

LOS ANGELES UNIFIED SCHOOL DISTRICT
Medical Services Division
District Nursing Services Branch
Guidelines for School Nurse

VENTRICULAR SHUNTS

OVERVIEW:

Ventricular shunts are used to treat hydrocephalus which is an excess of cerebrospinal fluid (CSF). This can be caused by a blockage in the flow of CSF or an imbalance in the rate CSF is produced and absorbed. The effect on the student's growth and development depends on the cause, time interval before treatment is started and any complications. Increased intracranial pressure and/or infections can lead to brain damage.

CAUSES:

Hydrocephalus can be caused by tumors, structural defects of the brain, infections such as meningitis, intracranial hemorrhage or tumors. Approximately 75% of children with myelomeningocele require treatment for hydrocephalus. Other disabilities that may accompany hydrocephalus are seizures, cerebral palsy and Arnold-Chiari malformations. An obstruction such as a tumor may be removed surgically.

TREATMENT:

In most cases, a shunt is surgically placed to carry CSF from the ventricles in the brain to the peritoneal cavity or atrium of the heart. The ventriculoperitoneal shunt requires fewer revisions because there is more room for placement of extra tubing to allow for growth. A ventriculoatrial shunt is used less frequently. Shunts may become infected or malfunction, requiring repeat surgeries and if not treated early, complications.

SIGNS AND SYMPTOMS OF SHUNT MALFUNCTION:

Toddlers

Fever, vomiting, lethargy, irritability, headaches, loss of previous abilities (sensory or motor), seizures or swelling, and/or redness along shunt tract.

School Age

Headaches, vomiting, fever
Change in level of alertness, behavior or personality, irritability
Loss of coordination or balance, unsteady gait
Decline in academic performance
Decreased appetite
Lethargy, difficulty staying awake
Visual disturbance
Swelling along shunt tract
Seizures, which may be an emergency requiring paramedics

INFORMATION FROM PARENT

- Licensed Healthcare Provider with phone number/case manager.
- Obtain history including: medical diagnosis, treatment, age when shunt placed, type of shunt and date of last shunt revision.

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INFORMATION FROM LICENSED HEALTHCARE PROVIDER

- Recommendations regarding participation or limitations for physical activities.
 - Usually no contact sports which would include dodgeball in elementary school
 - Restrictions in climbing activities should be considered taking into account coexisting conditions such as mobility limitations and seizures.

ROLE OF SCHOOL NURSE

- Observe for signs of infection along shunt track.
 - Infection can occur at any time but greatest risk is one to two months following placement.
- Observation of typical behavior, as irritability and changes in interaction with their environment can be signs of increased intracranial pressure.
- Instruct school staff regarding warning signs and symptoms of shunt malfunction or infections and first aid procedures.

FIRST AID

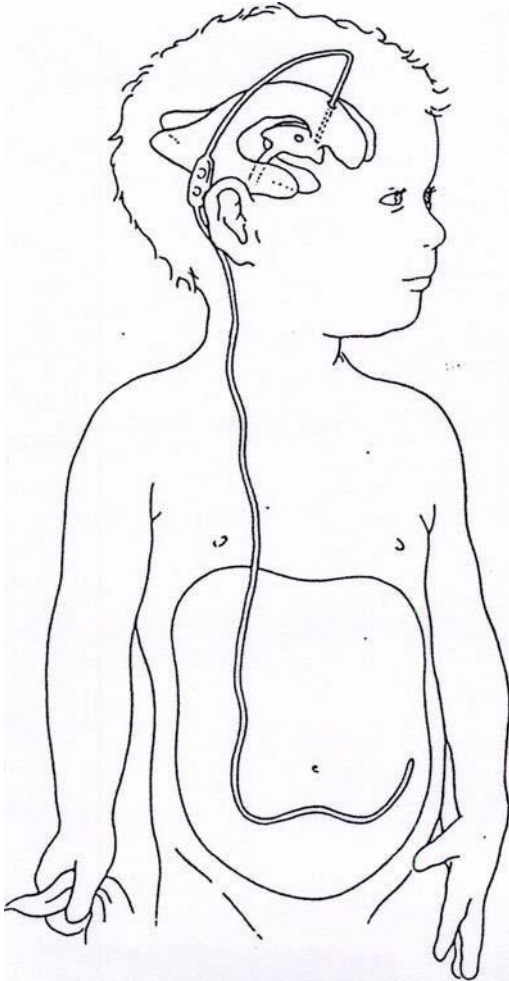
- Notify parents/school nurse/healthcare provider if any signs or symptoms of shunt malfunction are observed.
- Notify parents of bumps or blows to the head.
 - Call and use Form 33.14 (Rev. 9/05) Cautions Regarding Head Injury.

REFERENCES

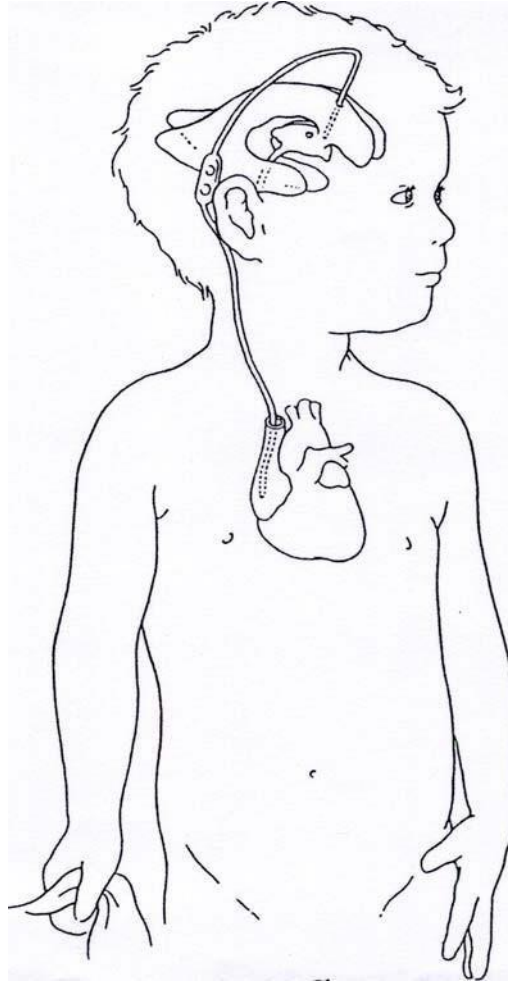
Journal of School Health March 1992, pages 107-108.

School Nurse's Source Book of Individualized Healthcare Plans Volume I, pages 425-428.

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Ventriculoperitoneal Shunt



Ventriculoatrial Shunt