MENINGITIS

The Facts about this Infection!

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RISK FACTORS OF MENINGITIS

- **Age**: Viral meningitis occur in children younger than age 5
- **Bacterial meningitis**: most commonly occurs in pre-teens and young adults
- **Community Setting**: this infection spreads quickly in large groups such as college students living in dormitories, military personnel, and children in childcare facilities are at high risk
- **Pregnancy**: increased risk of listeriosis, which this bacteria can also cause meningitis.
- **Working with animals**: dairy farmers, ranchers, or others who work with domestic animals have an increased risk of listeriosis which can cause meningitis
- **Weakened immune system**: diseases, medications and surgical procedures can increase the risk of meningitis
WHAT IS MENINGITIS?

- Meningitis is inflammation of the membranes that cover the brain and spinal cord.
- Caused by viral or bacterial infection
- Viral Meningitis is less severe and will clear up with specific treatment
- Bacterial Meningitis can be quite severe and may result in brain damage, hearing loss, or learning disabilities
- Important for bacterial - one should know which type of bacterial is causing meningitis....some antibiotics can prevent some type from spreading and infecting other people.
- 1990s type b influenza (Hib) was the leading cause of bacterial meningitis. The Hib vaccine is given to all children as part of their immunization routine.
Signs and Symptoms of Meningitis

Common Symptoms over the age of 2 years old ......High fever, headache, and stiff neck.

Can develop over several hours or take up to 1 to 2 days

Other symptoms: nausea, vomiting, discomfort looking in bright lights, confusion, and sleepiness.

Newborns/infants- common symptoms are high fever, headache, neck stiffness, may appear slow, inactive, vomiting, irritable, or be feeding poorly.

At any age, seizures may occur as disease progresses.
How is Bacterial Meningitis diagnosed?

- Early diagnosis is very important
- If symptoms occur, patient should seek medical help immediately
- Diagnosis is made by retrieving growing bacterial from a sample of the spinal fluid
- By performing a spinal tap, spinal fluid is obtained through a needle
- The needle is inserted in the lower back where the fluid in the spinal canal can be retrieved.
Other Testing Procedures

- Other Cultures- testing of samples of blood, urine, mucous, and/or pus from skin infections
- MRI Scan- test that uses magnetic waves to take pictures of structures of inside of body (to clarify that inflammation is not some other cause such as a tumor)
- CT Scan- a type of x-ray that uses a computer to make pictures of structures inside the body.
Can Bacterial Meningitis Be Treated?

- Effective antibiotics
- Treatment should be started early on
- Most common types of bacterial meningitis should reduce the risk of death below 15% (Higher risk are among the elderly)
## IS BACTERIAL MENINGITIS CONTAGIOUS?

- Person to person
- Respiratory or throat secretions
- Coughing
- Sneezing
- Kissing
- Not spread by causal contact or breathing in air where the person has meningitis

- Sometimes, the bacteria that causes meningitis have spread to other who have had close contact with a person or patient of meningitis.
- Examples people in same household, or daycare center, or anyone with direct contact with a patient’s oral secretions (such as boyfriend or girlfriend)
- People who are close contacts should receive antibiotics to prevent them from getting the disease.
PRECAUTIONS

- Antibiotic - Prophylaxis

- Prophylaxis is for household contacts of someone with the Hib Disease

- Recommended the entire household should receive this to protect them
Are there vaccines against Bacterial Meningitis?

- Advisory Committee on Immunization Practices (ACIP) recommends vaccination of all individuals aged 11-18 years old for routine vaccinations.

- One dose of the MCV4 meningococcal conjugate vaccine known as Menactra.

- 11-24 years old receive one dose MCV4.

- College freshmen living in dormitories are at high risk for meningococcal disease.

- Adults over age of 55 years old are recommended the vaccine MPSV4 (meningococcal polysaccharide vaccine known as Menomune).
What is Viral Meningitis?

- Inflammation of the membranes “meninges” that cover the brain and spinal cord.
- Viral infections are most common cause of meningitis
- Bacterial infections are second common cause of meningitis
- Other uncommon causes of meningitis: fungi, parasite, and non-infectious causes (related to drugs)
Viral Meningitis- Serious Disease???

- Viral “aseptic” meningitis is a serious, but not usually fatal with people with healthy immune systems.
- Symptoms will last from 7 to 10 days & patient covers completely
- Often bacterial and viral meningitis symptoms are the same
- If you think your child or you has meningitis, please seek medical help asap
What causes viral meningitis?

- Most cases in U.S. are documented in the summer and fall months and are caused by enteroviruses.

- Most people that are infected with enteroviruses have no symptoms or they get a cold, rash, or mouth sores with a low fever.

- Small percentage of people who are infected with enterovirus infections will develop meningitis.

- Other viral infections can lead to mumps: Epstein-Barr (Mono), Herpes Simplex Virus, Chickenpox, Shingles, Measles, and Influenza.

- Arboviruses - mosquitoes and other insects spread can lead to viral meningitis infections.

- Choriomeningitis Virus - rare cause by the spread of rodents.
Sign and Symptoms of Viral Meningitis

- Symptoms can appear quickly or take several days to appear
- Infections can show up after cold, diarrhea, runny nose, vomiting or other symptoms
- Common in infants: fever, irritability, poor eating, and hard to awaken

- Common in older children and adults: high fever, severe headache, stiff neck, sensitivity to bright light, sleepiness or trouble waking up, nausea, vomiting, and lack of appetite.
Diagnosis of Viral Meningitis

- Laboratory tests of a patient’s spinal
- Test will reveal if patient is infected with the virus or bacterium
- May be difficult to reveal exact virus... since symptoms are similar in viral and bacteria forms.
- Viral is very severe and can be fatal
- Important to have their spinal fluid tested
- Patients may have to stay in hospital if weaken immune system or severe cases.
Treatment of Viral Meningitis

- No specific treatment
- Patient recovery time usually within 2 weeks
- Antibiotics do not help viral infections
- Recommendations from doctors: bed rest, plenty of fluids, and medicine for fever and headaches.
How does the Virus Spread?

- Different viruses spread in different ways
- Enteroviruses are most common—spread through direct contact with an infected person’s stool.
- Virus can spread through children that are yet not toilet trained.
- Virus could be spread through adults changing infected infant’s diapers.
Continued Spread of Viral Infections

- Virus can also spread through direct or indirect contact with respiratory system such as saliva, sputum, or nasal mucus of infected individual.
- Examples: Kissing, shaking hands of infected person, touching object of infected person or rubbing nose of mouth after you touched same object.
- Viruses can stay on surfaces for days and they transferred to objects.
- Also spread through air through droplets from a person’s cough or sneeze.
Timeline Incubation Period

- Between 3 to 7 days for enteroviruses
- Person is contagious from the time symptoms occur until the time they disappear.
- Young children and adults with low immune systems may spread infection even after symptoms disappear.
What happens if I am around an infected person with viral meningitis:

- You may be at risk for being infected with viral meningitis.
- Small chance of actually developing meningitis as an illness.
Reducing Chances of Contacting Viruses That Cause

- Good hygiene practices
- Wash your hands
- Cleaning contaminated surfaces
- Cover your cough/sneeze
- Avoid kissing or sharing utensils, drinking glasses, lipstick or other personal items
- Vaccinations
- Avoid bites from mosquitoes or other insects
- Keep home clean to avoid rodent infestation
Prevention Continued

- Prevention Bacterial Meningitis - Hib, MMR, Polio Vaccines

- Hib Vaccine protects against pneumonia (lung infection) and epiglottitis (severe throat infection)

- MPSV4 or Menomuen vaccine since 1981

- MCV4 or Menactra since 2005

- Vaccines do not prevent against all disease, but protect people who might become sick.

- Two Pneumococcal Vaccines - Pvc7 Vaccine (Prevnar) since 2000 used in children under the age of 2 years old. PPV23 (Pneumovax
Non-Infectious Meningitis

Type of meningitis that can not be spread from person to person

Can be caused by cancers, systemic lupus, certain drugs, head injury, and brain surgery.
References

www.cdc/meningitis.gov

www.voicesofmeningitis.com

www.cdc.gov/CDCTV/HandsTogether/