

## THE GIFT OF A KIDNEY

Your decision to donate one of your kidneys is a wonderful gift of life and health from which you will not receive any physical benefit.

This brochure explains many of the requirements of selection for donation and answers some of the questions you may have concerning laparoscopic kidney removal.

We know that it is possible to lead a perfectly normal life with one normally functioning kidney. From the moment that the donated kidney is removed the remaining one will take over and function quite normally. There are no symptoms that result from this adaptation.

## SUITABILITY FOR DONATION

Each kidney receives blood, usually from a single large artery, clears out waste products that are excreted in the urine, and sends the purified blood back through a large vein. The waste in the form of urine is pumped from each kidney to the bladder by the ureter. The left kidney is preferred for donation because the vein is longer, which makes implantation in the recipient easier. If the blood vessels or ureter on the left are unsuitable or the left kidney is much larger, then the right kidney can be used.

If you are in good health with normal kidney function, and no infections or other disorders that may affect or be affected by the removal of a kidney you could be a donor. The suitability of the blood vessels of your kidney for donation is determined with a CT or MR scan, which shows the kidneys, blood vessels and ureters. This is performed as an out-patient in radiology as part of the evaluation procedure. Dye injected into a vein flows with the blood into each kidney and the images are stored and then analysed on computer.

## CONVENTIONAL SURGERY

Regular donor nephrectomy requires a long incision in the side, sometimes with removal of a rib, to allow the surgeon access to the kidney, blood vessels and ureter. Hospitalization of about 5 days is necessary. Nonetheless this operation has been performed thousands of times, providing a safe, reliable way of removing the donated kidney.

## LAPAROSCOPIC KIDNEY REMOVAL

Using narrow instruments inserted through tiny punctures no more than a ½ inch long the surgeon frees up the kidney and ties off the blood vessels. The kidney is

placed in a bag and removed through an incision about 2½ inches long, just above the pubic bone. It does not matter that this incision is a long way from the kidney. It has been selected because it causes less pain, heals strongly, and has the best cosmetic appearance of any abdominal scar.

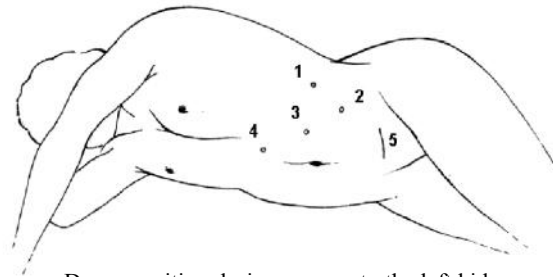
## ADMISSION AND DISCHARGE

Admission is two hours before the operation. The surgery takes about 2-3 hours. In addition, the time necessary for anesthesia before and after the surgery may be 30-60 minutes. We will speak to your waiting relatives as soon as the surgery is finished to report on your progress.

You will be allowed to drink a few hours after you wake up and will start solid food the next day. The combination of surgery in the area of the kidney and painkillers taken often slows normal bowel function so return to a normal diet must be cautious. You may be able go home the next day, or the day after depending on how comfortable you are.

## THE OPERATION

Four or five tiny incisions (#1-4 in Figure 1) are made in the abdominal wall for the video equipment and instruments to dissect, insert clips, staples or tie knots, and remove the kidney from its attachments. A blood-thinning drug (heparin) is given to prevent blood clotting in the kidney after it is removed. The kidney is placed into a bag, removed from the abdomen (#5 in Figure 1) and chilled on ice. It is then



Donor position during surgery to the left kidney

prepared for immediate implantation into the recipient who will already be anesthetized in an adjoining operating room. Drugs are given during the donor procedure to make the kidney produce large volumes of urine just before removal. For this reason a catheter is left in the bladder to measure the urine output and keep your bladder empty. It will be removed the next day.

## BENEFITS, RISKS AND COMPLICATIONS

Laparoscopic kidney removal is a new version of an already established operation. You can expect much less pain, hospitalization of 1-2 days and return to normal activity in around 2 weeks.

The risks of surgery are chiefly related to anesthesia, bleeding, and the potential for injury to the kidney or other organs during the procedure. Our chief concern is for your safety so that if at any time we encounter a problem that cannot be corrected during the laparoscopy then the procedure will be converted to regular surgery-this occurs in about 1% of donors.

It is rare for major problems to occur due to the surgery. Bleeding during or after surgery is the chief complication and is minimized by careful technique. There is about 1% chance that a blood transfusion will be necessary during or after the procedure.

Because the operation is performed alongside other organs it is theoretically possible that an injury could occur to one of them. For example there is small risk of injury to the spleen if the left kidney is being donated. In the rare event that occurs the spleen may need to be removed.

After the surgery, low blood pressure and faintness may be signs of bleeding and should be evaluated by the surgical team. Persistent pain, fever, nausea or vomiting should be reported to the surgeon. Rarely (about 1%) it is necessary for the donor to go back to the operating room. This may be needed to remove clot from the extraction wound or blood from inside the abdomen.

It is common to experience discomfort in the neck or shoulders after laparoscopy. This invariably disappears in about a day. Backache is also a common complaint and is due to the position on the operating table (see the picture). This may last a week or more and also disappears with the help of over the counter pain-killers.

Some males experience slight discomfort in the left testicle if the left kidney was removed, and occasionally there is a little swelling present. This is treated with a scrotal support and usually goes away in a few months.

On rare occasions there may be an area of numbness on the outer side of the thigh on the side of the operation. This may be due to bruising of a small nerve running behind the kidney, or compression due to positioning. It is quite harmless and the area of numbness can be expected to shrink in size.

Kidney Donation  
by  
Laparoscopy

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