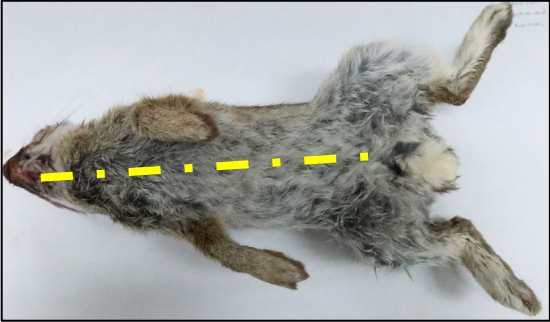
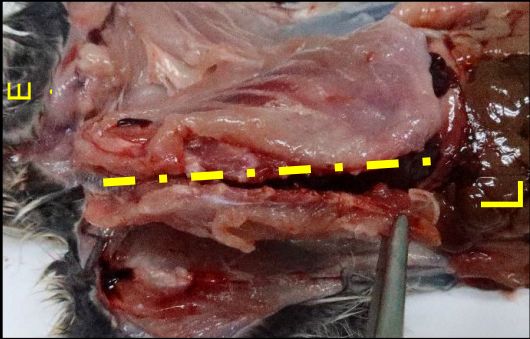
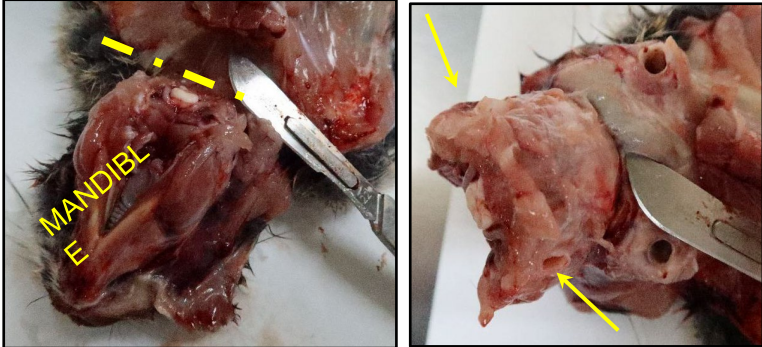
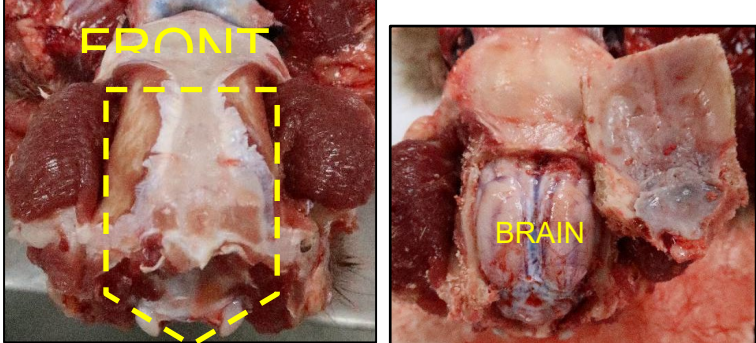
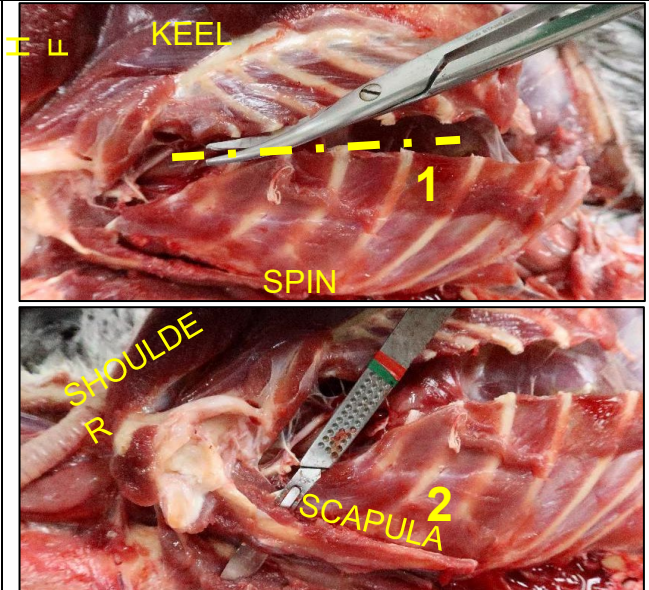
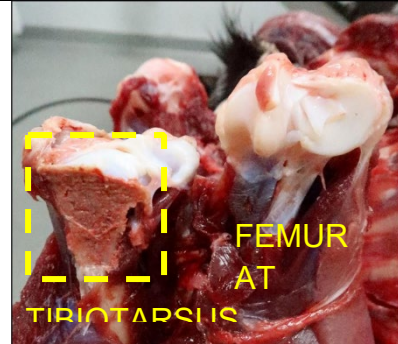
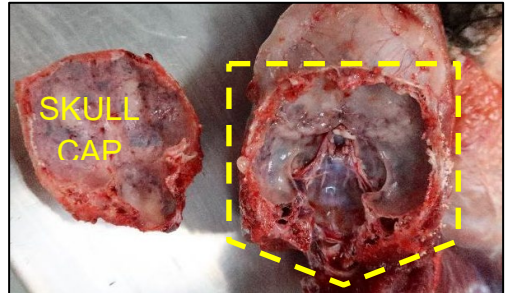


ZOO-MUSEUM NETWORK COSMETIC NECROPSY GUIDE
Created by Rachael Keeler, San Diego Wildlife Alliance

Mammal Cosmetic Necropsy	
Step 1: Midline Incision • chin or neck base to pelvis • only skin cut needed for the entire necropsy (unless assessing the limbs) • wetting the hair with diluted alcohol can help to spread hair for good cutting access and keeping hair intact	
Step 2: Midline Sternum Cut • center of the ribcage • use bone scissors, shears, or large loppers • assess and sample viscera through this sternum cut	
Step 3: Skin the Head • ventral disarticulation of atlantooccipital joint (indicated with the dotted line – note the lower jaw is facing up, and the spinal cord is severed) • cut through skin at the base of ears (arrows) • stop skinning at the front of the skull cap (scalpel blade location by arrows)	
Step 4: Brain Removal • 5-sided “house” shape • can be easier to visualize if you reflect back or entirely remove the masticator muscles • use hand saw, bone cutters, or Stryker saw • cut includes the occipital opening to allow for easy brain removal • replace skull cap on the skull once the brain is removed, and replace skin over the skull	

Other tips:

- SSP necropsy bone sample for formalin is a 1-2 cm length of rib at the costochondral junction.
- Removal of organs and bones while the skin is left intact is preferred (do not cut off appendages and head). If limbs need to be examined, create one linear skin from axilla to region in question and reflect open skin.
- If the brain is not needed for sampling, the head skin can be left intact.
- Wrapping a carcass in dry paper towels before bagging can help to keep the integrity of hair.

Avian Cosmetic Necropsy Tips	
Step 1: Midline Incision • chin or neck base to pelvis • reflect open the skin; target shoulder and hip regions during skinning (see photo for example – the skin of this duck is peeled all the way to the shoulders and pelvic bones) • disarticulate humeral head before step 2	
Step 2: One Side Ribs Cut • cut ribs at costochondral junction (mid-ribs) on one side of the body (labeled 1) • bone scissors, shears, or large loppers • leave scapula and clavicle intact with the keel, and use it as a “handle” to help while cutting muscles and air sacs to reflect the keel from organs (labeled 2) • if necessary, both sides of the ribs can be cut and the keel removed with the clavicle/coracoid/scapula apparatus left intact on both sides and removed with the keel	
Step 3: Sampling Bone • SSP procedures call for bone with marrow • Disarticulate the stifle (knee joint) and cut the proximal 2 cm of tibiotarsus for formalin • Large birds (pictured) can have a 1 cm wide section of tibiotarsus taken for formalin	
Step 4: Brain Removal • skin the head and cut through the ears • dorsal disarticulation of atlantooccipital • pentagon or 5-sided “house” shape • hand saw or bone cutters	

Other tips:

- Removal of organs and bones while the skin is left intact is preferred (do not cut off appendages and head).
- If the brain is not needed for sampling, the head skin can be left intact.
- Wrapping a carcass in dry paper towels before bagging can help to keep the integrity of feathers.

Reptile Cosmetic Necropsy Tips – Squamata and Similar

Step 1: Midline Incision (Squamata)

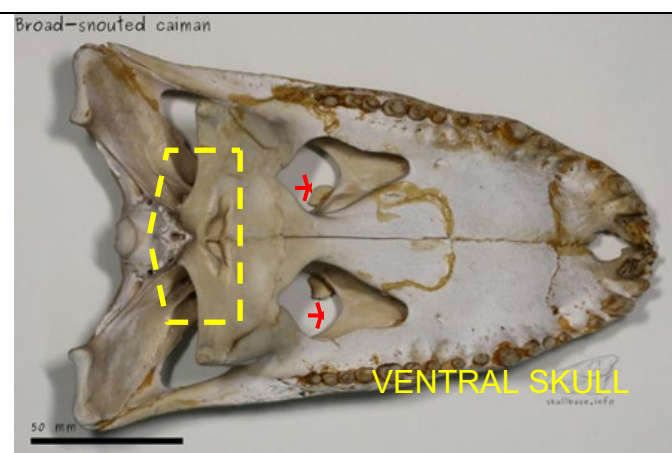
- scalpel, bone scissors
- reflect open the skin; target shoulder and hip regions during skinning (see photo for example – the skin of this duck is peeled all the way to the shoulders and pelvic bones)

Step 2: Midline Sternum Cut

- bone scissors or shears
- pelvis should also be cut midline to allow access to the kidneys

**Step 3: Brain Removal**

- brain is generally removed via the hard palate on those species that have skin firmly adhered to the skull
- bone cutting forceps/rongeurs
- in some species the eyes can also be removed from the oral cavity (red asterisk location)



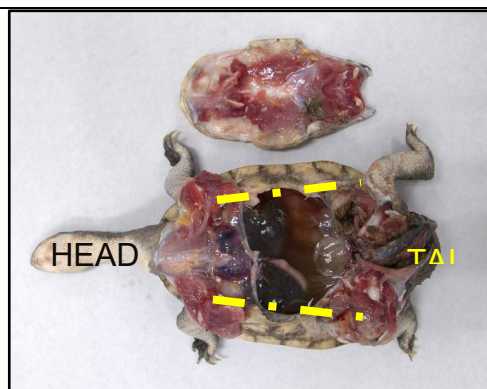
Source: Skullbase.info/skulls/reptiles

Reptile Cosmetic Necropsy Tips - Turtles**Step 1: Plastron Removal**

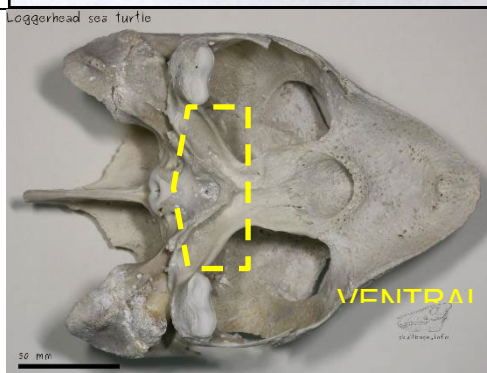
- scalpel, bone scissors, Stryker saw (turtles)
- cut the skin attached to the plastron to allow for full removal

Step 2: Midline Sternum Cut

- bone scissors or shears
- pelvis should also be cut midline to allow access to the kidneys

**Step 3: Brain Removal**

- brain is generally removed via the hard palate on those species that have skin firmly adhered to the skull
- bone cutting forceps/rongeurs
- in some species the eyes can also be removed from the oral cavity (red asterisk location)



Source: Skullbase.info/skulls/reptiles