Robot-assisted laparoscopic donor nephrectomy (RALDN) – pilot study

This leaflet explains more about the RALDN technique. This is a pilot study, which means that we are offering the procedure to a small number of carefully selected patients in order to evaluate its usefulness. It will explain why you have been offered RALDN, the benefits, risks and alternative treatments. It will give you an overview of the process from being referred to our clinic, to the follow-up after your kidney donation. If you have any further questions or concerns please speak to a doctor, surgeon or a nurse caring for you.

Our transplant team at Guy's and St Thomas’ have performed more than 1,400 laparoscopic (keyhole) operations on living kidney donors, making us the most experienced team in the UK for this sort of procedure. If you don’t already have one, please ask for a copy of our leaflet, Hand-assisted laparoscopic donor nephrectomy (HALDN), to find out more about this procedure. We believe that using the robot to assist in the operation can reduce wound-related complications, post-operative (after surgery) pain and the length of your hospital stay.

What is robot-assisted donor nephrectomy?
We have had a robotic system (da Vinci®) at Guy's Hospital for more than ten years. It is mainly used to perform urological surgery, such as operations on the prostate or bladder.

Laparoscopic (keyhole) surgery is carried out using several small incisions (cuts, also called keyholes or port holes) rather than one large incision, as for traditional open surgery.

Robot-assisted surgery is a laparoscopic technique that uses a robotic console (the da Vinci® system) to help your surgeon during the operation. Your surgeon is in the same room, but away from you, and controls the robotic arms to perform the operation. **It is important to understand that the robot is not performing the surgery.** The surgeon still carries out the procedure, but the robotic console allows more controlled and precise movements during the operation.

The main body of the robot has three or four arms. One holds a high-magnification 3D camera, which is inserted into your abdomen (tummy) through one of the keyholes. This allows your surgeon to see inside your abdomen. The other robotic arms can hold various instruments, which your surgeon will use to carry out the operation. The instruments are smaller than those used for traditional open surgery.

A 6cm to 7cm incision (cut) is made at the lower part of the abdomen. Your surgeon will extract the kidney through this at the end of the operation. Three more very small incisions, 0.8cm each, are used to insert the camera and robotic instruments into the abdomen. These incisions are on the same side of the abdomen as the kidney that will be removed. We use the robotic camera to view inside the abdomen and the instruments to remove the kidney from the surrounding tissues.
What are the benefits of RALDN?
Previous experience in other studies suggests that robot-assisted surgery may have a number of advantages over the traditional laparoscopic procedure:

- Average blood loss may be less.
- You are generally able to start eating and drinking more quickly.
- Pain after the procedure may be less.
- Risk of infection after the procedure may be reduced.
- You are often able to leave hospital a day or two sooner than with the laparoscopic procedure.
- The risk of hospital re-admission with complications is lower.

What are the risks of RALDN?
There are some risks that are associated with donor nephrectomy, whichever technique is used. These are explained in more detail in our leaflet, Hand-assisted laparoscopic donor nephrectomy (HALDN). Your surgeon will discuss the possible risks of this operation with you in more detail before asking you to sign a consent form. Please ask questions if you are uncertain about anything.

Possible early complications of any major operation
Problems that can occur while you are in hospital recovering are similar to those for any major operation. These include:

- bleeding, requiring the need for a blood transfusion or further surgery
- injury to nearby nerves, bowel or other tissues
- a chest infection
- blood clots in your lower leg (deep vein thrombosis or DVT), which could pass to your lung
- wound infection
- bruising or weakness around your wounds, or poor wound healing.

Specific risks of RALDN include the following

- If there are complications, the surgeon may have to change to traditional (HALDN) or open surgery.
- In rare cases, if there are complications during the procedure, and the da Vinci® arms need to be removed quickly, there can be risk of damage to internal organs.

Has the procedure been performed already?
There are many transplant centres around the world that have performed this operation. Guy’s Hospital is one of the first centres in the UK to offer this operation to kidney donors. We are aiming to offer the operation as part of a pilot study.

What is the experience of the team?
The team consists of four consultant transplant surgeons, all of who have extensive experience in laparoscopic donor nephrectomy. The team have also had specific training on the robot, and have practised techniques using both the robot and a simulator (model).

The first operations in the pilot study will be performed with the supervision of a surgeon from Belgium who is an expert in robot-assisted kidney donation and transplantation.

Urology surgeons from Guy’s and St Thomas’ who have extensive experience in robotic surgery, will also provide advice and support during the pilot study.
Are there any alternatives?
Yes. You do not have to agree to undergo RALDN. You can have your surgery using hand-assisted laparoscopic donor nephrectomy (which is the standard approach used in our centre), and if you chose to do so, your care will not be affected. You will be given adequate time to think about your decision, and opportunities to discuss this with a member of the surgical team.

Consent – asking for your consent
We want to involve you in decisions about your care and treatment. If you decide to go ahead, you will be asked to sign a consent form. This states that you agree to have the treatment and you understand what it involves.

If you would like more information about our consent process, please speak to a member of staff caring for you.

What happens after a RALDN?
Your care after the operation will be the same as for the hand-assisted surgery (please refer to that leaflet). We will ask you some questions while you are in hospital (for example, to assess your pain) in order to check how effective the procedure is, and we will collect some data on your recovery (such as the time it takes to return to normal activities) when you are seen at the surgical clinic.

We hope you found this leaflet useful. All patients are different and we strongly advise that you discuss your situation carefully with your medical, surgical and nursing teams to ensure that you understand your personal implications.

Contact us
Mr Loukopoulos Ioannis, consultant transplant surgeon, t: 020 7188 1543

Advanced nurse practitioner – living donation), t: 020 7188 5688, Monday to Friday, 9am to 5pm. Outside these hours, please call, t: 07917 084 532

For more information leaflets on conditions, procedures, treatments and services offered at our hospitals, please visit www.guysandstthomas.nhs.uk/leaflets

Pharmacy Medicines Helpline
If you have any questions or concerns about your medicines, please speak to the staff caring for you or call our helpline. t: 020 7188 8748, Monday to Friday, 9am to 5pm

Your comments and concerns
For advice, support or to raise a concern, contact our Patient Advice and Liaison Service (PALS). To make a complaint, contact the complaints department.
t: 020 7188 8801 (PALS)  e: pals@gstt.nhs.uk
t: 020 7188 3514 (complaints)  e: complaints2@gstt.nhs.uk

Language and accessible support services
If you need an interpreter or information about your care in a different language or format, please get in touch. t: 020 7188 8815  e: languagesupport@gstt.nhs.uk