CONDITION

Sleeping sickness

Sleeping sickness is a parasitic infection spread mainly by tsetse flies in parts of sub-Saharan Africa.

WHAT IT IS
Parasitic infection spread by infected tsetse flies

BODY SYSTEM
Blood, lymphatic system, brain, and nerves

MAIN SYMPTOMS
Fever, headaches, sleep changes, confusion

WHAT CAUSES IT
Infection with African trypanosome parasites

HOW IT IS DIAGNOSED
Parasites found in blood, lymph fluid, or spinal fluid

MAIN TREATMENT
Antiparasitic medicines chosen by type and stage

CAN IT BE CURED?
Yes - timely antiparasitic treatment can clear infection

IS IT AN EMERGENCY?
Sometimes - seizures, severe confusion, or reduced consciousness

LONG-TERM OUTLOOK
Usually curable, but untreated infection is often fatal

Overview

Sleeping sickness, also called human African trypanosomiasis, is an infection caused by microscopic parasites. It occurs in parts of sub-Saharan Africa and is spread mainly through the bite of an infected tsetse fly.

The infection can first affect the blood and lymphatic system. The lymphatic system is a network that helps the body manage fluid and fight infection. Without treatment, the parasites may enter the brain and the fluid surrounding it. This can cause changes in sleep, behaviour, movement, and consciousness.

There are two main forms:

The name can be misleading. People do not simply sleep all the time. The condition can disturb

the normal sleep-wake cycle, causing daytime sleepiness, nighttime wakefulness, and broken periods of sleep.

Sleeping sickness can be cured with appropriate antiparasitic treatment. Without treatment, both forms can become life-threatening.

- Gambiense sleeping sickness occurs mainly in West and Central Africa. It usually develops slowly, over months or years.
- Rhodesiense sleeping sickness occurs mainly in East and Southern Africa. It often progresses over weeks or months.

Symptoms

Symptoms differ according to the type of parasite and how far the infection has progressed. Early symptoms can resemble many other infections, including malaria.

The first stage affects the blood and lymphatic system. Possible symptoms include:

The bite sore is called a chancre . It is more often seen with rhodesiense infection, but not everyone develops one.

In the second stage, parasites have reached the central nervous system, meaning the brain and spinal cord. Symptoms may include:

Rhodesiense infection usually becomes severe more quickly. Gambiense infection can remain mild or unclear for a long time before nervous system symptoms appear.

- Repeated or ongoing fever
- Headache
- Tiredness
- Muscle or joint aches
- Itching
- Swollen lymph nodes, especially at the back of the neck
- Weight loss
- A painful red or purple sore where the fly bit
- Daytime sleepiness and difficulty sleeping at night
- Frequent, short periods of sleep
- Confusion or personality changes

- Poor concentration
- Problems with balance or walking
- Tremors, weakness, or unusual movements
- Slurred speech
- Seizures
- Increasing difficulty staying awake

Causes and risk factors

Sleeping sickness is caused by parasites belonging to the Trypanosoma brucei group. The two main parasites affecting people are T. b. gambiense and T. b. rhodesiense .

A tsetse fly becomes infected after feeding on a person or animal carrying the parasite. It can then pass the parasite through a later bite. Tsetse flies live only in sub-Saharan Africa, especially in rural areas with woodland, scrub, rivers, or other suitable habitats.

Risk is linked to where you travel or live and what activities you do there. It may be higher with repeated outdoor exposure in an area where transmission is occurring. Farmers, hunters, fishers, park workers, and people visiting wildlife areas may have more contact with tsetse flies.

Humans are the main reservoir for gambiense infection, meaning people help maintain its transmission cycle. Rhodesiense infection also circulates in animals, including cattle and wild game.

Sleeping sickness does not spread through coughing, touching, sharing food, or ordinary social contact. Rare routes include transmission during pregnancy from mother to baby, contaminated blood, or an accidental laboratory exposure.

Diagnosis

Symptoms alone cannot confirm sleeping sickness. A clinician will consider your symptoms together with where you have lived or travelled, when the exposure happened, and whether you remember tsetse fly bites.

Blood antibody tests can help screen for gambiense infection. Antibodies are immune proteins produced after exposure to an infection. A positive screening test is not enough to confirm the condition because the test does not directly show the parasite.

Confirmation usually requires finding parasites under a microscope in one or more of the following:

Parasites may be difficult to find in gambiense infection, so concentrated samples or repeated testing may be needed.

After the infection is confirmed, doctors assess whether it has reached the nervous system. This may involve a lumbar puncture, sometimes called a spinal tap. During this procedure, a small sample of cerebrospinal fluid is taken from the lower back. The laboratory looks for parasites and signs of inflammation.

Accurate staging matters because treatment choices differ when the brain or spinal cord is involved. In some situations, the medicine selected and current treatment guidance may reduce the need for a lumbar puncture.

- Blood
- Fluid taken from an enlarged lymph node
- Fluid from a bite sore
- Cerebrospinal fluid, which surrounds the brain and spinal cord

Treatment and management

Sleeping sickness requires specific antiparasitic medicine. Treatment is usually coordinated by specialists in infectious or tropical diseases, often with public health authorities. The medicine chosen depends on the parasite type, the stage of infection, age, weight, symptoms, and what medicines are available locally.

Treatments may include:

Some treatments need to be given in hospital. Blood tests and other monitoring may be required because the medicines can cause significant side effects. These may include nausea, reduced appetite, headache, changes in blood cells, liver problems, or reactions affecting the nervous system. The risks differ between medicines.

Supportive care may include fluids, nutrition, treatment for seizures, and help with movement or sleep problems. Other infections, including malaria, may need testing because they can cause similar symptoms or occur at the same time.

Follow-up continues after treatment because symptoms do not always disappear immediately and the infection can occasionally return. Follow-up may include examinations, blood tests, and sometimes further spinal fluid testing. The schedule depends on the type and stage of infection and the treatment used.

- Fexinidazole , an oral medicine used for eligible people with gambiense infection and, under current World Health Organization guidance, rhodesiense infection
- Pentamidine or suramin , injectable medicines used for certain first-stage infections
- Nifurtimox-eflornithine combination therapy , often shortened to NECT, for later-stage gambiense infection
- Melarsoprol , an arsenic-containing medicine that may be used for nervous system infection in specific circumstances

Complications

Once parasites enter the central nervous system, sleeping sickness can affect thinking, mood, movement, and the ability to manage everyday tasks.

Possible complications include:

Some neurological problems can take time to improve after the parasites have been cleared. Lasting problems are more likely when treatment begins after advanced nervous system damage.

Treatment itself can sometimes cause serious reactions, which is why specialist monitoring is important. Untreated sleeping sickness usually continues to progress and is often fatal.

- Persistent confusion or behaviour changes
- Problems with balance, speech, or coordination
- Seizures
- Poor nutrition and weight loss
- Severe weakness
- Reduced consciousness or coma
- Heart inflammation, particularly with rhodesiense infection
- Pregnancy complications and infection of the baby

Prevention

There is no vaccine or preventive medicine for sleeping sickness. Prevention focuses on reducing contact with tsetse flies in places where transmission occurs.

When visiting an affected area:

Standard insect repellents may not work reliably against tsetse flies, although they can still protect against mosquitoes and other insects. Bed nets are useful against several insect-borne infections, but tsetse flies mainly bite during the day.

If you live in an area affected by gambiense sleeping sickness, community screening can find infections before serious symptoms develop. Treating infected people also reduces the chance of further transmission.

- Wear long sleeves, long trousers, and closed shoes
- Choose medium-weight fabric because tsetse flies can bite through thin clothing
- Use neutral-coloured clothing; tsetse flies may be attracted to very bright or very dark colours
- Avoid walking through dense bushes where flies may be resting
- Check vehicles before entering because flies can follow moving vehicles
- Follow advice from local health and travel authorities about affected areas

Living with it and what to expect

Recovery depends on the parasite type, the stage at diagnosis, and whether the brain or spinal cord has been affected. People treated in the first stage generally have a better chance of recovering without lasting problems.

Fever and other early symptoms may improve after treatment, but tiredness can continue for a while. Sleep patterns, concentration, mood, balance, and movement may recover more slowly if the nervous system was involved. Rehabilitation or practical support may be needed during this period.

You may need planned follow-up over many months. Some people are monitored for up to two years, although the approach can differ according to the treatment used and current local guidance. Keep these appointments even if you feel well, because follow-up helps identify relapse or treatment complications.

A treated infection does not give reliable lifelong immunity. It is possible to become infected again after another infected tsetse fly bite.

Many people return to their usual activities after successful treatment. Advanced infection can leave lasting neurological or functional difficulties, and recovery cannot be predicted from symptoms alone.

When to get medical help

Seek prompt medical assessment if you develop fever, headache, swollen lymph nodes, a new bite sore, or unusual sleep changes after living in or travelling to an area of sub-Saharan Africa where sleeping sickness occurs. Mention the countries and regions you visited, even if the travel was months or years ago.

This is especially important if you develop confusion, behaviour changes, poor balance, tremors, or increasing daytime sleepiness. These symptoms need urgent assessment because they may suggest involvement of the brain or spinal cord.

Seek emergency help now for:

After treatment, attend routine follow-up as arranged. Contact the treating service sooner if fever, sleep disruption, confusion, or movement problems return.

- A seizure
- Severe or rapidly worsening confusion
- Difficulty waking or reduced consciousness
- Sudden inability to walk, speak, or use a limb
- Breathing difficulty or collapse

Common questions

Is sleeping sickness the same as narcolepsy?

No. Narcolepsy is a long-term neurological sleep disorder that is not caused by a parasite. Sleeping sickness is an infection that can disrupt sleep after affecting the brain.

Can sleeping sickness be cured?

Yes. Antiparasitic medicines can clear the infection. Treatment is more straightforward and the outlook is generally better before the nervous system becomes involved.

How soon do symptoms start after a tsetse fly bite?

Rhodesiense symptoms may begin within days or weeks and often progress over weeks to months. Gambiense infection usually develops more slowly, and symptoms may not be recognised for months or years. A person may not remember being bitten.

Does every tsetse fly bite cause sleeping sickness?

No. Only flies carrying the parasite can transmit it, and not every bite from an infected fly leads to recognised infection. A tsetse bite alone does not confirm sleeping sickness.

Can I catch it from another person?

Not through ordinary contact, coughing, food, or shared household items. Most infections come from tsetse fly bites. Transmission during pregnancy, through contaminated blood, or through laboratory accidents is rare.

Why is it called sleeping sickness?

The infection can damage brain systems that regulate sleep and wakefulness. This may cause daytime sleepiness, nighttime insomnia, and short, broken periods of sleep rather than continuous sleeping.

Sources

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