

NATIONAL INSTITUTES OF HEALTH
WARREN GRANT MAGNUSON CLINICAL CENTER
NURSING and PATIENT CARE SERVICES

Standard of Practice: Care of the Patient with an Ommaya Reservoir

Essential Information

1. All medications administered intraventricularly require two independent checks in accordance with the SOP: Medication Administration.
2. Procedures related to accessing an ommaya reservoir are performed by a registered nurse (RN) who has successfully demonstrated competency in this procedure.

I. ASSESSMENT

A. Pre- and Post- Placement of an Ommaya Reservoir

1. Prior to the placement of an ommaya reservoir, a nurse assesses the patient/family's learning needs and the patient's neurological status which may include:
 - a. Neurological history (headaches, seizures, tumors, infections, trauma, previous intraventricular or intrathecal therapy)
 - b. Level of consciousness and mental status
 - c. Cranial nerves
 - d. Motor function
 - e. Sensory Function
 - f. Cerebellar Function
2. Immediately post-placement, a nurse monitors:
 - a. The patient for any changes in neurological status every hour x 4, every 2 hours x 4 and every 4 hours x 3.
 - b. The post-operative dressing for integrity and signs of bleeding at least every 8 hours. If excessive drainage or bleeding is noted, notify the physician. After 24 hours, the site may be covered with a dry dressing or left open to the air at the discretion of the neurosurgeon.

B. Accessing Ommaya reservoir

1. Prior to accessing the reservoir for the first time post-insertion, an RN reviews the medical record for written confirmation of placement and patency of the device.
2. An RN assesses
 - a. neurological status pre- and immediately post-accessing as described above.
 - b. Skin integrity over the reservoir and notifies the Licensed Independent Practitioner (LIP) if skin integrity is compromised by rash, breakdown, erythema, swelling, etc.
 - c. Integrity of reservoir by pumping reservoir 8 times prior to accessing and notifies the LIP if the reservoir is difficult to pump, does not refill, or is slow to refill.
 - d. The patient/family's ongoing teaching/learning needs.

II. INTERVENTION

- A. Pre-placement, a nurse prepares the patient for transport to OR in accordance with SOP: Transfer to the Operating Room.

B. Accessing Ommaya reservoir:

1. At the discretion of the neurosurgeon:
 - a. The reservoir may be used immediately post-operatively but usually within 24-48 hours post-operatively
 - b. Scalp and hair may be washed 48 hours post-insertion when the site appears to be clean, dry, and intact.
2. An RN instructs the patient/family about the signs and symptoms indicating an infection, changes in neurological status, and importance of avoiding head trauma.
3. An RN accesses the reservoir in accordance with PRO: Accessing the Ommaya Reservoir.

III. DOCUMENTATION

A. Document in the approved medical record as appropriate:

1. Pre- and post-placement (as indicated)

- a. Neurosensory assessment
- b. Medication administration
- c. OR transfer note
- d. Pre-Op Checklist
- e. Site assessment

2. Post-accessing Ommaya reservoir

- a. Neurosensory assessment
- b. Procedural note including site assessment, untoward reactions/events, interventions provided, specimens sent for diagnostic tests, **patient's** response to procedure, quality and quantity of CSF withdrawn
- c. Medication administration and the rate of administration

3. Patient/Family instruction provided

IV. REFERENCES:

- A. Cornwell, C. (1990). The Ommaya reservoir: implications for pediatric oncology nurses. Pediatric Nursing, 16(3), 249-251).
- B. Fischer, DA (2000). Neurological assessment. Advance for Nurses, 2(3): 11-12.
- C. Glantz, MJ, Hall, WA, Cole, BF, Chozick, BS, Shannon, CM, Walhberg, L, et. al. (1995). Diagnosis, management, and survival of patients with leptomeningeal cancer based on cerebrospinal fluid-flow status. Cancer, 75(12): 2919 – 2931.
- D. Kosier, MB and Minkler, P (1999). Nursing management of patients with an implanted ommaya® reservoir. Clinical Journal of Oncology Nursing, 3(2): 63 – 67.
- E. LePage, E (1993). Using a ventricular reservoir to instill amphotericin b. Journal of Neuroscience Nursing, 25(4): 212 – 217.
- F. Meggs, WJ and Hoffman RS (1998). Fatality resulting from intraventricular vincristine administration. Clinical Toxicology 36(3): 243 – 246.
- G. Moser, AM, et. al. (1999). Intraventricular concentration times time (C X T) methotrexate and cytarabine for patients with recurrent meningeal leukemia and lymphoma. Cancer, 85(2): 511-516.
- H. Obbens, M. M. T., Leavenes, M. E., Beal, J. W. & Lee, Y. Y. (1985). Ommaya reservoirs in 387 cancer patients: a 15-year experience. Neurology, 35 (9), 1274 -1278.
- I. Ommaya, A. K. (1984). Implantable devices for chronic access and drug delivery to the central nervous system. Cancer Drug Delivery, 1(2), 169-179.
- J. Rahr, V. (1986). Giving intrathecal drugs. American Journal of Nursing, 829-831.
- K. Rudy, E. (1984). Advanced neurological and neurosurgical nursing. St. Louis: The C.V. Mosby Company.

- L. Ruggiero, A, Conter, V, Milani, M, Biagi, E, Lazzareschi, I, Sparano, P, and Riccardi, R (2001). Intrathecal chemotherapy with antineoplastic agents in children. Paediatric Drugs, 3(4): 237 – 246.
- M. Schnell, S and Maher de Leon, ME. (1998). Anatomy of the Central Nervous System. Seminars in Oncology Nursing, 14(1): 2-7.
- N. Sundaresan, N. & Suite, N. D. (1989). Optimal use of the ommaya reservoir in clinical oncology. Oncology, 3(12), 15-22.
- O. U.S. Department of Health and Human Services (2001). A guide to your Ommaya reservoir. National Institutes of Health.
- P. Woolery-Antill, M. (1998). Parenteral Therapy: Access and Delivery. In Gross, J., & Johnson, B. L. (eds.), Handbook of Oncology Nursing (2rd ed.), pp. 178-182. Boston: Jones and Bartlett Publishers.

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