Spoon sampling technique

Equipment required

1. A hard hat, particularly if working in an abattoir or knackery
2. Safety eye glasses, particularly if using hammers and axes
3. Strong gloves to protect against sharp bone fragments
4. Overalls
5. Rubber boots (gumboots)
6. One sampling spoon (e.g. Prionics spoon from Prionics AG)
7. One plastic yellow top 70 millilitre (mL) container
8. One permanent marker pen
9. One pen
10. Knee pads to make working in the kneeling position cleaner and more comfortable (optional)
11. A piece of carpet to serve as a good working surface for this technique (optional).

Step-by-step instructions to perform the spoon sampling technique

1. Turn the head upside down to locate the opening of the skull towards the spinal cord or foramen magnum (the largest of the oval or circular openings in the base of the skull, through which the extension of the spinal cord enters and exits the skull), to remove the brain sample. Clear any excess muscle or fat away from the occipital condyles (bony knobs which join with the first vertebra and are located at the back of the skull), to allow easy access to the foramen magnum.
2. Insert your index finger around the spinal cord to loosen and break the dura mater (the thin sheath covering the brain) and any connective tissue from the brain stem.
3. Place the spoon towards the back of the occipital sphenoid crest (the projecting structure on the front surface of the sphenoid bone). The sphenoid bone is situated at the base of the skull and resembles a butterfly or bat with its wings extended. If the spoon is placed on the front surface of the crest, severing and removal of the brain stem can be very difficult.
4. Insert the spoon at the ventral (lower) side of the brain stem or spinal cord.
5. Insert the spoon slowly between the dura mater and the dorsal (upper) surface of the brain stem with the back of the spoon pointed dorsally, until the junction of the handle and the blade (sharpened bowl end of spoon) is level with the occipital condyles.
6. Insert the blade to a depth of about 7-8 cm.
7. Once the blade is fully inserted, push the blade forward ventrally and firmly against the occipital sphenoid crest to cut the back end of the brain stem.
8. Rotate the spoon by about 90° to the left and the right side to cut the side branches of the nerve roots and to sever any connective tissue.
9. Press down on the front end of the spoon while simultaneously pulling out the spoon to remove the brain stem. The brain stem sample should comprise a small section of the spinal cord, the obex (the point where the brain narrows to become the central canal of the spinal cord) and part of the medulla (the furthest most back part of the brain stem which contains many ascending and descending tracts).

10. If the brain stem has not come out properly, the side branches of the nerves have not been cut adequately, so you will need to repeat the rotating of the blade as per point 7 to completely sever the side branches of the nerves.
11. Place the sample into a plastic yellow top 70 millilitre (mL) container and record details on the side of the container. **Chill the sample as soon as possible. Do NOT place in fixing solution, such as formalin**.
12. Fill out a laboratory submission form and send it in with the sample to the accredited laboratory (located in Victoria).