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LSUHSC-Shreveport, La
Critical Care

Cervical Traction with Tongs and Tong Care

Purpose:

Skeletal traction is applied to the Cervical Spine when it has become unstable. Cervical alignment and reduction are the goals of treatment. Immobilization reduces the risk of further injury to the vertebrae, ligaments, and underlying soft neural tissue. Tongs are applied to the skull to align the cervical spine. Crutchfield and Vinke tongs necessitate an incision to expose the skull. Two holes are made in the outer table of the skull with a twist drill; the pins are inserted and tightened until there is a firm fit. Gardner-Wells tongs are inserted by placing the razor sharp pin edges to the prepared areas of the scalp and tightening the screws until the spring loaded mechanism indicates that the correct pressure has been achieved. All three types of pins are seated in the outer table of the skull and angle inward to decrease possibility of tong displacement. All three types of tongs may be either steel body and pins or titanium body with graphic pins (MRI compatible) After the tongs are inserted traction is applied by serial addition of weights to a rope-and-pulley device. Serial x-rays and neurological exams are performed to assess the effects of the traction and underlying neural structures.

Equipment:

Tongs (MRI compatible preferred)
Clippers
Local anesthetic
 Lidocaine 1% or 2% with or without epinephrine
Antimicrobial cleaning agent
4 Packages of 3 X 3 sponges
3 cc syringe
18 gauge and 23 gauge needles
2 or 3 pairs sterile gloves
Traction assembly
 Crossbar
 Pulley device
 Rope
 2 Kg, 5 Kg, 10 Kg weights
 "S" hook or "C" hook

Procedure:

Responsible Party	Action	Rationale
MD	1. Obtain consent and explains procedure and reduction of patient's mobility.	1. It is imperative that the patient understand positioning restrictions prior to tong placement.
RN	2. Gather supplies	2. Gathering supplies prior to procedure facilitates efficient insertion of external fixation.

Responsible Party	Action	Rationale
	3. Set up traction on bed. If specialty bed is in use, it is preferable to move patient to a "regular" bed with MD assistance.	3. Allows for application of traction as soon as tongs are inserted.
RN	4. Patient should be supine with head in neutral position.	4. Facilitates tong placement.
	5. Obtain baseline vital signs and complete spinal assessment sheet.	5. Complete assessment prior to tong placement is essential to evaluate ton effectiveness.
RN / MD	6. Perform Time Out	
	7. Wash hands with antimicrobial solution.	6. Prevents spread of microorganisms.
	8. Medicate patient with analgesic / sedative as prescribed by MD.	7. To promote comfort during procedure. Follow the IV conscious sedation policy.
	9. Clip hair at selected pin sites.	8. Prepares are for pin insertion.
	10. Prep clipped area using antiseptic scrub and sterile gloves.	9. Prevents infection at pin site.
MD	11. Infiltrate prepped area with local anesthetic.	10. Promotes comfort during pin insertion.
	12. Place tongs and secure pins.	11. Provides optimal placement.
	13. Apply traction to tongs. RN or MD should stabilize patients head during procedure.	12. To provide proper alignment.
RN / MD	14. Apply antibiotic ointment to pin sites.	13. To help prevent infection.
	15. Towel rolls, pillows, etc. are <u>not</u> to be placed under patients head or shoulders unless approved by MD.	14. Placing rolls my interfere with spinal alignment and cervical flexion / extension.
MD	16. Order spine films	15. To evaluate spinal alignment.
RN	17. Maintain spinal alignment by insuring the patient does not turn independently. Patient must be log rolled when manual repositioning is necessary.	16. To prevent misalignment.

Pin sites are to be cleaned at least twice a day with prescribed antiseptic and antibiotic ointment using aseptic technique. Documentation of pin sites condition every 4 hours is essential. Local infection of pin sites can lead to osteomyelitis if not identified and treated promptly.

Complete physical assessment including breath sounds should be done every 4 hours after traction placement. Patients with spinal cord injuries above the sixth thoracic level

are at risk to experience spinal shock resulting from a loss of sympathetic innervation below the level of the lesion. Spinal shock results in severe bradycardia, profound hypotension, warm dry skin, and absent reflexes below the level of the lesion. These symptoms are potentially life threatening and require immediate intervention. The patient with spinal cord injury requires continued emotional support, evaluation and education to prevent anxiety and promote cooperation with cervical traction. Analgesics and sedatives should be given as ordered after careful assessment of the patients respiratory and neurological status. Any deterioration of motor/sensory function must be reported immediately to the physician to prevent further loss of function.

References:

1. Chulay, M. & Burns, S. (2006). AACN: Essentials of Critical Care Nursing.
2. Wiegand, D & Carlson, K. (2005). AACN: Procedure Manual for Critical Care.