
Intracranial Pressure Monitor Insertion and Care

Purpose:

1. To assess intracranial pressure dynamics.
2. To document the intracranial pressure, waveform, and Cerebral Perfusion Pressure.

Policy:

1. The ICP monitor shall be inserted by an Staff Physician or resident in an intensive care unit.
2. The Registered Nurse assigned to the patient shall be responsible for setting up for the insertion, assisting with trouble shooting, and documentation of values obtained from the monitor, and maintaining a non-infected insertion site.
3. An informed consent shall be obtained prior to the insertion of an Intracranial Pressure Monitor from the patient or immediate relative. If a life-threatening emergency exists the physician may perform the procedure without consent.

Equipment:

Clippers
Cranial Access Kit
Sterile gloves
Surgical cap and masks
Sterile gown
Xylocaine 1% with Epinephrine 1:100,000
Syringes and needles
Fiberoptic catheter
Camino Monitor
Slave cable for Camino to Spacelab monitor
2 Benzoin swabs
Airstrip dressing 3x6

Procedure:

Responsible Party	Action	Rationale
MD	<ol style="list-style-type: none">1. Write an order for ICP monitoring.2. Obtain informed consent.3. Don surgical cap and mask.4. Scrub hands with antimicrobial soap.5. Don nonsterile gloves.6. Perform Time Out7. Shave area of head where insertion of ICP will take place.8. Perform surgical skin prep with antimicrobial agent to insertion site.	<ol style="list-style-type: none">4. Helps to prevent the spread of infection.

Responsible Party	Action	Rationale
	9. Perform surgical scrub prior to donning sterile gloves.	8. Since infections of the brain are difficult to treat, a full surgical scrub is required.
RN	10. Open all packages and form a sterile field.	
	11. Assist MD with donning of sterile gown.	
	12. Setup and turn on the Camino Monitor.	
MD	13. Don sterile gown and gloves.	
	14. Place sterile sheet and towels to form sterile field.	
	15. Inject Xylocaine local.	
	16. Make small incision of the skin.	
	17. Check the fiberoptic catheter for flaws.	
	18. Drill hole in the skull.	
	19. Insert the introducer bolt into the skull and screw it into place.	
	20. Hand the nurse the fiberoptic module.	
RN	21. Connect the fiberoptic module to the Camino monitor using supplied cable.	
MD	22. Zero catheter using small screwdriver supplied in kit.	
RN	23. Connect slave cable from back of Camino Monitor to the SpaceLab Monitor pressure module.	
	24. Label pressure waveform on the SpaceLab monitor as ICP.	
	25. Press and hold cal step button on the Camino monitor, press zero button on the SpaceLab monitor.	
MD	26. Insert fiberoptic catheter into bolt continuing to feed the catheter until in appropriate position.	

Responsible Party	Action	Rationale
	27. Secure fiberoptic catheter to bolt by screwing sheath onto bolt.	
	28. Suture bolt and sheath to skin.	
	29. Apply benzoin to skin surrounding insertion site.	
	30. Apply dressing.	
RN	31. Press scale button on the Camino monitor until waveform is visible.	
	32. Document values (ICP and CPP) initially and then every hour.	32. When ICP > 20 mmHg and CPP < 60 mmHG cerebral blood flow may be compromised.
MD	33. Write an order for appropriate prophylactic antibiotic.	
	34. Write an order for establishing MD notification parameters	
RN	35. Confirm that appropriate prophylactic antibiotic orders have been written (adults: Ancef 1 gram IVPB q 8 hours. Pediatrics: Ancef 50mg/kg/day q 8hrs).	
	36. Confirm that panic values have been established.	
	37. Dressing changes are performed in accordance with IC guideline 16 at least every 96 hours. Dressing changes are performed more often if dressing becomes soiled or saturated.	

References:

1. Bigatello, L. (2006). Critical Care Handbook of the Massachusetts General Hospital.
2. Chulay, M. & Burns, S. (2006). AACN: Essentials of Critical Care Nursing.
3. Infection Control Guidelines IC 16
4. Wiegand, D & Carlson, K. (2005). AACN: Procedure Manual for Critical Care.