

# Pseudorabies

A PowerPage Presented By



Pseudorabies is caused by a herpesvirus (Porcine herpesvirus-1) and is also called “Aujeszky’s disease” or “Mad Itch”. This condition affects all farm animals except for horses, who are resistant, although reports of the disease do exist. Clinical signs vary by species. The virus mainly affects the brain and respiratory systems. This PowerPage is divided with the top part discussing the disease in pigs (the most important species for this disease) and the last portion reviewing pseudorabies in other species.

## Key Points

- **Reportable disease**
- **Pigs** are the natural host and the primary reservoir
- **Transmission via inhalation** is the primary method of spread
  - Air spread in late winter and early spring may occur over great distances
- **Most common clinical signs:**
  - Pigs:
    - Late-term abortions or abortion storms, stillbirths
    - Encephalitis in young pigs, high mortality in piglets (“Shaker pigs”)

Pseudorabies is a herpesvirus that is resistant against extreme heat and pH. It can therefore survive in the environment for 2-7 weeks.

## Pseudorabies in Pigs

### Clinical signs:

- Pigs are the main host, and clinical signs in pigs depend on their age. You can generally classify pigs by the following ages, weights and titles:

Neonates	0-3 weeks	Less than 4 kg
Weanlings/nursery	3-10 weeks	Up to 25 kg
Growers/Finishers	10-26 weeks	Up to 120 kg
Breeders/adults	>6 months	Greater than 120 kg

- Neonates- Very susceptible, signs of fever, convulsive episodes, and prostration with rapid death within hours (100% mortality)
- Weanlings & Growers- Pneumonia, **extreme pyrexia**, tremors (variable mortality, 15-50%)
- Adults- Infection is often unapparent, but stillbirths and abortions are the main sign. Occasionally can cause similar respiratory or neurologic signs (mortality < 15%)

### Diagnosis

- Histology: **Cowdry type A inclusion bodies** is a huge tipoff for herpes infection. They are seen in necrotizing lesions of the respiratory tract and brain
  - Other findings may include necrotic tonsils with a **diphtheritic membrane**
  - In brain, may see perivascular cuffing, encephalitis, and cerebral edema

- Serology: ELISA-vaccinated animals may test positive. There are several additional serologic tests including the **serum neutralization test** which is the standard but takes 48 hrs. It is often used to verify a positive ELISA

### Treatment and Prevention

- No specific treatment
- For prevention
  - When pseudorabies occurs on a farm, a quarantine should be instituted: healthy pigs separated from the sick with dead pigs disposed by incineration or deep burial. Recovered pigs should not be sold to other farms
  - The chances for introduction of the disease can be minimized by control of movement of people, animals and objects into swine premises
  - Clean clothes and boots should be decontaminated with a good disinfectant
  - Other animals should be kept away from pigs
  - Add breeding stock from only herds known to be pseudorabies-free, and all additions should be tested, isolated for at least 30 days, and then retested
  - Untested feeder pigs should never be brought onto premises where farrowing operations exist
  - **Vaccination** - Vaccine use is regulated/restricted by some states but can also be an effective means of controlling an outbreak and preventing this disease

### Pseudorabies in other species (Cattle, sheep, goats, dogs, cats):

The main clinical sign is severe local pruritus (“Mad Itch”). This progresses to severe self mutilation. Neurologic signs progress to convulsions, paralysis, respiratory distress, and sudden death, typically within 24 hours or less in dogs and cats and 1-2 days in cattle.

Pseudorabies is an extremely rare zoonosis with only a few reported cases. It is very mild in humans compared to its severity in other species.

### References and Links

#### Some excellent on-line resources on pseudorabies

Veterinary Education and Information Network of the University of Sydney - Topic Outline:  
<http://vein.library.usyd.edu.au/links/exoticdiseases/pseudorabies.html>

The Pork Industry Handbook- An excellent 3-page summary:  
<http://www.uwex.edu/ces/animalscience/swine/documents/pih-38pseudo.pdf>

The Center for Food Security and Public Health, Iowa State - A similar 3-4 page summary:  
[http://www.cfsph.iastate.edu/Factsheets/pdfs/aujeszkys\\_disease.pdf](http://www.cfsph.iastate.edu/Factsheets/pdfs/aujeszkys_disease.pdf)

#### Other references used for this page

Smith, Large Animal Internal Medicine, 4th edition, p. 887, 141

Straw, Diseases of Swine, 9th Edition, p.419

Merck Veterinary Manual, 9th edition, online:  
<http://www.merckvetmanual.com/mvm/index.jsp?cfile=htm/bc/102200.htm>

