



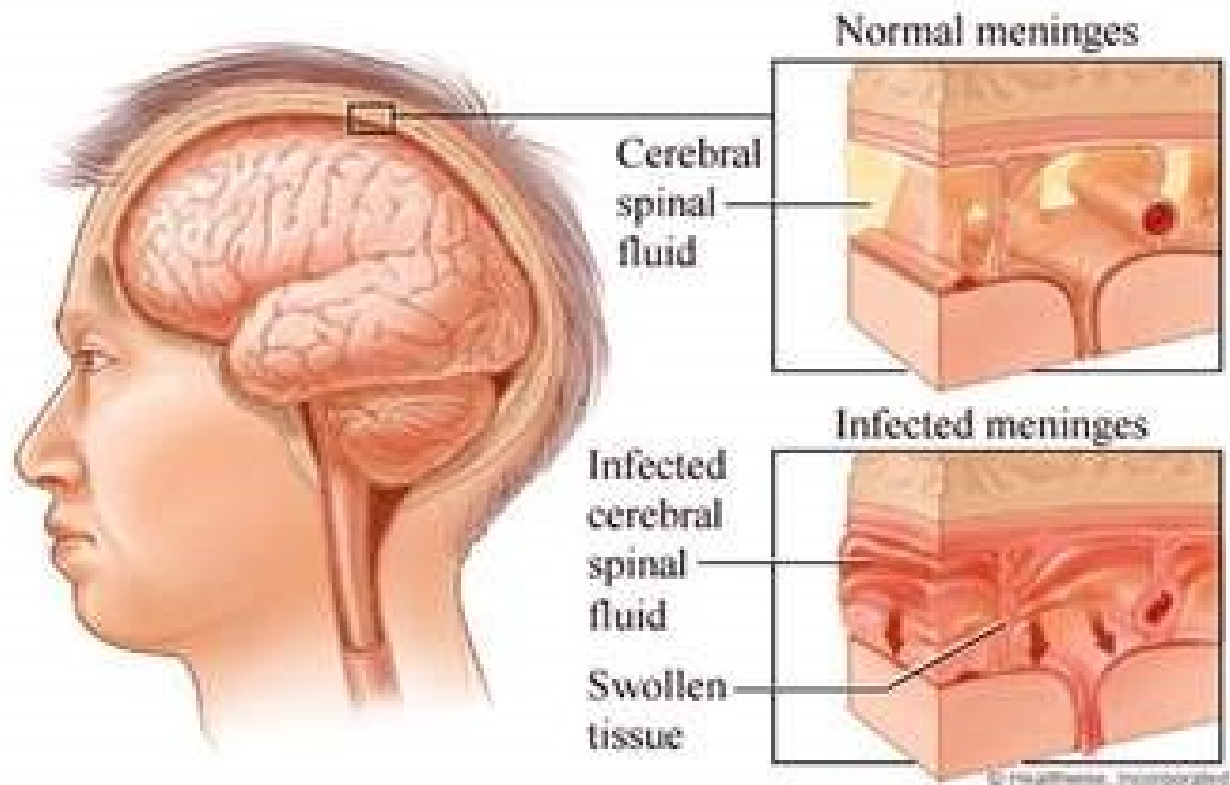
RAMA
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FACULTY OF NURSING



Meningitis



MedicalPictures.net

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Definition

Meningitis is an inflammation of the meninges.

The meninges are the three membranes that cover the brain and spinal cord. Meningitis can occur when fluid surrounding the meninges becomes infected

Causes

➤ *Bacterial*

- pneumococcus
- meningococcus
- meningococcus
- listeria

➤ *Viral*

- Enteroviruses,
- Herpes simplex virus,
- HIV,
- Mumps,
- West Nile virus

➤ *Fungal*

- Cryptococcal

➤ *Other*

Meningitis can also result from noninfectious causes, such as :

- Chemical reactions,
- Drug allergies,
- Some types of cancer and
- Inflammatory diseases such as sarcoidosis.

Symptoms

Possible signs and symptoms in anyone older than the age of 2 include:

- Sudden high fever
- Stiff neck
- Severe headache that seems different than normal
- Headache with nausea or vomiting
- Confusion or difficulty concentrating

- Seizures
- Sleepiness or difficulty waking
- Sensitivity to light
- No appetite or thirst
- Skin rash (sometimes, such as in meningococcal meningitis)

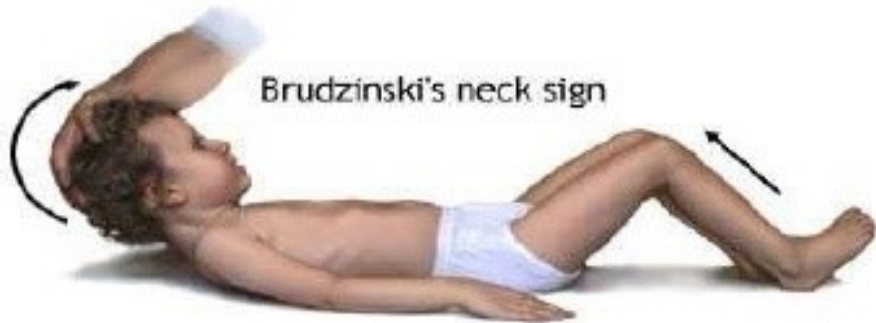
Newborns and infants may show these signs:

- High fever
- Constant crying
- Excessive sleepiness or irritability
- Inactivity or sluggishness
- Poor feeding
- A bulge in the soft spot on top of a baby's head (fontanel)
- Stiffness in a baby's body and neck

Diagnostic evaluation

- History collection
- CT scan
- MRI
- CSF analysis (Lumbar Puncture)
- Positive Brudzinski's sign
- Positive Kerning's sign

(+) Brudzinski's sign (+) Kernig's sign



Brudzinski's neck sign

ADAM.



Kernig's sign

ADAM.

Treatment

➤ *Antibiotics-*

- A broad spectrum cephalosporin (children over 3 month)
- Penicillin G (50 mg/kg)
- Cefitroxone (80-100 mg/kg)
- Amphotericin (100mg/kg) (less than 3 month old)
- Vancomycin (15 mg/kg then 10 mg/kg)

Immunizations

Some forms of bacterial meningitis are preventable with the following vaccinations:

- **Homophiles influenza type b (Hib) vaccine-** starting at about 2 months of age.
- **Pneumococcal conjugate vaccine (PCV13).**- immunization schedule for children younger than 2 years in the United States. Additional doses are recommended for children between the ages of 2 and 5 year.

- **Pneumococcal polysaccharide vaccine (PPSV23).** for younger adults and children age 2 and older who have weak immune systems or chronic illnesses such as heart disease, diabetes or sickle cell anemia; and for anyone who doesn't have a spleen.
- **Meningococcal conjugate vaccine.** children ages 11 to 12, with a booster shot given at age 16. If the vaccine is first given between ages 13 and 15, the booster is recommended between ages 16 and 18. If the first shot is given at age 16 or older, no booster is necessary.
- This vaccine can also be given to children between the ages of 2 months and 10 years who are at high risk of bacterial meningitis

Complications

Seizures and permanent neurological damage, including:

- Hearing loss
- Memory difficulty
- Learning disabilities
- Brain damage
- Gait problems
- Seizures
- Kidney failure
- Shock
- Death

Thank you