



Medicine for Managers

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Meningitis

Meningitis is an infection of the meninges (the tissue surrounding the brain and spinal cord) which is often serious. It is caused by viruses or bacteria but all cases should be treated as bacterial before a definitive diagnosis is made because bacterial meningitis has a significant mortality. It can affect people of any age but is usually more common in children and young people.

Meningitis varies in severity and can cause headache, fever and also a stiff neck. Some forms are rapidly progressive and serious and so anyone suspected of having the infection should seek medical attention as early as possible

Principal Signs and symptoms of meningitis.

- High fever, nausea and vomiting
- Severe headache
- Stiff neck
- Sensitivity and dislike of bright light
- Confusion and disorientation
- Drowsiness and unresponsiveness
- Loss of appetite and thirst
- Skin rash (in meningococcal cases)

In newborns and infants, features may include

- High fever

Meningitis may share symptoms, particularly in the early stages, with encephalitis (inflammation of the brain) and it is often caused by a viral infection.



When to consult a doctor

Immediate care should be sought if there is any suspicion that any symptoms might suggest a diagnosis of meningitis. **999** should be called if **any** of the more serious symptoms are observed. In suspected meningitis, fever, severe headache, stiff neck, vomiting or severe confusion make the treatment especially urgent.

Meningitis may be **viral, bacterial or fungal**. Bacterial meningitis is serious and can be rapidly fatal within days unless promptly treated with antibiotics. Viral meningitis is more common but may be less serious. It is vital to establish the cause quickly to implement appropriate treatment.

Bacteria enter the blood stream and invade the meninges. The cause is commonly an ear, nose, or throat infection. Several strains of bacteria cause acute meningitis

- **Neisseria meningitidis** (meningococcal meningitis). Common in the upper respiratory tract, highly contagious and mainly affects teenagers and young

adults. There may be local epidemics in institutions. Vaccine can help prevent infection, but antibiotic may help prevent the disease.

- ***Streptococcus pneumoniae*** (pneumococcal) It is the most common cause of bacterial meningitis in infants, the young and adults. A vaccine can help prevent this disease.
- ***Haemophilus influenzae***. The type b (Hib) bacterium was once a leading cause of meningitis in children, but vaccines have greatly reduced the number of cases.
- ***Listeria monocytogenes***. (listeria). Bacteria found in unpasteurised cheeses. The young and the old are most vulnerable together with those with weakened immunity.

One case in 10 of bacterial meningitis is fatal.

Viral meningitis is often milder and may be caused by enteroviruses, herpesvirus, mumps virus and HIV.

Some slow growing organisms like tuberculosis and some fungi may cause ***chronic meningitis*** which may develop over 2-3 weeks and cause meningitis symptoms.

Other causes are rare and include parasites, drug allergies, chemical reactions and cancer.

Risk factors for Meningitis

- ***Age***. Viral meningitis commonly affects children under 5 and bacterial meningitis those young people under 20.
- ***Failure to complete the vaccination schedule***
- ***Young people living in community settings*** where bacterial spread is easier

- ***Compromised immune system*** due to AIDS diabetes, immunosuppressant drugs or alcoholism

Complications of Meningitis

The disease may be severe. The longer the delay in treatment, the greater the risk of complications

- Brain damage and hearing loss
- Learning and memory difficulties
- Seizures
- Difficulty walking and co-ordinating
- Kidney Failure
- Shock
- Death

With prompt treatment even patients with severe infections can recover well.

Treatment of Meningitis

Rapid diagnosis is imperative. Following admission patients will undergo examination and tests to establish whether the disease is viral or bacterial.

Bacterial meningitis needs vigorous hospital treatment and intensive care facilities may be required

- Intravenous antibiotics
- Oxygen
- Intravenous fluids

Viral meningitis generally needs supportive treatment, and milder cases can be treated at home.

Recovery and outlook after Meningitis

Most people with viral meningitis recover well as do a proportion of patients with the bacterial form. Those people left with complications generally experience problems with hearing, memory and concentration, movement and co-ordination and seizures. Sometimes it is necessary to amputate affected limbs.

Protection and prevention of Meningitis

Prevention of meningitis involves

- Good general hygiene measures
- Hand washing
- Staying healthy – rest, good diet, exercise, not smoking, not drinking too much alcohol
- Covering mouth and nose when coughing or sneezing

Vaccinations protect against some of the causes of meningitis and the below are all offered to babies and the young.

- 6-in-1 vaccine course (Diphtheria, Hepatitis B, Polio, Tetanus, Haemophilus and Whooping cough)
- Meningitis B vaccine course
- Pneumococcal vaccine course
- MMR (Measles, Mumps, Rubella) course
- Haemophilus B/Meningitis C injection at one year.
- Meningitis ACWY (A,C,W,Y are strains of meningococcal bacteria) for students going to University.

Further information about meningitis can be obtained from:

The Meningitis Research Foundation

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www.meningitis.org

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