charles river

SURGICAL SERVICES - NORTH AMERICA

5/6 Nephrectomy

Surgery Code: 56NEPHREX

The partial nephrectomy is of benefit to preclinical or research studies involving renal failure, hypertension or drug metabolism with impaired renal function.

Animal Models

Typical selections are listed below; however, choices for strain, age and weight may be limited due to model anatomy and/or physiological conditions.

- Rats: male/female, any strain, weight ≥ 150 g
- Mice: male/female, any strain, weight ≥ 20 g

Procedure Details

- **Perioperative care:** Please view our Pre- and Postoperative Care Sheet, which can be found at www.criver.com/opcare.
- **Housing:** The animals can be group housed.
- **Diet:** No special diet is required.
- **Postoperative holding period:** At a minimum, post-op animals are held 2 days, with the majority of animals shipping within 7 days of surgery.
- **Maintenance:** Incision wound clips should be removed 7-10 days after surgery.

Surgical Summary

Two-stage procedure (Standard method)

Stage one: A ventral midline incision into the abdomen is made to expose the animal's left kidney, and the organ is freed from the surrounding tissue. A piece of suture is placed and ligated around each pole of the kidney at its one-third position. The one-third kidney on each pole is excised beyond the ligatures and the abdominal incision is closed.

Stage two: This procedure is performed 5-7 days after stage one. The animal is placed in ventral recumbancy and an incision is made parallel to the midline. The abdominal cavity is entered and the right kidney is freed from the surrounding tissue. The kidney is gently pulled out from the incision, and the adrenal gland is freed and replaced into the abdominal cavity. The renal blood vessels and the ureter are ligated or cauterized. The kidney is then removed by transecting the vessels and ureter just distal to the ligature or cauterized section. The skin incision is closed with wound clips or per request.

Surgical Summary (Continued)

One-stage procedure (per request)

A ventral midline incision into the abdomen is made to expose the animal's left kidney, and the organ is freed from the surrounding tissue. A piece of suture is placed and ligated around each pole of the kidney at its one-third position. The one-third kidney on each pole is excised beyond the ligatures. The animal's right kidney is exposed and freed from the surrounding tissue. The renal blood vessels and the ureter are ligated or cauterized. The kidney is then removed by transecting the vessels and ureter just distal to the ligature or cauterized section. The abdominal skin incision is closed with wound clips or per request.

Renal artery ligation (per request, rats only)

A ventral midline incision into the abdomen is made to expose the animal's left kidney, and the organ is freed from the surrounding tissue. The three branches of the renal artery on left kidney are identified. The anterior and medium branches are isolated and ligated. The animal's right kidney is exposed and freed from the surrounding tissue. The renal blood vessels and the ureter are ligated or cauterized. The kidney is then removed by transecting the vessels and ureter just distal to the ligature or cauterized section. The abdominal skin incision is closed with wound clips or per request.

IACUC

The Charles River Institutional Animal Care and Use Committee (IACUC) governs the entire surgical process, including all anesthesia, analgesia, animal preparation and any postoperative holding in Charles River facilities prior to shipment. Review of experimental protocols, authorization to order animals that are surgically modified from Charles River, and all aspects concerning the use of the animals after they arrive at the institution are the responsibility of the receiving institution's IACUC.

Contact Us

For more information, visit www.criver.com/surgery. For specific surgery-related questions, please contact our technical experts at 1.877.CRIVER.1 (1.877.274.8371) or askcharlesriver@crl.com. To place an order or get a quote, contact our Customer Service Department at 1.800.LABRATS (1.800.522.7287).