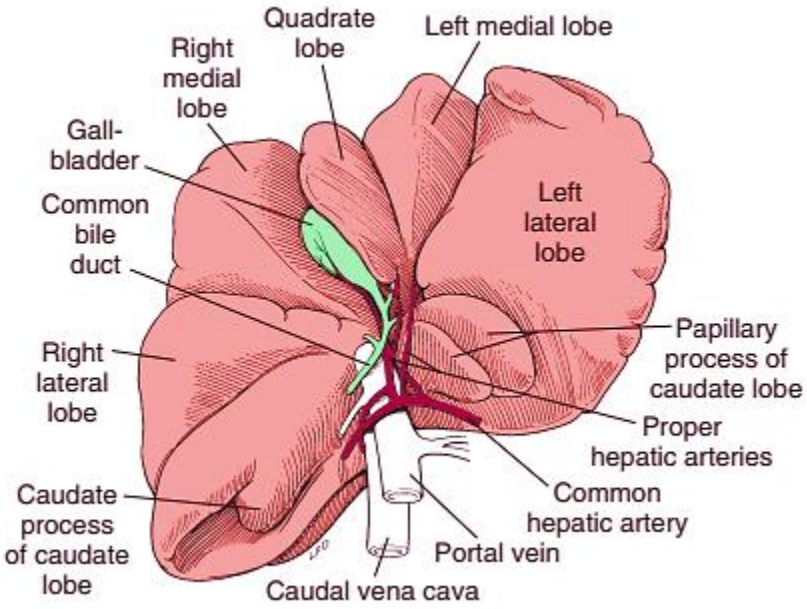
Partial Hepatectomy

Surgical Anatomy

- The diaphragmatic surface (parietal surface) of the liver is convex and lies mainly in touch with the diaphragm.
- The visceral surface faces caudoventrally and to the left and contacts the stomach,duodenum, pancreas, and right kidney.
- The borders of the liver are normally sharp but appear more rounded in young animals and in those with infiltrated, congested, or scarred livers.
- The liver has two afferent blood supplies: a lowpressure portal system and a high pressure arterial system.

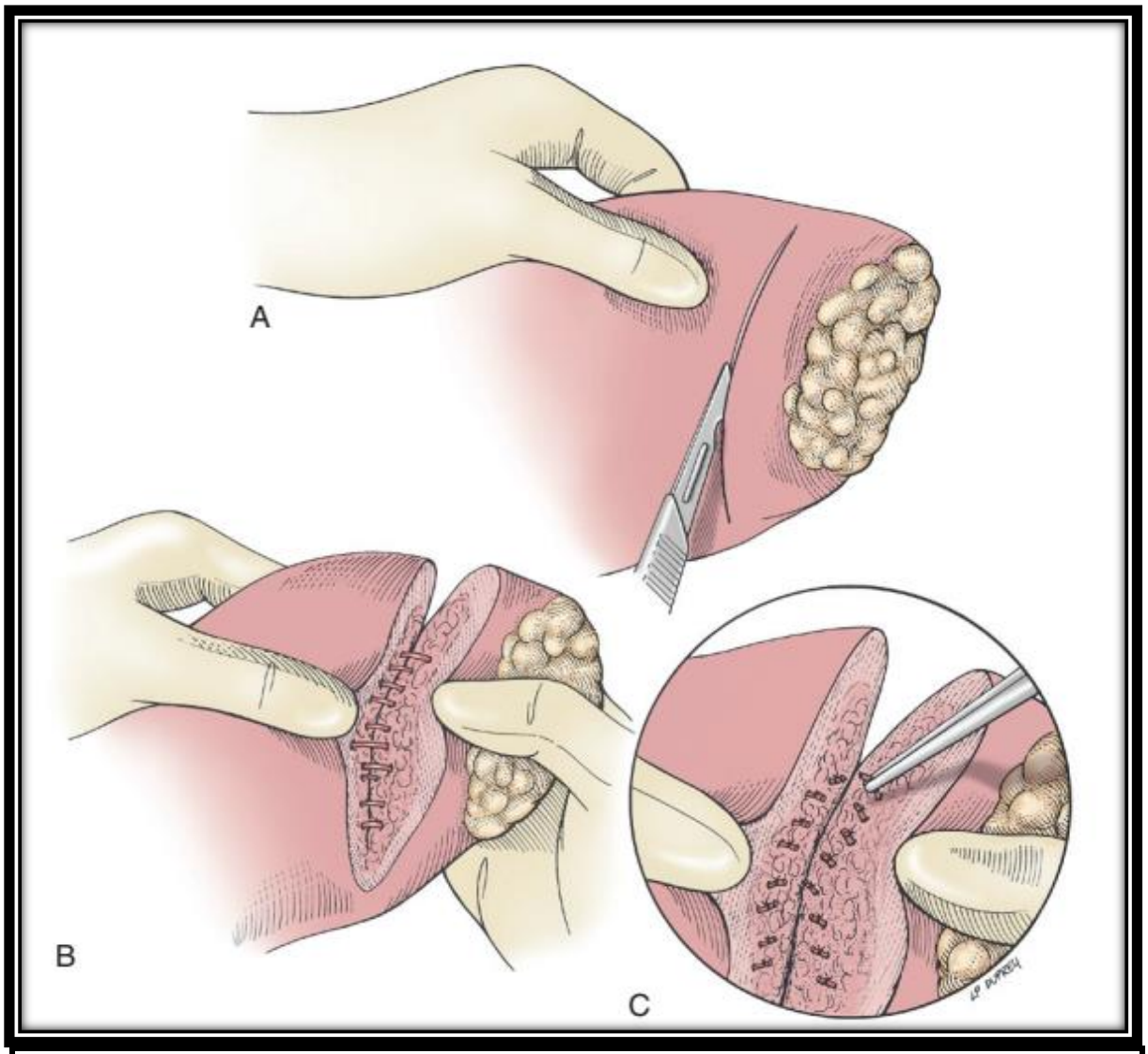


Indications

1- **Peripheral hepatic arteriovenous fistula.**
2- **focal neoplasia.**
3- **hepatic abscess.**
4- **hepatic trauma.**
5- **Biopsy.**

Surgical technique

- Determine the line of separation between normal hepatic parenchyma and that to be removed, and sharply incise the liver capsule along the selected site.
- Bluntly fracture the liver with the fingers or the blunt end of a Bard-Parker scalpel handle, and expose the parenchymal vessels.
- Ligate large vessels (hemoclips may be used), and electrocoagulate small bleeders encountered during the dissection.
- Excise the hepatic parenchyma distal to the ligatures or staples. Before closing the abdomen, make sure the raw surface of the liver is dry and free of hemorrhage.
- In small dogs and cats, several overlapping guillotine sutures may be placed along the entire line of demarcation.
- Be sure that the entire width of the hepatic parenchyma is included in the sutures. After tightening the sutures securely, use a sharp blade to cut the hepatic tissue distal to the ligature, allowing a stump of crushed tissue to remain with the ligature.



A, Determine the line of separation between normal hepatic parenchyma and that to be removed, and sharply incise the liver capsule along the selected site. **B,** Bluntly fracture the liver and expose the parenchymal vessels. **C,** Ligate large vessels and electrocoagulate small bleeders.

Postoperative care

1- Recovery from anesthesia should be monitored closely in animals with severe hepatic dysfunction.
2- Intravenous fluids should be provided until the patient is able to maintain hydration.
3- Blood glucose levels should be monitored; transient hypoglycemia is common after removal of large portions of the liver.
4- Hypophosphatemia may occur after lobectomy and may require supplementation of potassium phosphate in the IV fluids.
5- Antibiotics given during surgery should be continued for 2 to 3 days.
6- Analgesics (e.g., hydromorphone, butorphanol, buprenorphine) should be provided to patients after surgery.

Complications

1- The most common and serious complication of hepatic surgery is hemorrhage.
2- Bile peritonitis may occur if the gallbladder or bile ducts are inadvertently penetrated.
3- portal hypertension.
4- Hypophosphatemia.
5- Hypoalbuminemia.