



Health A-Z (Link: www.nhs.uk/conditions/) NHS services (Link: www.nhs.uk/nhs-services/) Live Well (Link: www.nhs.uk/live-well/) Men

SARS (severe acute respiratory syndrome)

SARS (severe acute respiratory syndrome) is caused by the SARS coronavirus, known as SARS CoV. Coronaviruses commonly cause infections in both humans and animals.

There have been 2 self-limiting SARS outbreaks, which resulted in a highly contagious and potentially life-threatening form of pneumonia (Link: www.nhs.uk/conditions/pneumonia/). Both happened between 2002 and 2004.

Since 2004, there have not been any known cases of SARS reported anywhere in the world.

The World Health Organization (WHO) (Link: <http://www.who.int/en/>) continues to monitor countries throughout the world for any unusual disease activity. If there was another SARS outbreak, it should be possible to limit the spread of infection.

The SARS pandemic

SARS originated in China in 2002. It's thought that a strain of the coronavirus usually only found in small mammals mutated, enabling it to infect humans.

The SARS infection quickly spread from China to other Asian countries. There were also a small number of cases in several other countries, including 4 in the UK, plus a significant outbreak in Toronto, Canada.

The SARS pandemic was eventually brought under control in July 2003, following a policy of isolating people suspected of having the condition and screening all passengers travelling by air from affected countries for signs of the infection.

During the period of infection, there were 8,098 reported cases of SARS and 774 deaths. This means the virus killed about 1 in 10 people who were infected. People over the age of 65 were particularly at risk, with over half of those who died from the infection being in this age group.

In 2004 there was another smaller SARS outbreak linked to a medical laboratory in China. It was thought to have been the result of someone coming into direct contact with a sample of the SARS virus, rather than being caused by animal-to-human or human-to-human transmission.

Viral mutations

Like all living things, viruses are constantly changing and evolving. A mutation is where the genetic information that's stored inside an organism changes.

Many global outbreaks of infectious illnesses (pandemics) that have happened in recent history are thought to have been caused by viruses previously only found in animals. After mutating, the viruses became capable of infecting humans.

Examples of mutated viruses include:

- SARS
- HIV (Link: www.nhs.uk/conditions/hiv-and-aids/) – thought to be a mutated version of a virus found in monkeys
- bird flu (avian flu) (Link: www.nhs.uk/conditions/bird-flu/) – a mutated version of a flu virus found in birds
- swine flu (Link: www.nhs.uk/conditions/swine-flu/) – a mutated version of a flu virus thought to have originated in pigs

How SARS is spread

SARS is an airborne virus, which means it's spread in a similar way to colds and flu.

The SARS virus is spread in small droplets of saliva coughed or sneezed into the air by an infected person. If someone else breathes in the droplets, they can become infected.

SARS can also be spread indirectly if an infected person touches surfaces such as door handles with unwashed hands. Someone who touches the same surface may also become infected.

The SARS virus may also be spread through an infected person's poo. For example, if they do not wash their hands properly after going to the toilet, they may pass the infection on to others.

Evidence from the SARS pandemic of 2002 to 2003 showed people living with or caring for someone with a known SARS infection were most at risk of developing the infection themselves.

Symptoms of SARS

SARS has flu-like symptoms (Link: www.nhs.uk/conditions/flu/symptoms/) that usually begin 2 to 7 days after infection. Sometimes, the time between coming into contact with the virus and the start of symptoms (incubation period) can be up to 10 days.

The symptoms of SARS include:

- a high temperature (fever)
- extreme tiredness (fatigue)

- headaches
- chills
- muscle pain
- loss of appetite
- diarrhoea (Link: www.nhs.uk/conditions/diarrhoea/)

After these symptoms, the infection will begin to affect your lungs and airways (respiratory system), leading to additional symptoms, such as:

- a dry cough (Link: www.nhs.uk/conditions/cough/)
- breathing difficulties
- an increasing lack of oxygen in the blood, which can be fatal in the most severe cases

Treatment for SARS

There's currently no cure for SARS, but research to find a vaccine is ongoing.

A person suspected of having SARS should be admitted to hospital immediately and kept in isolation under close observation.

Treatment is mainly supportive, and may include:

- assisting with breathing using a ventilator to deliver oxygen
- antibiotics (Link: www.nhs.uk/conditions/antibiotics/) to treat bacteria that cause pneumonia
- antiviral medicines
- high doses of steroids (Link: www.nhs.uk/conditions/steroids/) to reduce swelling in the lungs

There's not much scientific evidence to show that these treatments are effective. The antiviral medicine ribavirin is known to be ineffective at treating SARS.

Preventing the spread of SARS

Do not travel to areas of the world where there's an uncontrolled SARS outbreak.

To reduce your risk of becoming infected, avoid direct contact with people who have the SARS virus until at least 10 days after their symptoms have gone.

To prevent spreading the infection, it's important to:

- wash your hands thoroughly using an alcohol based hand detergent
- cover your mouth and nose when you sneeze or cough
- avoid sharing food, drink and utensils
- regularly clean surfaces with disinfectant

In some situations it may be appropriate to wear gloves, masks and goggles to help prevent the spread of SARS.

The Travel Health Pro website also has travel advice by country (Link: <https://travelhealthpro.org.uk/countries/>).

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