

Increasing Intracranial Pressure

-Warning Signs to Report to the Provider (Campellone & Kent Turley, 2020)

- ☹ **Mental status changes***
- ☹ **Constant headache**
- ☹ **Blurred vision**
- ☹ **Cheyne-Stokes respirations**
- ☹ **Vomiting**
- ☹ **Seizures**

-Important Patient Teaching for Prevention (Altun Ugras et al., 2018)

- 😊 Avoid Valsalva maneuvers
 - Coughing
 - Holding breath
 - Bearing down during bowel movement
- 😊 Relaxation techniques to relieve stress
 - Breathing
 - Guided imagery
- 😊 Lie still on back
 - No abrupt movements
 - Avoid bending of the neck
- 😊 Body cooling techniques
 - Light bedding
 - Minimal clothing layers
- 😊 Immediately report any of the indicators above

*The earliest indicator

References

- Altun Ugras, G., Yüksel, S., Temiz, Z., Eroglu, S., Sirin, K., & Turan, Y. (2018). Effects of Different Head-of-Bed Elevations and Body Positions on Intracranial Pressure and Cerebral Perfusion Pressure in Neurosurgical Patients. *Journal of Neuroscience Nursing, 50*(4), 247–251. <https://doi.org/10.1097/JNN.0000000000000386>
- Campellone, MD, J., & Kent Turley BSN MSN RN, R. (2020). *Increased Intracranial Pressure (ICP)—Health Encyclopedia—University of Rochester Medical Center.* <https://www.urmc.rochester.edu/encyclopedia/content.aspx?contenttypeid=134&contentid=67>
- Jennilee St., J. (2015). *Pupillometry: Cutting Edge Biometrics for Early Intervention in Increased Intracranial Pressure - ProQuest.* 46(10), 431–432.
- Maher, A. B. (2016). Neurological assessment. *International Journal of Orthopaedic and Trauma Nursing, 22*, 44–53. <https://doi.org/10.1016/j.ijotn.2016.01.002>
- NeuroCritical Care Society. (2020). *NCS Advanced Nursing Neurological Assessment | NCS. Pathlms.Com.* https://www.pathlms.com/ncs-ondemand/courses/2653/video_presentations/40808
- Seng, L. B., Kusiar, Z., Anthonysamy, C., Yakof, Z., & Clement Edward A/L Thamanavar. (2017). Early management of head injury in adults in primary care. *Malaysian Family Physician, 12*(1), 22.

Advanced Nursing Neurological Assessment: Post- Operative

St. Vincent's Medical Center
Medical/Surgical ICU

Kelsey Gibbs S.N. & Ben Olsen S.N.
Sacred Heart University

April 2020

Orientation & Memory

(NeuroCritical Care Society, 2020)

- ✓ Ask patient to state full name, current location, and the current date
 - Documentation
 - **“Alert & oriented to person, place, and time” or “A&O x 3”**
- ✓ Recent memory
 - Name 3 items
 - Ask the patient to recall the 3 items after a delay of 3-5 minutes
- ✓ Remote memory
 - Ask patient about historical or verifiable personal events

Glasgow Coma Scale (GCS)

(Seng et al., 2017)

Component	Response	Score
Eye opening response	Spontaneous	4
	To voice/sound	3
	To pressure/pain	2
	None	1
Verbal response	Orientated	5
	Confused	4
	Words	3
	Sounds	2
	None	1
Motor response	Obeys commands	6
	Localizing	5
	Flexion withdrawal	4
	Abnormal flexion	3
	Extension	2
	None	1

- Documentation: ≤ 15
- GCS ≤ 8 - closely monitor intracranial pressure

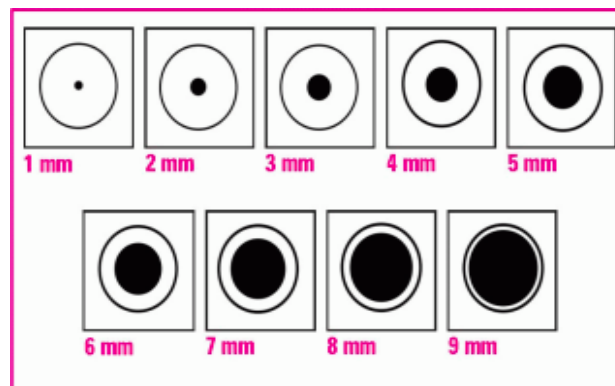
Cranial Nerves Assessment: Part 1

(NeuroCritical Care Society, 2020)

- ❖ **Cranial Nerve I: Olfactory**
 - Identify a smell
 - Coffee, peppermint, soap
- ❖ **Cranial Nerve II: Optic**
 - Visual acuity testing
 - Snellen Chart
 - Funduscopic exam
 - Optic disc and blood vessels
 - Visual field testing
 - Confrontation from periphery
- ❖ **Cranial Nerve III: Oculomotor**
 - PERRLA
 - Pupils equal round and reactive to light **use size chart below*
 - Extraocular movements (EOMs)
 - Medial, upward (in & out), downward (out)

Pupil Assessment

(Jennilee St., 2015)



- Normal findings
 - PERRLA
 - Size: 2-6 mm

Cranial Nerves Assessment: Part 2

(Maher, 2016)

- ❖ **Cranial Nerve IV: Trochlear**
 - EOM (downward and in)
- ❖ **Cranial Nerve V: Trigeminal**
 - *Motor*: clench jaw and chewing
 - *Sensory*: soft and sharp sensations on 3 divisions of face – ophthalmic, maxillary, mandibular
- ❖ **Cranial Nerve VI: Abducens**
 - EOM (lateral)
- ❖ **Cranial Nerve VII: Facial**
 - *Motor*: facial movements including expression
 - Smile, frown, puff out cheeks, raise eyebrows **note asymmetry*
 - *Sensory*: taste of anterior 2/3 of tongue
- ❖ **Cranial Nerve VIII: Vestibulocochlear**
 - *Rinne's Test* – ability to hear vibrating tuning fork held next to the ear and placed on mastoid process
 - *Weber Test* – ability to hear a tuning fork through Right and Left ear
- ❖ **Cranial Nerve IX: Glossopharyngeal**
 - *Motor*: swallow, gag reflex (both sides)
 - *Sensory*: taste of posterior 1/3 of tongue
- ❖ **Cranial Nerve X: Vagus**
 - Say “ahh”
 - Note location of uvula and monitor for deviation on movement
- ❖ **Cranial Nerve XI: Spinal Accessory**
 - Shrug shoulders against resistance
 - Move head Left and Right against downward resistance
- ❖ **Cranial Nerve XII: Hypoglossal**
 - Open mouth and protrude tongue
 - Move tongue side to side