# CAST CARE

## Indications

- To stabilize broken or dislocated bones
- To stretch tendons into normal position (eg. club feet may require serial casting over many weeks)
- To stabilize recently operated tendons (eg. club feet may also require surgical repair followed by casting, depending on severity of deformity)

## Procedure – Drying of cast

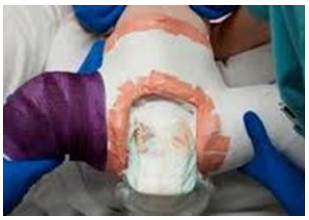
- Fiberglass casts

- These casts are light and dry quickly (within a few hours). The outside of a fiberglass cast has hatchmarks (see picture). Keep uncovered during first 2 hours after application; after this, the cast can be covered if necessary.

- Plaster casts

- These casts are heavy and take 48 hours to dry. You will notice that the cast feels damp/cool to touch during the drying phase. Keep the cast uncovered for the first 48 hours (2 days) after application. Turn and position the baby frequently to allow all sides of the cast to dry.

## Procedure – "Petalling" the Cast



- What?

- Layering pink tape around edges of genital area of cast to keep dry and prevent soiling. Casts usually have to stay in place for extended periods, so keeping them clean and free of urine/stool is key. Any area that has the potential to come into contact with urine or stool should be protected in this way.

- How?

- Rip 20-30 (or more) strips of pink tape, each about 2-3 inches long.
- Fold strips under and over edge of cast, overlapping strips as you go.

## Procedure – Neurovascular signs

- What?

- A compromised blood supply can create ischemia; irreversible muscle damage occurs within 4-6 hours and functional nerve damage within 12-24 hours. Compartment syndrome can lead to loss of limb. Because of this risk, assessment of the motor, sensory, and vascular integrity of casted limbs is necessary.
- Neurovascular assessment in infants includes observation of motor function, color, warmth, edema, distal pulses, capillary refill, and assessment of pain.

- How?

- For first 48hrs after casting, assess & document neurovascular signs with each full vital signs "check", minimum q4h, unless ordered more frequently.
- After 48hrs, neurovascular signs should be assessed and documented once per shift.
- Observe motor function: watch casted limb for movement. Tickle toes/fingers if necessary. Feet should be able to dorsiflex and plantar flex. Hands should be able to flex/extend, and fingers should be able to abduct/adduct.
- Assess pulses distal to cast. In infants, radial pulses can usually be palpated. Pedal pulses may require a Doppler to locate. If pulse points are covered by the cast, you must rely on other indicators (such as a pulse oximetry probe on uncovered fingers/toes).
- Assess color, temperature, capillary refill, edema, and pain using the appropriate pain scale.

| Parameters | Normal | Inadequate Arterial Supply | Inadequate Venous Return |
|---|---|---|---|
| **Colour** | Pink | Pale or white, cyanotic | Dusky, cyanotic, mottled, purple/black |
| **Temperature** | Warm | Cool | Hot |
| **Capillary refill*** | 1-2seconds | >2 Seconds | Rapid |
| **Swelling** | • Assess the degree of swelling bilaterally<br>• Patients who have excessive swelling in the limb are at increased risk of neurovascular compromise.<br>• Elevation of limb will assist in decreasing swelling, elevation should be no higher than heart level.<br>• A limb will generally appear tight and shiny if compartment syndrome is present. | | |
| **Pulses** | • Palpate for presence of peripheral pulses distal to the injury.<br>• If palpable pulses are assessable due to casting assess all other parameters. | | |

## Procedure – Positioning

- What?

- To prevent skin breakdown, babies in casts must be turned and positioned regularly, with emphasis on physiologic positioning.

- How?

- Turn and position q2-4h minimum
- Rolls should be used to position the baby so that cast does not create pressure points. Feet/hands should not dangle (ankles/wrists end up rubbing on cast) – they should be propped on blankets or stuffed animals.
- If a limb is edematous, notify MD and position baby so that limb is elevated.
- Skin integrity should be assessed & documented each time baby is repositioned.

## Procedure – Parent Teaching for Discharge

- Parents should be taught to observe casted limb at least once per day for swelling, movement, color, and temperature. If they notice any changes in these parameters, or if the baby runs a fever that has no other related symptoms, they should call Ortho Clinic (they should be provided with a follow-up appointment and phone number). If they do not get any answer from the Clinic, they should proceed to the Emergency Room.
- Parents should be taught to bathe the baby with a washcloth and soap (no tub baths until casts are removed), and keep casts dry. If the cast becomes soiled, they can clean it with a damp (not wet) cloth and powdered soap.