

NTSESP sampling requirements (Queensland)

Sampling for the National Transmissible Spongiform Encephalopathies Surveillance Program

Essential samples for TSE testing

Both unfixed (fresh) and formalin-fixed tissues from the central nervous system are essential.

To ensure the samples are of diagnostic quality, the brain should be removed from the skull as soon as possible after death, with the brainstem attached and intact. Care should be taken to ensure the brain and spinal cord are not damaged.

The national program provides incentive payments for eligible cases where the samples provide for either definitive exclusion or diagnosis of TSE. Cases may be ineligible for incentive payments if essential samples are incomplete, autolyzed or otherwise not diagnostic.

You can read more information about animal destruction in the [NTSESP National Guidelines for Field Operations \(PDF, 2MB\)](#), and about brain removal in [NTSESP brain removal options \(Queensland\) \(PDF, 193.3KB\)](#).

Unfixed tissues

Samples of unfixed brain/spinal cord (see Figures 1 and 2) should be collected and refrigerated (4°C) or frozen (-20°C or -70°C) as soon as possible. If submission of unfixed tissues to the laboratory could be delayed by more than 3 days (e.g. over the weekend), unfixed tissues should be frozen.

Cattle: 2–3cm length of unfixed cervical spinal cord and/or medulla caudal to the obex.

Sheep: two unfixed tissues in separate, labelled containers, each clearly recorded on the [specimen advice sheet \(PDF, 78KB\)](#):

- (i) 2–3cm length of unfixed cervical spinal cord and/or medulla caudal to the obex
and
- (ii) dorsal (top) third of the cerebellum. **CAUTION:** remove *only* the dorsal third of the cerebellum. Removing more may damage TSE Standard Site 2 (caudal cerebellar peduncles) and compromise histological evaluation.

Formalin-fixed tissue

For both cattle and sheep, the remainder of the brain, with remaining brainstem attached, should be fixed whole in 10% buffered formalin. The container must be large enough to enable the brain to 'float'. It is very important to use adequate volumes of 10% buffered formalin.

- Cattle brains — at least 2 litres
- Sheep brains — at least 1 litre

The brain should float with the cerebrum resting on the bottom so that the caudal brainstem (midbrain and medulla) is straight (not bent or twisted).

Fix brains for at least 3 days at room temperature (do not chill or freeze) before sending them to the laboratory. Take care to avoid damaging the fixed brain during handling and transport.

Figure 1 – Cattle TSE exclusion — one unfixed tissue sample (blue shaded area)

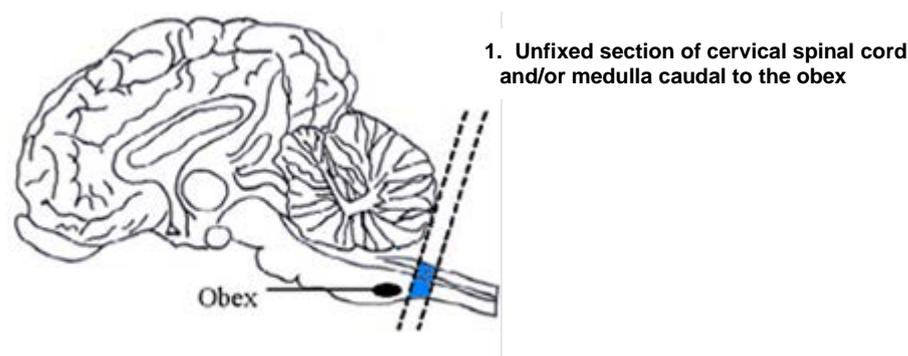
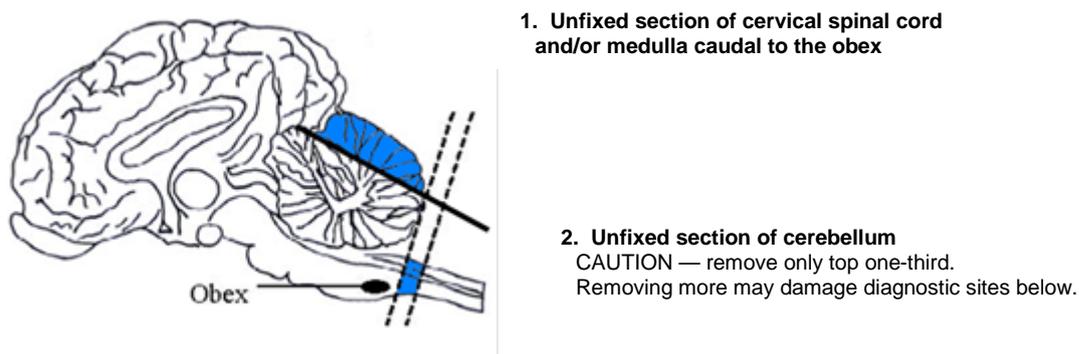


Figure 2 – Sheep TSE exclusion — two unfixed tissue samples (blue shaded areas)



Other samples

Submission of a range of other samples is strongly recommended to enable laboratory investigation of alternative diagnoses. Tests for diseases other than TSEs are provided at no charge to the submitter as part of the TSEs surveillance program.

To ensure optimum and relevant samples are collected for each case, submitters are encouraged to contact the duty pathologist at Biosecurity Queensland's [Biosecurity Sciences Laboratory](#) Coopers Plains, on (07) 3276 6062, to discuss the case and what samples to submit.