FROM URGENT CARE OR ER VISIT!

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CLAVICLE FRACTURES

AAOS Now December 1 ,2019
Benton Heyworth MD et al
Two year functional outcomes of operative versus nonoperative treatment of completely displaced midshaft clavicle fractures in adolescents Results from the prospective multi-center, level-two FACTS study
Adults nonunion 15% symptomatic malunion 10%
267 Adolescent patients
Nonunion .2%
Symptomatic malunion .5%
Delayed union 1.7%

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CLAVICLE FRACTURES

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CLAVICLE FRACTURES

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CLAVICLE FRACTURES

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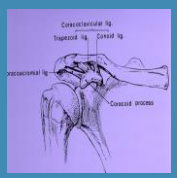
AC SEPARATIONS

Mechanism of injury

Fall onto the point of the shoulder

Fall onto elbow



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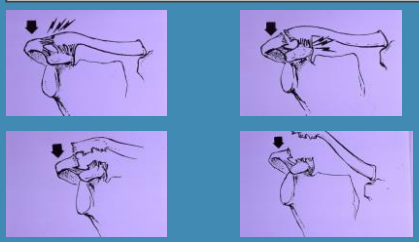
AC SEPARATION



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AC SEPARATION

Clavicle appears up

Shoulder actually droops down

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AC SEPARATIONS

On the field management
Immediate sling or shoulder immobilizer
Ice and NSAIA
Refer to Orthopedics
Grade 1 to 3 sling for 7 to 14 days and rehab

Nonoperative treatment more value than operative

Grade 5 often surgery

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SHOULDER INSTABILITY

Onset-acute traumatic
insidious atraumatic
Direction-
Anterior, posterior, inferior MDI
Magnitude- sublux/dislocate
Volition-positional vs. muscular control

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ANTERIOR SHOULDER DISLOCATION

If acute can try on field reduction
Check NV status before and after reduction
Milch technique
Patient supine
Hold affected wrist and gradually abducting the arm in an overhead position and then external rotating to 90 degrees .With the other hand push the humeral head superior and lateral direction.

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ANTERIOR SHOULDER DISLOCATION

Once reduced sling or shoulder immobilizer
Paterson,William et al Position and Duration of immobilization after primary shoulder dislocation
A systemic review and meta analysis of the literature
JBJS AM 2010 92 (18) 2924~ 33
There is no benefit for sling immobilization for longer than one week for the treatment of primary dislocation

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ANTERIOR SHOULDER DISLOCATION

No need for urgent care of ER if clinically reduced
Follow up with Team physician for PE and xray
Rehab and RTP with brace 2\3 redislocate

Nakagawa et al AJSM 2019 The Development process of bipolar bone defects from primary to recurrent instability in shoulders with traumatic anterior instability

44 PATIENTS CT AFTER PRIMARY AND RECURRENT DISLOCATION
PRIMARY 42.3% GLENOID DEFECTS AND 84.7% HILL SACHS
FIRST RECURRENCE GLENOID DEFECTS 72% and HILL SACHS 88%

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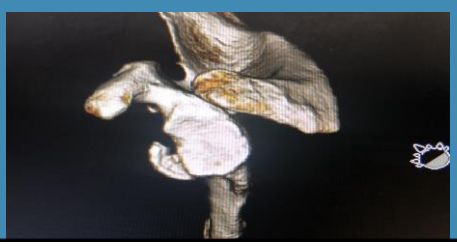
ANTERIOR SHOULDER DISLOCATION



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ANTERIOR SHOULDER DISLOCATION

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POSTERIOR SUBLUXATION AND MDI

Baseball lead arm of batter shoulder subluxation posterior with follow through

Blocking Linemen with shoulder forward flexed axial load subluxes shoulder posterior

Acute subluxation sling and refer

Any shoulder subluxation in ligamentously lax patient MDI

can be treated in sling and refer

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ELBOW

Fractures
Dislocation subluxation
Baseball UCL injuries

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FRACTURES

Assess NV status

Pain but full AROM PROM and no swelling can sling and refer to team physician

Any swelling with deformity, limitation of ROM

Splint sling and send to ER

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DISLOCATION SUBLUXATION

Elbow dislocation

Harder to reduce than shoulder

Splint sling and send to ER

Subluxation

Hyperextension injury

Swollen elbow no deformity

Can splint sling and refer to team physician

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SUSPECT UCL INJURY

Thrower hears a pop with medial elbow pain and swelling

Could represent UCL versus medial epicondyle fracture in younger athlete

If younger athlete can send for x-ray but skeletally mature athlete can wait for Team Physician evaluation

UCL tear is not an emergency!

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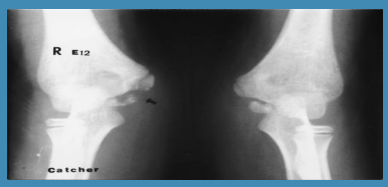
MEDIAL EPICONDYLE



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UCL

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HAND AND WRIST INJURIES

Fractures and dislocations
Tendon injuries
Ligament injuries

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HAND AND WRIST INJURIES

Wrist fractures Radius , Ulna , scaphoid check NV status
Minimal swelling and deformity can splint and refer to Team physician
Obvious deformity and unstable send to ER
Most hand fractures ~Boxers metacarpal fractures and phalangeal fractures can splint and refer

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HAND AND WRIST INJURIES

Tendon injuries
Mallet finger and FDP ruptures
Splint and refer

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HAND AND WRIST INJURIES

Ligament injuries
Gamekeepers thumb UCL MP thumb
Scapholunate ligament injury
Collateral ligament injuries to the MP and PIP joints
Splint and refer
Simple dorsal PIP dislocations reduce splint and refer

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HIP AND PELVIS

Avulsion fractures- Running heard pop immediate pain
Iliac crest
ASIS-Sartorius
AIIS- Rectus Femoris
Ischial tuberosity- hamstrings
Crutches WBAT and refer to Team Physician

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HIP AND PELVIS

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KNEE INJURIES

Unstable fractures
True knee dislocation-tibia dislocated relative to femur
Splint and send to ER

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KNEE INJURIES

Patella dislocation immediately reduce-gradually extend knee and push patella medially
Knee immobilizer – crutches
Refer to team physician

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KNEE INJURIES

ACL MCL
Document exam
Knee immobilizer crutches
Refer to Team Physician
Will not get MRI at the ER!

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ACL INJURIES

HS females 1 per 10K AE
Relative risk 1.4 to HS males
Soccer
HS females 13.22 per 100K AE
HS males 4.35 per 100 K AE
Females 14.77 RR competition to practice
Males 8.69 RR competition to practice

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FOOT AND ANKLE INJURIES DO YOU NEED TO SEND FOR XRAY

Ottawa ankle rules
Xray if pain over malleolar zone
Bone tenderness along distal 6 cm posterior edge of tibia, fibula or medial and lateral malleolus
Inability to bear weight immediately and at delayed evaluation for 4 steps

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FOOT AND ANKLE INJURIES DO YOU NEED TO SEND FOR XRAY

Midfoot pain
Bone tenderness at Navicular or base of 5th metatarsal
And inability to bear weight immediately and for 4 steps at later evaluation

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FOOT AND ANKLE INJURIES

Ankle fractures –malalignment displacement splint and send to ER
Ankle and foot pain minimal swelling can splint and use crutches refer to Team Physician

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FOOT AND ANKLE INJURIES

Ankle Sprains- High and low ankle sprains
Splint crutches refer
Minimally displaced ankle fractures metatarsal fractures, Lis –Franc injuries, achilles tear
Splint crutches and refer

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ACUTE SPORTS INJURIES

MOST CAN BE INITIALLY TREATED ON FIELD OR SIDELINE

ATHLETE WILL NOT GET MRI IN ER!

Communication with team physician , caretakers and athletes will determine next step in treatment

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REFERENCES

1. AAOS Now December 1 ,2019
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