DISLOCATIONS

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DISLOCATIONS

- **A dislocation is the complete dissociation of the articulating surfaces of a joint.**
- **A subluxation is when the articulating surfaces of a joint remain in partial contact with each other.**
- Dislocations can occur at any joint, however certain joints in the body are relatively unstable due to their anatomical structure.
- The most frequently dislocated articulation in the body is the GH joint. The joint relies on ligamentous and muscular support, and more prone to dislocation.
- Other joints highly prone are the AC joint, the metacarpals, and interphalangeal.

CAUSE

- Is a trauma-related sudden twist or wrench of the joint beyond its normal ROM.
- This can be **direct** or an **indirect trauma**. Direct being a direct force, and indirect being the joint becomes the weak link in a closed kinetic chain; Example, falling on the extended and outstretched hand resulting in an anterior GH dislocation.

CONTRIBUTING FACTORS & MEDICAL TREATMENT

- **Pathologies**: RA, paralysis
- **Congenital ligamentous laxity** or **joint malformation**
- **Previous dislocation**: Once injured, the jt may repeatedly dislocate or sublux, leading to joint instability.
- **Medical treatment** involves tractioning the bones that compromise the joint to bring the articulating surfaces back into normal contact. This procedure is called **joint reduction**.
- The earlier the joint is supported, the easier the procedure will be. The joint is supported for several weeks to allow the joint capsule and ligaments to heal.

JOINT REDUCTION

DISLOCATION OF SPECIFIC JOINTS

- GH jt is the most common form of dislocation, the most common form is an **anterior dislocation**, also called **subcoracoid dislocation.**
- Usually resulting from excessive abduction and external rotation of the humerus. Following reduction of the joint, a sling is used and held in internal rotation for 3-6 weeks.
- Less frequent, is a **posterior dislocation,** the injury usually results in flexion, adduction, and internal rotation of the humerus.
- The patella usually dislocated in a lateral direction. The mechanism usually involves external rotation of the tibia and foot when the knee is flexed.
- The lunate is dislocated by a fall on the outstretched hand, forcing the wrist into hyperextension.

DISLOCATION OF SPECIFIC JOINTS

- An elbow dislocation is usually accompanied by a fracture. The injury occurs after a fall on the outstretched hand or in a MVA.
- A hip dislocation, very uncommon may occur following a car or motorcycle accident.


Posterior Dislocation
POSTERIOR: - flexed, internally rotated, and adducted.

SYMPTOM PICTURE
ACUTE

- Complete rupture of the joint capsule, ligaments, and avulsion fracture of the attachments.
- Snapping or popping noise may be heard.
- P is intense and sickening.
- Joint seems deformed.
- Local edema and heat are evident, jt effusion.
- Joint is unstable.
- Bruising is red, black and blue.
- Decreased ROM, protective mm spasm, edema and P.
- Joint may be taped, splinted, casted, supported following reduction.

SYMPTOM PICTURE
EARLY SUB-ACUTE

- The joint is unstable.
- Bruising is black and blue.
- Hematoma may be present.
- P, edema, and inflammation are still present.
- Adhesions are developing around the site.
- Protective mm spasm has decreased.
- TP’s are developing in the musculature around the affected area.
- The injured jt may be splinted, or immobilized.
- ROM is reduced, their physician will advise the ROM allowed.

SYMPTOM PICTURE
LATE SUB-ACUTE

- The bruising changes to yellow, green, and brown.
- P, edema, and inflammation had decreased.
- Adhesions are maturing around the site of injury.
- The protective mm spasm, is now replaced with increased mm tone.
- ROM is still reduced.
- The client may still be supported with a splint, or now be walking with crutches, depends on the site of injury.

SYMPTOM PICTURE CHRONIC

- P is still local to the joint capsule.
- Bruising is gone.
- Adhesions have matured around the site of injury.
- H+ and TP's are present in the musculature around the site.
- Full ROM is restricted.
- MM weakness may be present.
- There is loss of proprioception of the joint*.
- **PLEASE READ PALPATION PG 346

TESTING
ACUTE, EARLY & LATE SUB-ACUTE

- AF ROM of proximal and distal jts may be slowly and carefully performed in pain free ranges.
- **ALL other testing is CI'd.**

TESTING CHRONIC

- This testing protocol is different than any others due to you are assessing the dislocated joint before tx, to determine if the joint is stable or unstable.
- AF apprehension test is done to determine if the client's joint is unstable to perform the action. If your client apprehends, this is a positive sign.
- If AF apprehension is positive, you do not assess passively, you go right to active resisted testing.
- If active resisting is unclear, get your client to perform AF ROM, if you notice any apprehension or any ranges that are limited, these are all noted.
- If AF apprehension test is negative, test AROM, PROM, and AR isometric testing as follows.

SPECIAL ORTHO TESTS

- Patellar apprehension test: Patellar dislocation
- Apley's Scratch test: Assess ROM of GH jt
- AF apprehension test: GH dislocation
- PF apprehension test: GH dislocation
- AC Shear test: AC dislocation
- PR wrist extension test: Lunate dislocation

CONTRAINDICATIONS

- Acute and sub-acute stages, only PF AROM testing is done.
- Avoid removing mm splinting of acute and sub-acute stages.
- Distal circulation techniques are CI'd in acute and sub-acute.
- Joint play is CI'd where the capsule has not been surgically reduced.
- Frictions are CI'd if client is taking anti-inflammtories or blood thinners.
- Avoid heavy hydrotherapy applications to the joint in acute and sub-acute stages.
- With casted dislocations, avoid heavy hydro directly proximal to the cast.
- Remex is CI'd in the acute stage.

TREATMENT ACUTE

- **Positioning**: RICE, (Rest, ice, compression, elevation), pillowed securely.
- **Hydro**: Ice applied to the area, with care not to place too much weight on the injury site.
- DDB, Treat compensatory structures
- **Specific TX**: Lymphatic drainage to the injured limb proximal to the injury site.
- Effleurage, petrissage, O & I techniques are used proximal.
- On site work is CI'D.
- Distal work is restricted to light stroking and mm squeezing within clients P tolerance.
- Careful range passive relaxed ROM is used on the proximal and distal jts

TX
EARLY SUB-ACUTE

- **Positioning**: Comfort of the client, depends on where the injury is. RICE
- **Hydro**: Cold/warm contrast
- Treat compensatory structures, DDB.
- **Specific TX**: Proximal lymphatic drainage.
- Proximal effleurage, petrissage, O +I
- TP's are now treated using mm stripping.
- **On site work is now indicated**: vibrations, gentle stroking, and fingertip kneading within the clients P tolerance.
- Careful pain-free mid range passive relaxed ROM, on proximal jts that don't cross the dislocation.
- Distal techniques include stroking, and mm squeezing only.

TX
LATE-SUBACUTE

- **Positioning**: Limb is still elevated due to edema. Client comfort based on the injury site.
- **Hydro**: Cold/hot contrast
- Treat compensatory structures, DDB
- **Specific treatment**: Lymphatic drainage if edema is present, Effleurage, petrissage, mm stripping.
- Frictions is used on forming adhesions, followed by partial stretch and Ice.
- Joint play is introduced cautiously to maintain ROM and pain free.
- Pain free ARROM and pain free mid range passive relaxed ROM on the affected joint, avoiding the range of injury.
- Effleurage and petrissage are now used distally.

TX
CHRONIC

- **Positioning**: Chosen for comfort, the limb is elevated if there is edema present.
- **Hydro**: Deep moist heat proximal and on lesion site.
- Treat compensatory structures, DDB.
- **Specific Tx**: Fascial work to proximal jts.
- Proximal lymphatic drainage is indicated.
- Proximal effleurage and petrissage, mm stripping, ischemic compressions.
- Cross fibre frictions, stretch, Ice.
- Joint play to proximal and distal joints.
- Passive relaxed ROM on proximal, affected, and distal jts. Avoiding the injury range.
- Distal limb is treated with effleurage and petrissage.

SELF-CARE

- Hydro: Chosen for stage of dislocation.
- Self massage for muscles that cross the joint in late subacute and chronic stages.
- Remedial exercise: Strengthening program based on which stage they are in.
- Acute stage: AF ROM for proximal and distal joints to maintain ROM and reduce edema.
- Early sub-acute: Pain free AROM of proximal and distal joints to maintain ROM.
- Late sub acute: Maximal pain free active resisted isometric exercise to maintain strength of affected mm's.
- Client can gradually progress to isotonic active resisted exercise.

SELF-CARE

- **Chronic stage**: Focus on isotonic active resisted exercise, in all ranges to strengthen surrounding musculature.
- Return to ADL's slowly.

TREATMENT FREQUENCY & OUTCOME

- Shorter more frequent treatments in the acute stage.
- 1x/week for the chronic stage.
- Varies with the severity of the dislocation.
- Return to activity: Client can return to normal activities when AF apprehension tests negative and there is no weakness or mm imbalance. Rehab may take up to 4 months.
- Complete healing: May require up to 6 months.