

What does it feel like?

Peripheral neuropathy is a long lasting pain that usually occurs in the lower legs. Often it is a burning sensation of the foot soles, sometimes so painful that you cannot walk or even put a blanket over your feet. Your feet may feel cold or numb or you may get a feeling of “pins and needles” inside the feet. Sometimes peripheral neuropathy can also cause a tingling sensation in the fingers or around the mouth.



Who gets it?

People who suffer from poor nutrition, lack of vitamins or who take too much alcohol may cause peripheral neuropathy. It is also associated with TB, sugar diabetes and HIV. Peripheral neuropathy can also occur as a side effect of the TB medication INH or the HIV medications ddI and d4T. Peripheral neuropathy does not only occur in people living with HIV, although they have a much higher chance of developing it. It has not been noted in children with HIV.

What is it medically speaking?

Peripheral neuropathy is a lack of functioning of your nerves. Thousands of nerves pick up sensations all over your skin. The nerves run through the spinal cord to your brain where their messages get interpreted. In peripheral neuropathy the nerves send wrong messages to the brain and block others. The sensation of a blanket on your skin is registered as pain instead of touch. Or your brain gets an exaggerated message that your legs feel cold and numb, which makes you put them close to a heater. The nerves block the message that your skin is heating up and you do not feel the pain of burning blisters on your legs.

Making the diagnosis of peripheral neuropathy

Your nurse or doctor will be able to make the diagnosis when you tell them your symptoms. The doctor can then test your ability to register pain, temperature and vibrations.

Staging of HIV

Peripheral neuropathy can occur at any stage of HIV disease and at any CD4 count. However, it is more common and often more severe in more progressed HIV illness. Peripheral neuropathy is not used for the classification of stages of HIV.



Treatment for peripheral neuropathy

Often you will already feel better once the cause of these pains have been explained to you.

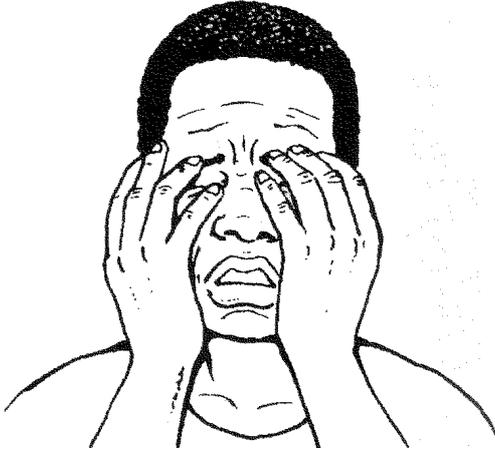
- **Pyridoxine (Vitamin B6):** If you get peripheral neuropathy while on TB treatment, add Pyridoxine tablets. They counter this side effect of INH.
- If you are already using Pyridoxine and still have symptoms, treat it like all other peripheral neuropathy with Amitriptyline.
- **Amitriptyline** was developed as medicine against depression, but at lower doses (1-2 tablets) it can relieve the pain of peripheral neuropathy. It makes you sleepy so you should take it at night. This helps many people who could not sleep well before.
- At the moment most nurses are not allowed to prescribe Amitriptyline. To treat people living with HIV more effectively it might be necessary to change this restriction.

Other medicines

Some doctors give Carbamazepine (an epilepsy medication) for peripheral neuropathy. It works, but makes antiretrovirals (ARVs) ineffective. People living with HIV should therefore stay away from Carbamazepine. If the pain is not relieved by Amitriptyline try adding pain tablets like Ibuprofen, Indomethacin or even Codeine and Morphine. Vitamin B Co and Folic acid have not been studied scientifically for treatment of peripheral neuropathy, but some people believe they help. It is also advisable to stop drinking alcohol.

If you suspect that the peripheral neuropathy is caused by some of your TB or HIV medications, discuss this with your doctor and do not simply stop these medications on your own.





What does it feel like?

There are many things that can give you a headache. It can be stress, flu or high blood pressure. It can also be meningitis, which is a serious illness. Meningitis usually makes you so sick that you feel you need to lie in hospital. Headache is the most common symptom. It is often accompanied by a temperature (feeling hot and cold), nausea and vomiting. Other signs of meningitis include fatigue and a stiff neck. Meningitis is sometimes made worse by light. There can also be confusion, vision problems, fits and even coma. The symptoms may come on slowly and develop over weeks. However, you may also get sick from one day to the other.

What is it medically?

Meningitis is an infection of the spinal cord and of the membrane that covers the brain – called the meninges. The four major groups of germs that cause infections can all cause an infection of the meninges (see different types below).

How is meningitis diagnosed?

A doctor will need to take fluid from your spine. This is called a spinal tap or a lumbar puncture. A needle is inserted in the middle of your back just above your hips. The needle taps some fluid that surrounds the meninges of the spinal cord. This sample is then analysed in the laboratory to determine what germ is causing the infection. A lumbar puncture is safe and usually not too painful. However, some people get headaches afterwards that can last a few days.

Who gets it?

Cryptococcal meningitis usually only occurs in people living with HIV. All other forms of meningitis occur in HIV negative and HIV positive people. However, all are more common in HIV positive people.

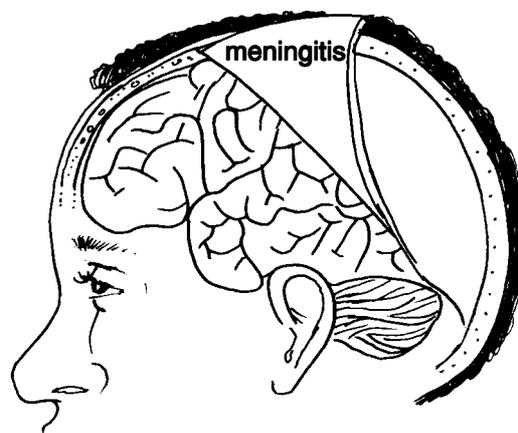
Different types of meningitis and their treatment

- **Viruses** like HIV itself and Herpes can cause **viral meningitis**. Viral meningitis develops over a week. It is treated with headache tablets. Sometimes it can disappear after a week.
- **Bacteria** like Meningococcus and Streptococcus can cause **bacterial (septic) meningitis**. Bacterial meningitis can develop in hours or over days. Meningococcus is very



contagious and the family should receive prophylaxis. It is often seen in children. It is treated with antibiotics including Cephalosporins.

- TB is another bacterium that can cause meningitis. Since the TB bacterium is very different from other types of bacteria, it is classified separately as TB meningitis (TBM). It can take a couple of days or weeks for TBM to develop. It is treated with the usual TB treatment, a combination of INH, Rifampicin, PZA and Ethambutol, Myrin Plus or Rifafour.
- Syphilis can cause neuro syphilis. It develops at a late stage of the STD. In an HIV negative person it takes 10 years for this to happen. In a person living with HIV, neuro syphilis can develop 2 years after the syphilis has started. Prevent neuro syphilis by treating syphilis early and by using condoms. Neuro syphilis is treated with intra-venous Penicillin antibiotic.
- Cryptococcus is a fungus found in soil. It can get into your body when you breathe in dust. It can cause Cryptococcal meningitis, which can take a week or a month to develop. Cryptococcal meningitis is treated with Fluconazole. The drug can be injected directly into the body or can be swallowed. After you are cured, you must continue to use Fluconazole for life in order to prevent the infection from returning. Fluconazole should be available in all clinics and hospitals. If your clinic or hospital refuses to give it to you when you need it, or does not have stock, please contact the Treatment Action Campaign.



This is a diagram showing the meningitis covering your brain.

It is very important to recognise the symptoms of meningitis, and go for treatment immediately.

Staging of HIV

Cryptococcal meningitis and TB meningitis are classified as stage four. Bacterial meningitis is classified as stage three. The others do not influence the staging.



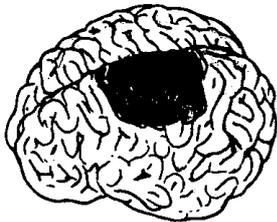
What is a stroke?

Most people know of an old person who has had a stroke. Usually the arm and leg of one side of the body suddenly become weak or paralysed. Sometimes the face is also affected and the person struggles to speak and eat. People living with HIV sometimes get this problem at an early age.



What is it medically?

A stroke happens when one part of the brain stops functioning properly. The brain is split in the middle into a left side and a right side. If the brain is damaged on the right side it can no longer properly control the arm and leg on the left side. In old people stroke is usually caused by damaged blood vessels due to high blood pressure. If the blood supply to one part of the brain stops, that part of the brain stops functioning. In people living with HIV the damage is usually caused by an infection or sometimes by a cancer. Unlike in meningitis, where the infection is around the brain, the infection now occupies a space inside the brain. This damages the surrounding brain function. This is called a “brain occupying lesion”. Brain occupying lesion can be caused by TB (tuberculoma), bacteria (brain abscess), toxoplasma (toxoplasmosis), tapeworm (cysticercosis), JC virus (PML - Progressive multifocal leucoencephalopathy) or fungus (Fungal ball).



Damaged brain,
causing stroke

Only people living with HIV get toxoplasmosis and PML. Others anybody can get, however all are more common in people living with HIV.

Making the diagnosis

If you have a stroke or a fit (even if it was only a single fit) you should be referred to a hospital where a CT scan can be done. A CT scan is a special X-ray that can look at the brain in different layers. It can usually identify the cause of the problem.

Staging of HIV

Tuberculoma, toxoplasmosis and PML are classified as stage four.



Treatment

It depends on the cause of the stroke or fit.

- Tuberculoma with TB treatment;
- An abscess with antibiotics;
- Toxoplasmosis with Cotrimoxazole;
- Cysticercosis with Albendazole;
- Fungus with Fluconazole.



All of these can be cured. PML and most cancers of the brain in people living with HIV are difficult to treat.

Prevention

Like PCP pneumonia, toxoplasmosis can be prevented by taking Cotrimoxazole. Take one Cotrimoxazole tablet daily if your CD4 count is below 200 or you have stage three or four illness. Once you've had PCP or toxoplasmosis you need two tablets daily to prevent recurrence.

Exercise

People who have had a stroke should exercise as much as possible. You can often regain full body function after the cause has been treated. Even if the stroke persists you can learn to use your weakened limbs again. Alternatively you can do tasks like getting dressed or writing with your other side. Working out a program with a physiotherapist or occupational therapist helps.

What is a fit?

With a fit some body part starts twitching or even jerking severely. Often you lose your consciousness and you will wake up later. You might have bitten your tongue or peed into your pants. Fits are also called convulsion or seizure.

All the illnesses associated with brain occupying lesions can cause both strokes and fits. Fits can also be caused by encephalopathy, a viral infection of the whole brain. If no cause can be found it is called epilepsy.

Medically speaking

There are chemical electrical currents in the brain. These send and receive chemical messages throughout the body. A fit is caused by abnormal functioning of these currents.

Treatment for fits

Once you have had one fit further fits should be prevented by using Valproate tablets. Sometimes Phenytoin or Carbamazepine are also used. However, they make some antiretrovirals ineffective.



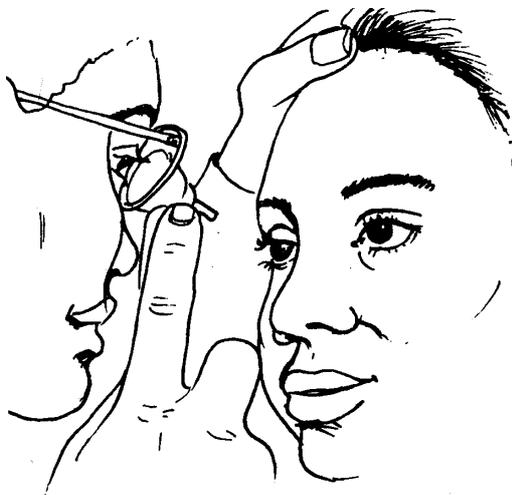


What does it feel like?

People with HIV can get many eye problems. The most serious one is infection with CMV (cytomegalovirus). You will notice that your eyesight gets worse and worse. Things at a distance appear blurred or you can even see a double image. You might also notice that you cannot see things very close to you anymore. CMV affects only one eye or both eyes. You will feel no pain or itching, but sometimes your eyes will get sensitive to bright light. Similar symptoms can occur in some forms of meningitis.

Who gets it?

CMV disease only occurs in people with advanced HIV illness. Usually your CD4 count has to be below 50 before the CMV virus can cause illness. Apart from the eyes, CMV can also cause illness in the lungs (CMV pneumonia), the food pipe (oesophageal CMV – not to be confused with oesophageal thrush) or the intestines (CMV colitis).



Making the diagnosis of CMV of the eye

The diagnosis is made by a doctor examining the inside of your eye with an examination torch.

Staging of HIV

Once the diagnosis of CMV has been made the HIV is now stage four.

Treatment



- CMV can be treated with Ganciclovir injected into the eye. This treatment is effective and affordable, but presently only available at specialised eye clinics.
- Ganciclovir drip and tablets are sometimes used, but are very expensive and have many side effects. Other medications like Foscarnet and Cidofovir are also expensive and have not been registered with the Medicines Control Council yet.
- All these treatments will stop the CMV infection, but do not repair the damaged eye. You will thus not regain your normal eyesight, but you can stop the eyes from getting worse and from going blind.
- It is also important to start with antiretroviral medicines at this stage. This will improve your immune system, which can then fight CMV in the long term.

Preventing CMV

As it is difficult to treat CMV and as it can cause blindness it is very important to detect it early. It is recommended that people with a CD4 count below 50 who do not have access to antiretrovirals should have an eye examination every three months and as soon as the eyes start deteriorating.

The real solution to CMV

As CMV can only cause disease if your CD4 count gets below 50 it means you should start antiretroviral therapy before the CD4 count gets that weak. Unfortunately antiretroviral therapy is not provided by the government yet. However, any doctor can prescribe these medicines if you can pay for them yourself at a pharmacy.

Painful eye

At any stage of HIV disease you can get painful red eyes. If they are very itchy and you also have a runny nose it is caused by allergy. Oxymetazoline eye drops will help. Sometimes yellow pus will make your eyelids stick to one another in the morning. This is a sign of a bacterial infection of the eye. Chloramphenicol eye ointment should be applied.

