



Department:	Emergency Room		
Document:	Multidisciplinary Policy and Procedure		
Title:	Cast Application		
Applies To:	All Emergency Room Staff		
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1. PURPOSE:

- 1.1 To immobilize and hold bone fragments in reduction in anatomical alignment.
- 1.2 To apply uniform compression of soft tissues.
- 1.3 To permit early mobilization.
- 1.4 To support and stabilized weak joints.
- 1.5 To prevent and correct deformities.
- 1.6 To promote healing after general or plastic surgery, amputation or nerve and vascular repair.

2. DEFINITONS:

- 2.1 **Cast** – is an immobilizing device made up of layers of plaster or “Fiberglass” (water activated polyurethane resin) bandages molded to the body part that it encases.

3. POLICY:

- 3.1 Physician's order should be obtained.
- 3.2 Proper assessment of the affected part prior and after casting.
- 3.3 Cast is applied not to lose or too tight.
- 3.4 Proper body alignment is obtained and maintained prior and during casting.
- 3.5 Precaution:
 - 3.5.1 If there is a large of external tissue damage or swelling.
 - 3.5.2 Peripheral vascular disease.
 - 3.5.3 Diabetes mellitus.

4. PROCEDURE:

- 4.1 Verify Physician's order. Identify by 2 patient's identifiers (4 names for Saudi/ complete name for Non-Saudi and Medical Record Number).
- 4.2 Provide privacy; explain the procedure to the patient.
- 4.3 Place patient in a comfortable position while preparing all necessary equipment's needed.
- 4.4 Assess the following:
 - 4.4.1 Neurovascular status of the injured area which includes skin color, skin temperature, capillary refills, pulses, movement and sensation.
 - 4.4.2 Skin that will be soon inaccessible under the cast. Note any bruising, abrasion, incisions or skin conditions that might contribute to discomfort, infection, drainage or skin breakdown after the cast is applied.
 - 4.4.3 Patient ability to communicate during the procedure.
- 4.5 Place the patient in proper position; Expose the part to be casted.
- 4.6 Protect the bed and patient from water and casting residue. Apply blue sheets.
- 4.7 Wash hands, wear gloves and apron.
- 4.8 Assist the physician in applying the cast.

- 4.9 After the procedure, elevate the cast site with the pillow. For plaster cast, leave the cast uncovered while it is drying.
- 4.10 Reassess neurovascular status.
- 4.11 Clean the bed and remove casting materials.
- 4.12 Dispose all supplies used.
- 4.13 Prepare patient for X-rays as ordered.
- 4.14 Remove apron, gloves and wash hands.
- 4.15 If patient is for admission, document the following:
 - 4.15.1 Date and time procedure was done
 - 4.15.2 Type of cast
 - 4.15.3 Site where cast was applied
 - 4.15.4 Neurovascular status before and after casting
- 4.16 Let the physician to fill up the ER print-out.
- 4.17 Record to ER procedure logbook.
- 4.18 Proper Analgesia to patient is important.
- 4.19 Special Consideration:
 - 4.19.1 A window may be cut in the cast to relieve pressure or to monitor the skin at that location under the cast.
 - 4.19.2 The time required for the cast to become rigid varies with the material used.
 - 4.19.3 There should be no movement of the extremity while the cast is being applied and set.
 - 4.19.4 Instruct the patient to report immediately if the following is observed:
 - 4.19.4.1 Numbness and tingling of the casted extremity.
 - 4.19.4.2 Excessive edema of the extremity above or below the cast.
 - 4.19.4.3 Decreased movement of the casted extremity.
 - 4.19.4.3 Paleness or blueness of the casted extremity.
 - 4.19.4.5 Increased pain or burning under the cast.
 - 4.19.4.6 Foul odor from the cast.
 - 4.19.4.7 Change in temperature of the extremity from warm to cold.
 - 4.19.4.7 Chest pain or shortness of breath.
 - 4.19.4.9 Nausea, vomiting or abdominal pain when the patient is in a body spica cast.
 - 4.19.5 The following health teaching should be given to patient:
 - 4.19.5.1 Inspect the skin around the edges daily. If a rough edge occurs, place adhesive tape over the edge.
 - 4.19.5.2 Notify the physician:
 - 4.19.5.3 Do not put anything inside the cast to scratch an itchy area. Articles dropped into a cast can cause infection and loss of skin.
 - 4.19.5.4 Avoid getting the cast wet. If the physician permits a plastic bag or cast cover can be taped over the extremity so a shower can be taken.
 - 4.19.5.5 Elevate the casted extremity when sitting or lying.
 - 4.19.5.6 If in a body cast, turn every few hours to prevent respiratory congestion and skin pressure areas.
 - 4.19.5.7 Exercise joints not in the cast to maintain strength and mobility.
 - 4.19.5.8 Exercise casted extremity as directed by physician.
 - 4.19.5.9 Eat a balanced diet with emphasis on fiber to prevent constipation.
 - 4.19.5.10 Drink plenty of water to prevent constipation.
 - 4.19.6 Observe for complications if improper cast application:
 - 4.19.6.1 Palsy, paraesthesia, ischemia
 - 4.19.6.2 Ischemic myositis
 - 4.19.6.3 Pressure Necrosis
 - 4.19.6.4 Misalignment or non-union of fracture bones.

5. MATERIALS AND EQUIPMENT:

- 5.1 Soft Ban
- 5.2 Stockinet
- 5.3 Disposable Gloves, Plastic Apron
- 5.4 Blue Sheet
- 5.5 Splint
- 5.6 Cast Knife Scissors
- 5.7 Tape
- 5.8 Basin with Tap Water
- 5.9 Plaster a Synthetic Bandages
- 5.10 Gauze Bandages
- 5.11 Vaseline

6. RESPONSIBILITIES:

- 6.1 Physician
- 6.2 Nurse

7. APPENDICES:

- 7.1 N/A

8. REFERENCES:

- 8.1 Kingdom of Saudi Arabia Ministry of Health Baish General Hospital, 2018

9. APPROVALS:

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