

# Scrapie

*A PowerPage Presented By*



The two important transmissible spongiform encephalopathies (TSE) that you need to know about for boards are bovine spongiform encephalopathy (BSE) and scrapie in sheep. Deer and elk can develop **chronic wasting disease** which is another TSE. The causative agent of these diseases is still a topic of debate but a prion (abnormal protein) is theorized. The agent is extremely resistant to heat and normal sterilization procedures. This PowerPage discusses the key features of scrapie in sheep and its implications for human disease.

## Key Points

- Key clinical signs are intense **pruritus** with **scratching, rubbing, biting, and lip smacking**
- Transmission is usually from placenta
- **Reportable disease**
- Can be diagnosed by biopsy of lymphoid tissue in third eyelid or tonsils
- No evidence of transmission to humans (in contrast to BSE)

## Transmission

For scrapie, transmission is usually from the ewe to her offspring and other lambs through contact with the placenta. Signs may appear 2-5 years or longer after infection. There is **no evidence that scrapie is transmitted to humans**.

## Clinical Signs

- Scratching/rubbing against objects, biting of feet and limbs, lip smacking
- Incoordination, gait abnormalities, high stepping, “bunny hopping”
- May tremble or convulse in response to noise or handling
- Weight loss

## Diagnosis

- Biopsy of the lymphoid tissues inside of the third eyelid or the tonsils
- Alternatively, histology of the brain for characteristic changes of bilaterally symmetric intracytoplasmic vacuolation of neurons.
  - Can confirm with immunohistochemistry for prion protein fibrils.

## Treatment

- There is no effective treatment
- The USDA has an accelerated scrapie eradication program to test and slaughter infected sheep and trace herds of origin

## References and Links

Smith- Large Animal Medicine 3rd ed pp. 882-884

USDA: [http://www.aphis.usda.gov/animal\\_health/animal\\_diseases/scrapie/](http://www.aphis.usda.gov/animal_health/animal_diseases/scrapie/)