Diagnostics and surveillance
Pirbright is one of four OIE reference laboratories for AHSV and provides early warning, rapid diagnosis, emergency response and expert advice to the UK and international governments.

We coordinate international projects to standardise and harmonise the use of AHSV diagnostic tests. The Institute also advises on and contributes to comprehensive codes of practice for the safe international trade of horses.

Our scientists also monitor global patterns of disease distribution and identify the correct vaccine to be used in the event of an outbreak.

We have recently developed a fast and portable, prototype diagnostic test for AHSV, which could potentially be used in the field without the delay of sending samples to a laboratory. This is important because rapid, accurate diagnosis is vital in controlling the spread of the virus and helps prevent more animals from becoming infected - saving lives.

Social and economic impact
AHSV has a huge impact worldwide. With such a high mortality rate amongst horses, the disease causes major economic losses for the equine industry and owners of working horses. International travel bans also present significant issues for equine sport and world horse racing.

There has never been a UK outbreak of AHSV but the cost of a major European outbreak to the British equine industry, has been estimated at up to £3.5 billion.
African horse sickness virus (AHSV) infects all equine species including horses, donkeys, mules and zebras as well as camels. It is one of the most deadly equine viruses and can be fatal in up to 90% of infected susceptible animals.

AHSV can cause different forms of the disease:

**Cardiac form:**
Fever, swelling around the eyes, lips, cheeks, tongue and neck and in some cases colic may also be seen.

**Respiratory form:**
Fever, breathing difficulties, coughing, sweating and a frothy discharge from the nostrils with death occurring within a few hours.

**Mixed form:**
Some animals may display a combination of clinical signs from the cardiac and respiratory forms.

There are nine types (serotypes) of AHSV. It is from the Reoviridae family of viruses and is categorised as an Orbivirus within that family.

AHS is not directly contagious, but is spread by Culicoides biting midges that have been infected by biting an affected animal. It is prevalent in central and sub-Saharan Africa, but major outbreaks have also been reported in the Middle East, India, Pakistan, Spain, Portugal and Morocco.

**PREVENTION**
AHSV-free countries such as the UK and the rest of the EU heavily control the movement of horses. Although AHSV is currently restricted to sub-Saharan Africa, it has a history of emergence into southern Europe. Strict international travel regulations are therefore in place to prevent infected animals being moved from regions where the virus is prevalent.

Vaccines are available using the live attenuated virus (a virus that has been made less virulent), in some countries such as South Africa where AHSV persists. These vaccines are not considered safe enough (as the pathogen is still live), for licensed use in countries where the virus is not present, including the EU.

**CONTROL**
There is no specific treatment available for AHS, other than supportive treatment. Measures to control the exposure of horses to biting insects, together with movement restrictions and efficient detection systems (rapid diagnosis), are essential to prevent an outbreak from spreading.

AHS is a notifiable disease in the UK and must be reported. Further details are available from the Defra website: www.gov.uk/guidance/african-horse-sickness.

AHS is the only equine infectious disease for which the OIE (World Organisation for Animal Health), issues an official declaration of disease freedom to its member countries.

Horse sickness fever:
Animals that develop horse sickness fever often recover from the disease. Symptoms include a few days of fever, depression and reduced appetite.

Respiratory form:
Fever, breathing difficulties, coughing, sweating and a frothy discharge from the nostrils with death occurring within a few hours.

AHSV is spread by Culicoides biting midges.