PURPOSE: To provide procedures for assisting in the application of a cast and for caring for a patient with a cast.

OBJECTIVE:
1. To provide for the safe application of a cast.
2. To promote adequate circulation to the injured area.
3. To promote the integrity of the cast.

DEFINITION: A cast is a mold of a body part, usually an extremity that provides immobilization and alignment without discomfort.

KNOWLEDGE BASE:
1. Plaster will “set up” in about ten (10) minutes but requires twenty-four (24) to forty-eight (48) hours or longer to dry thoroughly.
2. Synthetic casts dry in seven (7) minutes.
3. The cast extremity or area requires assessment for color, temperature, pulses, swelling, sensation, and mobility every hour for the first twenty-four (24) hours, and then every four (4) hours until discharge.
4. The physician will apply the cast. Extra personnel may be required to assist in holding the area or maintaining alignment.
5. Suture removal or wound care may be performed if a cast is being changed.
6. Orders for cast application on non-orthopedic units are placed through the computer using the order entry (OE) transaction (TEC-TEC).
7. The cast cart will be kept on the Orthopedic Unit in the equipment room.
8. A member of the orthopedic staff can respond if needed for cast application requests once the physician has arrived.

PATIENT EDUCATION:
1. The patient will require assessment of neurovascular status for signs of impaired circulation. Instruct patient to report burning pain, swelling, numbness, loss of sensation and changes in mobility.
2. The patient will require instruction on the care of the cast and signs and symptoms to be reported to the physician on discharge.

PROCEDURE: APPLICATION OF THE CAST

1. Equipment: Obtain cast cart from Orthopedic equipment room includes:
   a. Cast padding
   b. Stockinette
   c. Plaster Splints, 4- or 5-inch
   d. Cast material as per physician orders.
   e. Bucket with water (water temp based on the recommendation of the manufacturer)
   f. Plastic covered pillow (if plaster)
   g. Disposable gloves
   h. Linen saver pad
   i. Wash cloth and towel

2. Verify patient using two identifiers.

3. Explain the procedure to the patient.

4. Provide privacy in the patient's room to perform the procedure

5. Perform hand hygiene. Assist the patient into position as indicated by the physician.

6. Assess the skin. Expose the area to be cast; clean and drape as appropriate. Perform “time-out”.

7. Perform hand hygiene. Don gloves.

8. Soak casting material until bubbles cease, then gradually shake out excess water prior to handing to physician.

9. Place cast extremity on pillows, if plaster, and open to the air to allow cast to dry.

10. Use a folded draw-sheet as lifter when moving patient from stretcher to bed. If possible, avoid handling damp cast with hands. If unavoidable, use palm of hand, not fingers, to move cast.

11. Clean room after procedure.
   a. Dispose of water.
   b. Put away unused equipment.
   c. Cleanse soiled equipment with the approved disinfectant.
d. Remove excess casting material from floor.

**CARE OF THE PATIENT AND THE CAST**

1. Keep covers away from wet surfaces. Utilize a cradle when necessary and provide a firm support for the drying cast.

2. Elevate extremity above heart using pillows. Turn the patient when cast is dry, usually four (4) to six (6) hours after application.

3. Once the cast is dry, trim the cast and tape edges with moleskin (or cloth tape if moleskin is not available), two (2) to four (4) inches in width to eliminate rough areas, loose plaster, or pressure spots.

**NOTE:** Permit weight bearing on lower extremities only with physician’s order—*NEVER* before cast is dry. If the cast is to be cut, the physician should mark the area or write specific orders.

**DOCUMENTATION:**

**Nursing Reassessment:** Document the time, procedure and condition of extremity after procedure and any other pertinent information.

**REFERENCE:**


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