

Hemilaminectomy

Access to the spinal column



Hemilaminectomy

- First performed and described by Dr. Horlein at Auburn University
- Best method to access the ventral canal and remove IVD material
- Affords access to the IVD spaces for fenestration
- Best for lateral compression
- Must be on the correct side

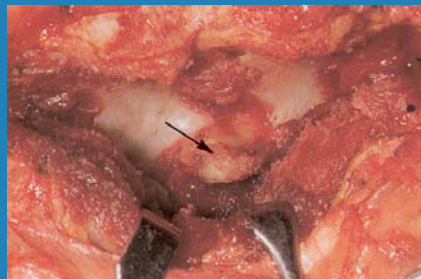
Hemilaminectomy

- Midline incision
- Muscles removed from $\frac{1}{2}$ of the spinal column at the area of involvement



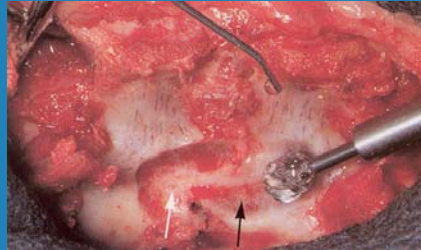
Hemilaminectomy

- Three muscle attachments to remove
 - Dorsal Spinous Processes
 - Articular Processes
 - Accessory Processes



Hemilaminectomy

- The articular processes are removed with rongeurs
- High-speed drill is used to bur the lamina away



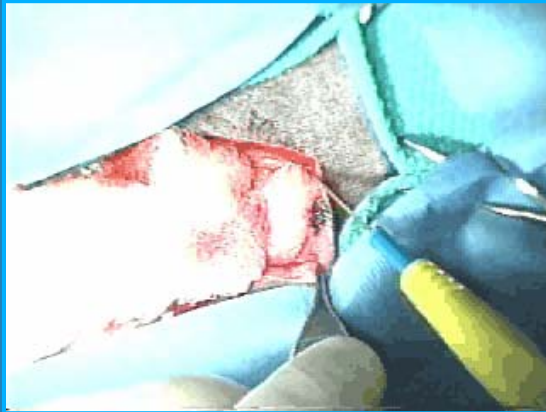
Hemilaminectomy

- The thinned lamina is further removed and the laminectomy expanded with rongeurs exposing the spinal cord
- The area is probed for the problem



IVD material

Hemilaminectomy



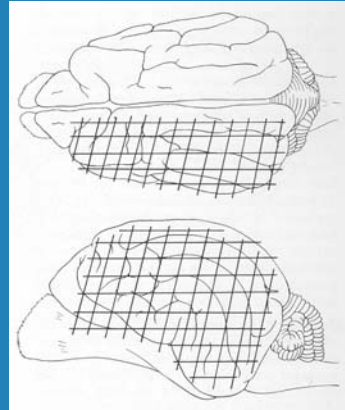
Lateral Craniotomy

Approach to the
Cerebral Cortex



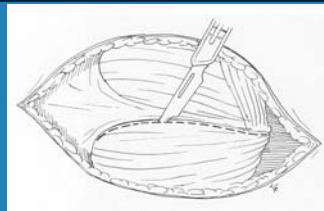
Lateral Craniotomy

- Provides access to the cerebral cortex, pituitary, olfactory bulbs
- Deeper structures can be reached by tissue dissection



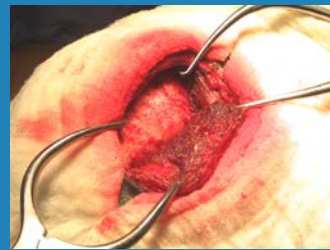
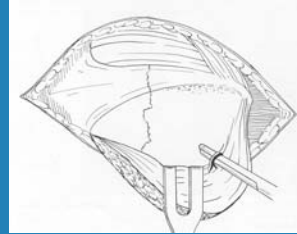
Lateral Craniotomy

- Incision is made along the course of the muscle attachments to the frontal sinus and dorsal sagittal crest



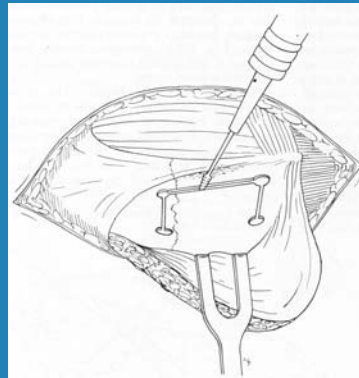
Lateral Craniotomy

- Muscle is reflected to expose the calvarium
- Retractors help maintain exposure



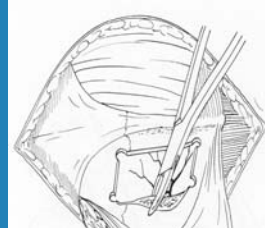
Lateral Craniotomy

- Bone flap is prepared by burring groove to the extent of exposure needed



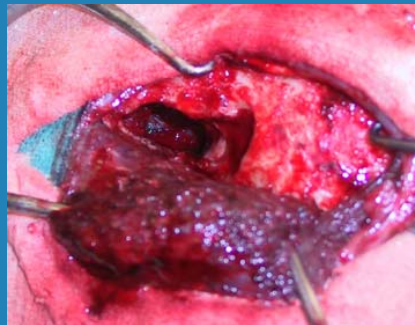
Lateral Craniotomy

- Ronguers are used to expand the craniotomy defect
- To access the frontal lobe, the lateral and ventral walls of the sinus are removed



Lateral Craniotomy

- Can undermine the frontal sinus to save the appearance of the skull
- Allows access to the cribriform plate



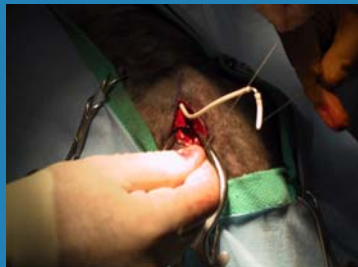
Lateral Craniotomy

- Bur holes can also be made for ultrasound-guided biopsy
- One hole for probe and one for biopsy instrument



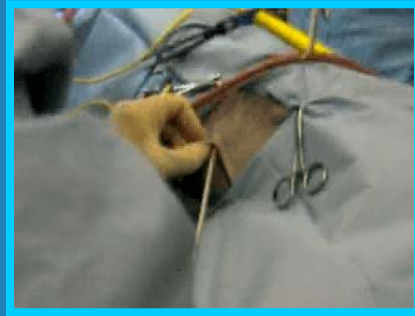
Ventriculoperitoneal Shunt

- Cranial end of shunt is placed through bur hole



Ventriculoperitoneal Shunt

- Tunnel is made to bring shunt tubing to the abdomen



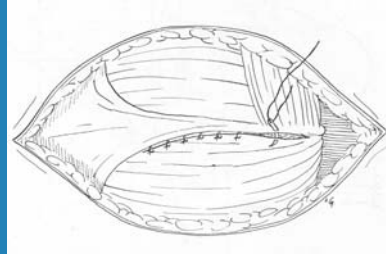
Ventriculoperitoneal Shunt

- Abdominal end is pushed into abdomen using Kelly hemostats
- Extra is left for growth or movement



Lateral Craniotomy

- Fat graft is placed over exposed brain
- Gelfoam is used to control hemostasis and fill space
- Bone flap is replaced (or not)
- Closure is routine



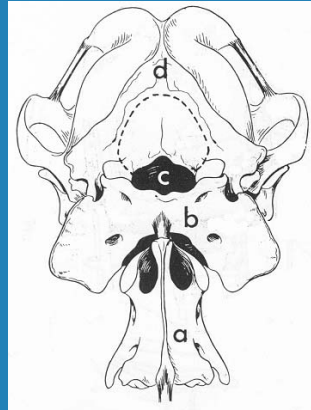
Caudal Craniotomy

Approach to the
Cerebellum



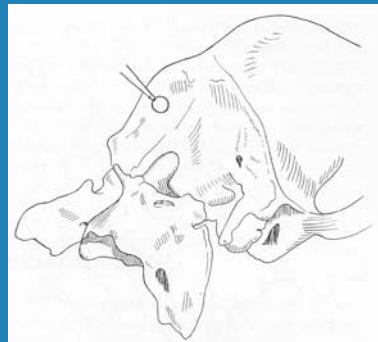
Caudal Craniotomy

- Dorsal midline incision
- Remove muscles from occiput
- Exposure through the occipital bones
- Visualization of cerebellum, brainstem and spinal cord



Caudal Craniotomy

- Bur through the bones to thin them and make rongering easier



Caudal Craniotomy

- Use ronguers to expand the craniotomy defect
- Avoid sinuses



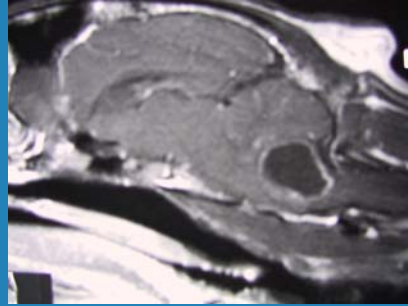
Caudal Craniotomy

- Explore & surgically correct problems



Caudal Craniotomy

- 13 year old DSH
- Brainstem Cyst
- Severe quadriparesis with depression



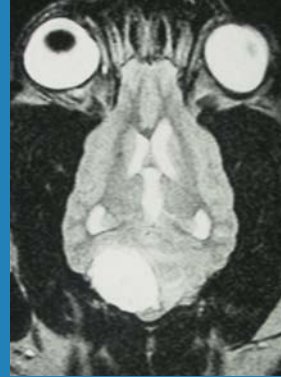
Caudal Craniotomy

- 4 weeks post-operative



Caudal Craniotomy

- 10 year old MC mixed breed dog
- Mild ataxia and dysmetria



Caudal Craniotomy

- 24 months post-operative MRI
- Surgery
 - CSF shunt
 - Debulking
 - Radiosurgery

