The ROYAL MARSDEN
NHS Foundation Trust

# Having retroperitoneal lymph node dissection (RPLND) surgery – enhanced recovery programme

## Urology Unit

**Patient Information**

NHS

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## Introduction

This leaflet explains what a retroperitoneal lymph node dissection (RPLND) is. It includes information about the benefits and risks of surgery, whether there are alternatives, and what you can expect when you come into hospital.

## What is an RPLND?

An RPLND is a highly specialised operation which is only carried out at a few cancer centres.

The operation involves removal of the lymph nodes (sometimes called glands) alongside the main blood vessels in the abdomen (at the back of the gut). The retroperitoneum is the space behind the gut where the main blood vessels (the aorta - artery and vena cava - vein) run. Lymph nodes (bean-sized structures) are part of the immune system which help the body fight off infection and filter lymph. Cancer cells can become trapped in these nodes causing them to become enlarged, as shown in the picture below.

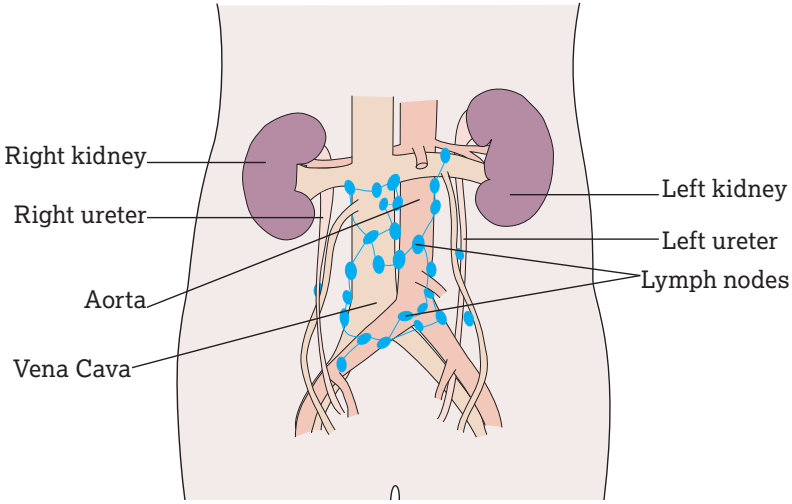



**Diagram showing the location of the lymph nodes in the abdomen**

## Why do I need to have an RPLND?

Testicular cancer cells often spread to lymph nodes. The operation is designed to remove these nodes and is often carried out as part of your treatment for testicular cancer. It is normally performed after you have completed chemotherapy, particularly if the lymph nodes have not shrunk back to a normal size. There is a possibility that if these nodes are not removed, that some of the cells in them could become cancerous in the future.

The removed lymph nodes are sent to the laboratory for microscopic examination by a specialist doctor called a pathologist.

## How is the operation carried out?

The operation is usually performed as an **open operation** where the surgeon makes an incision in the abdomen (tummy) extending from just below the rib cage to bellow the umbilicus (belly button). This is the standard approach for patients who have received chemotherapy and have masses or enlarged lymph nodes remaining.

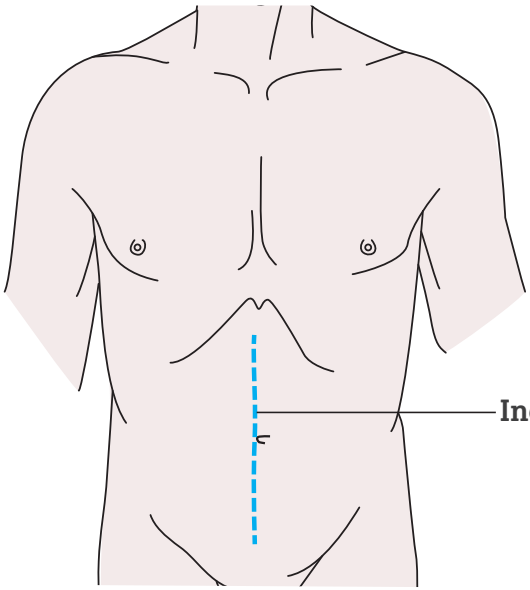
**A laparoscopic or robotic RPLND** may be used in selected patients with small lymph nodes who have not received chemotherapy. This is carried out using several small incisions or cuts (also referred to as key holes or port holes) in the middle of the abdomen. The surgeon inserts a telescope like instrument into an incision made below your bellybutton. This transmits the inside view of your body to monitor screens in the operating room. The view is magnified so that the surgeon has a detailed view of your organs and lymph nodes.

The remaining keyholes allow access for the surgical instruments used during the procedure. Most of the incisions (cuts) are 1cm in length however one is 2-4 cm to allow specimens to be removed.

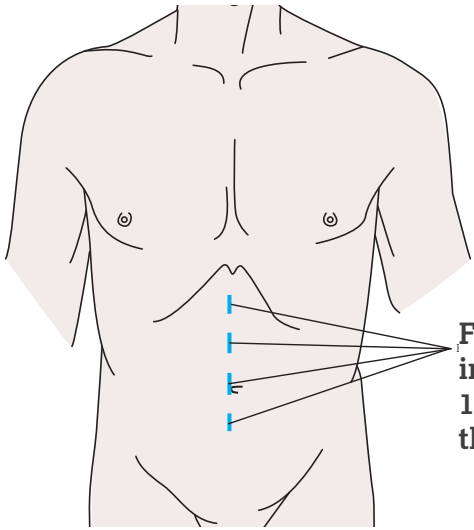
Your surgeon will discuss with you the best and safest way of removing the lymph nodes.

The number of lymph nodes removed varies between individuals and can range from less than 10 to over 50. The number of lymph nodes removed during RPLND is not enough to affect your immune system or your body's ability to fight off infection.

**Open procedure**




**Closed Laparoscopic procedure**



## How long does the operation take?

The operation is performed under a general anesthetic. This will mean that you will be asleep for the whole of the operation, so you will not feel any pain. The anesthetic is given through a small injection in the back of your hand. Usually the anaesthetist will inject local anaesthetic in your back (referred to as a spinal anaesthetic) in addition to the general anesthetic. This is used to help minimise or improve pain control after the operation.

The operation can take between three and six hours. This will depend on the way the operation is performed, how many lymph nodes are removed, and how large the remaining masses are.

The length of hospital stay varies depending on your recovery but may be any time after day two.

## When do I get the results of my operation?

The lymph nodes and tissue removed during the operation are examined by a pathologist. It takes approximately 14-21 days before these results are available. It is normal practice for the results of the operation to be discussed in detail at a multi-disciplinary team meeting before any further treatment decisions are made. You and your GP will be informed of the results after this discussion.

## What are the risks and possible complications of the operation?

A RPLND is a major operation. Your surgeon will discuss the risks below in more detail, but please ask questions if you are uncertain. You may find The Royal Marsden booklet, *Your operation and anaesthetic* helpful. It provides general information about what happens before and after an operation.

## Problems relating to the anaesthetic

Although rare, events such as the following may occur:

- Chest infection
- Deep vein thrombosis or DVT (blood clot in the leg)
- Pulmonary embolus (a blood clot in the lung)
- Stroke or heart attack.

If you have any of these problems, you may need to stay in the intensive care unit and your recovery will be delayed.

## General risks of an operation include:

- Bleeding – Blood loss during the operation or bleeding at the operation site is possible, which may mean you need a blood transfusion
- Infection – You are at risk of developing an infection (for example, chest, wound, urine) which may need antibiotics or further treatment
- Blood clots in the legs or lungs – Anyone with cancer is at an increased risk of developing a blood clot in the legs (deep vein thrombosis - DVT) or lungs (pulmonary embolism - PE). You can discuss your risk with the anaesthetist. To minimise the risk of you getting a blood clot in your legs, we will ask you to wear special stockings which help the circulation of your blood and give you daily injections to thin your blood.

## Risks of an RPLND operation include:

- **Prolonged bowel inactivity**

  To get to the lymph nodes, the surgeon has to move your bowel out of the way. It can take a little time for the bowel to return to normal which may mean that you are not allowed to eat or drink for a few days, or in some cases longer.

- **Loss of ejaculation**

  The nerves controlling ejaculation are located very close to the enlarged masses or lymph nodes that need to be removed. Surgery may therefore result in loss of ejaculation. It does not affect either erections or sexual sensation, as these are controlled by other nerves which are not at risk. Although this condition is not harmful to your health, it will adversely affect your ability to father a child by intercourse. Nevertheless, assisted reproduction techniques such as in-vitro fertilisation (IVF) can often be performed to achieve a successful pregnancy.

  If you have not already done so, it may be possible for you to store semen as a precaution and you should discuss this with your specialist nurse or surgeon before the procedure.

**Common risks (greater than 1 in 10)**

- Problems with ejaculation
- Accumulation of lymph fluid, needing drainage
- Infection, pain or bulging of the incision site needing further treatment
- Following microscopic examination of the lymph nodes, this may show no sign of cancer in the lymph glands which have been removed
- Temporary numbness of the skin around the wound.

**Occasional risks (between 1 in 10 and 1 in 50)**

- Bleeding requiring further surgery or transfusions
- Removal of the kidney on the affected side due to the position of the nodes
- Need for further treatment of the cancer
- Involvement or injury to nearby local structures (blood vessels, spleen, liver, lung, ureters, pancreas and bowel) requiring more extensive surgery

- Specific to robotic assisted laparoscopic RPLND - leakage of carbon dioxide gas (used during surgery) into tissues. This should not cause any problems apart from pain in one or both shoulders, which disappears as the gas is reabsorbed by your body. Leakage is minimised by inflating a balloon inside the abdominal wall to prevent carbon dioxide escaping.

**Rare risks (less than 1 in 50)**

- Anaesthetic or cardiovascular problems possibly needing Intensive Care admission (including chest infection, pulmonary embolus, stroke, deep vein thrombosis, heart attack and death)
- Entry into the lung cavity needing insertion of a temporary drainage tube.

This leaflet provides information about your operation. You will have the opportunity to discuss any concerns with your specialist nurse, surgeon and anaesthetist.

## Enhanced Recovery Programme

There is good evidence that enrolling a patient in an Enhanced Recovery Programme leads to reduced post-operative complications and earlier discharge from hospital. The most successful outcomes occur when patients actively engage in their post-operative care and recovery.

Your participation in your rehabilitation is essential to your recovery.

**Some of the aspects of the programme include:**

- Pre-operative assessment to ensure you are fit for the surgery
- Exercise and dietary advice to follow before your surgery to improve your post-operative recovery
- A special carbohydrate drink to have the night before surgery and the morning of surgery (we will provide this drink)
- Support from the anaesthetist to reduce the physical stress of the operation during the anaesthetic

- Support from nursing staff and/or physiotherapists to help you out of bed and mobilise around the ward as soon as possible after the operation. This is usually the morning after surgery. There is good evidence to show that if you mobilise early after surgery, your recovery is likely to be faster with fewer complications.

**Post-operative advice**

- We will ask you to chew gum or suck boiled sweets from the evening after your surgery, and introduce a light diet as soon as it is safe - this helps your bowel to regain normal function faster
- We will aim to control any pain you have as well as possible after your operation, whilst remembering that some discomfort on moving initially is normal
- If further input is required, we will educate you and support you during your rehabilitation.

We need you to take an active part in your recovery and work with us. It is important that you talk to us during this time, so please ask questions if you do not understand something.

## Before your operation – what you can do

There are many things that you can do to lower your risk of having complications following the operation and to improve your physical and psychological capacity to recover.

**Diet and exercise**

Having cancer and undergoing chemotherapy (if this is in your treatment plan) can create many problems, such as fatigue, weight loss, nausea and a reduction in physical ability.

Having surgery places major stress on the body and if you are unfit and undernourished, it can increase the chances of developing problems immediately after surgery. These problems include getting a chest infection, having difficulty walking and spending a longer time in hospital. By ensuring that you are

eating well and exercising before surgery, you can increase your fitness and therefore help to reduce your chance of getting these complications.

### Diet

It is important that you eat a varied diet that provides all the nutrients that your body needs. A dietitian will see you and offer advice about the foods to choose, your meal pattern and whether you need to take any additional snacks or supplements. The Royal Marsden booklet *Eating well when you have cancer* provides written information and ideas for meals and snacks. This is available from the Outpatient Department or the Help Centre.

If you have lost weight then it may be necessary to try and regain some weight before your operation. Ideally you should not lose weight before your surgery, as this can affect wound healing and your strength during your recovery.

### Exercise

You do not need to take up a specific exercise regime, but you should try to carry out some form of regular exercise. You should aim to exercise five times a week for 30 minutes. This can be broken up into smaller chunks, for example three 10 minute episodes throughout the day.

How hard you work will vary from day to day depending on how you feel, but it should make you breathe more heavily than normal and make you warmer. Exercise does not have to mean going to the gym - it includes everyday activities such as walking, gardening and climbing stairs.

If you would like more information or assistance with completing exercises, please ask your specialist nurse to refer you to a physiotherapist to attend a one to one session or an exercise class.

### Smoking

Smoking increases your chances of having complications after your operation, such as wound breakdown, infection and other

health problems. The risks are reduced if you can stop smoking six weeks beforehand. If you need help to give up smoking, please ask your specialist nurse or visit the Help Centre.

### Alcohol

Drinking over the recommended units of alcohol per week will increase health problems and may cause damage to organs (particularly the heart and liver). It also increases the risk of bleeding and reduces your ability to heal and to fight infection. You may also experience increased disorientation and hallucinations directly after your operation. If you need help to cut down or give up drinking alcohol, please ask your specialist nurse or visit the Help Centre.

Smoking and drinking alcohol excessively is likely to increase the length of time you spend in hospital and increase the chances of severe complications.

### Dental and oral hygiene

You are more likely to have a chest infection after your operation if you have poor dental health. You should visit your dentist at the earliest opportunity so that they can remove or repair any damaged or infected teeth or roots. Your dentist can also advise you about anti-bacterial and anti-fungal mouthwashes.

### Blood clots

Anyone with cancer having an operation is at an increased risk of developing a blood clot in their leg (deep vein thrombosis or DVT). A serious complication of DVT is if part of the clot separates and travels to the heart and lungs, it can lodge in one of the small blood vessels there and become life-threatening. The risk of getting a DVT is increased if you have a clotting disorder or other specific medical condition, are dehydrated or have recently been on a long haul flight. You can discuss your risk of DVT with your anaesthetist.

## Before your operation – what we can do

### Pre-assessment appointment

You will meet members of the team looking after you including an anaesthetist, and a clinical nurse specialist (CNS).

A pre-assessment nurse will ask questions about your medical history and general health and wellbeing. You will also have some tests which may include blood tests, chest x-ray and electrocardiogram (ECG). You may also have a special exercise test which will help us decide if you are likely to benefit from major surgery and will give us an indication of the level of risk this would involve to your health.

The pre-assessment appointment will address conditions such as:

**Heart complications** – We may need to arrange for you to see a heart specialist.

**Breathing difficulties** – If you have any breathing difficulties, old or new, we will assess and treat you or ask a chest physician to see you as soon as possible. If you are concerned about any breathing problems, please tell us.

**Diabetes** – If you have diabetes, we will assess your condition before your operation and we may ask a specialist to see you.

**Problems with blood circulation** – If you have had a stroke or you have problems with your blood circulation (peripheral vascular disease) we may need to carry out some extra tests.

**Kidney disease** – If you have kidney disease, we will discuss the associated complications with you.

**Anaemia** – We will try to reduce the need for blood transfusion after surgery. If you have a low number of red blood cells (anaemia), we may prescribe a supplement such as iron.

**High cholesterol** – If you have high cholesterol, we may prescribe medication to reduce the risk of heart-related complications.

### Medication

Please bring all your medication to your pre-assessment appointment.

Your anaesthetist will explain which of your usual medications to stop taking and which you should continue before your operation.

If you take regular aspirin, we normally ask you to stop taking it 7-10 days before your operation. We will discuss this with you.

We may give you a small injection of an anticoagulant. This helps to reduce the risk of blood clots (thrombosis) by thinning your blood and will be given to you each day while you are in hospital. You will need to wear anti-embolism stockings while you are in hospital as these help prevent blood clots.

## The day before your operation

### Eating and drinking

Before your operation, we ask you to follow a healthy balanced diet. Your body needs plenty of nutrients to recover from an operation. When you attend your pre-assessment appointment, we will give you three carbohydrate rich drinks to take home. Please take two of these drinks during the evening before your surgery.

You **must not** have solid food for six hours before your operation but you will be able to drink clear fluid up to two hours before surgery. You should drink your third carbohydrate rich drink on the morning of your surgery - you must finish this drink two hours before your operation.

## The day of your operation

You will usually be asked to come into hospital on the morning of surgery. Please bring any medicines you are taking with you and show them to the doctor and nurse. When you arrive, a nurse will note your personal details and record your pulse

and blood pressure. Please be aware that if you are arriving on the day of your surgery, you may be admitted to a different pre-operative ward. After your operation, you will be admitted to a ward specific to your needs. We will ask you to start wearing your anti-embolic stockings to help prevent blood clots.

## After your operation

You will be taken to the overnight recovery ward which allows the nurses to closely monitor your condition before you go back to the ward. It may be necessary for you to go the Critical Care Unit overnight - the consultant anaesthetist would make this decision. You will be transferred to a ward as soon as possible, usually the following day.

**Oxygen mask** - You may need to wear a small mask over your nose and mouth for a few hours to ensure your body is receiving enough oxygen. You will be encouraged to start your deep breathing exercises.

**Tubes, intravenous catheters and drainage bags** - You will have a number tubes, drips and drainage bags in place. Some of them may provide you with fluid or nutrition and medication for pain relief or nausea. Other tubes will drain away body fluids. These will be removed as soon as possible, as you recover.

You may notice the following tubes and drainage bags:

**Intravenous cannula and central venous catheter** - These tubes give you fluids, pain relief and antibiotics directly into a vein. One is usually inserted into a vein in the side of your neck and another into a vein in your arm. These tubes are removed once you are able to drink enough fluid or no longer need intravenous antibiotics or this type of pain relief.

**Wound drains** - We aim not to use wound drains, but very occasionally these may be necessary to drain away fluid that collects around the operation site. They will be removed as soon as possible when the amount of fluid draining from them stops or is a very small amount.

**Urinary catheter** - Immediately after the operation, it can be difficult for you to pass urine while lying in bed. This tube is put into your bladder during the operation and drains your urine into a bag. This saves you from having to get up to pass urine and allows the nurses to monitor your urine output. Once you are able to move about more freely, this will be removed. This is usually done the morning after surgery.

### Pain control

It is important that your pain is well controlled so that you can walk about, breathe deeply, eat, drink and sleep well, all of which will aid your recovery. If at any time you feel your pain is not well controlled, it is very important you tell the nursing staff. A variety of methods of pain control may be used following your operation to ensure that you are comfortable, including a Patient Controlled Analgesia (PCA), a nerve block performed during surgery which numbs the main nerves supplying the wound, and regular paracetamol. The need for pain control will gradually decrease as your condition improves.

### Mobility

On the first day after your operation, the nursing staff and/or physiotherapists will help you get out of bed and walk around the ward. This will usually happen in the morning after your surgery. You will spend as much time out of bed as possible. The distances you are able to walk and the time spent out of bed will increase each day following your surgery.

### Clothing

It is important to try and wear your day clothes once you return to the ward, as this will help you to return to normal as soon as possible.

### Eating and drinking

When you wake up after your operation you may sit up and start drinking any non-fizzy drinks and even eat small amounts that evening. On the day after surgery, you will generally have small

amounts of food rather than large meals. To start with you may not have a big appetite, but this will gradually increase each day. We will ask you to bring in chewing gum or boiled sweets to encourage your bowel to work - this should be done for 20 minutes three times daily.

### Sickness

You may feel sick or be sick. If you feel sick after your surgery, you must tell the staff looking after you who can give you medication to reduce this.

### Anticoagulation injection

You will be given an injection to help prevent blood clots. These injections need to be given for a total of four weeks so will be continued once you go home from hospital. The nurses at The Royal Marsden can teach you how to do this, or community nurses can be arranged to visit you at home to give these injections.

### Wound

Generally the wounds are closed with dissolving sutures beneath the skin. Occasionally surgical clips may be used to close the wounds which need to be removed after you are discharged. The ward nurses will arrange with the community nurses or practice nurse to remove them for you at home. These are usually removed 10 days after the operation. It is not unusual for your wound to be slightly red and uncomfortable during the first week or two. Please let us know if your wound has:

- Become inflamed, painful or swollen
- Started to discharge fluid
- Separated in any place.

## Going home

Our aim is for you to be in your home recovering as soon as possible - which can be 3 days after your operation. when specific hospital care (nursing, medical or physiotherapy) is required patients actually recover better at home in a familiar environment, with their own bed and own food.

Your family and friends play an important part in your recovery and may need to help you with any shopping or household chores. Getting enough rest is an important part of recovery. We advise you to discuss this with your family or friends before coming into hospital to help you organise this support.

You will leave hospital when:

- Your pain is well controlled
- You are eating and drinking well
- You are as mobile as you were when you were admitted.

## What can I expect when I get home?

**Tiredness** – It is common to feel tired after an operation. It may take up to 12 weeks for you to feel fully recovered. Take it easy and pace yourself.

**Driving** – You should not drive until you can feel comfortable in the driving position and able to safely control your car, including freely performing an emergency stop without causing you pain. Please also check with your insurance company.

**Exercise** - You should gradually build up to your normal levels of activity in the weeks following your operation. It is important that you exercise daily and do not remain lying or sitting for long periods of time. You should, however, avoid excessive exercise for four to six weeks after your operation. You should not do any lifting or gardening for six weeks after the operation. We will provide you with an exercise and advice leaflet from your physiotherapist prior to going home.

**Constipation** – Your usual bowel pattern will change after surgery. You may have trouble having your bowels open which is a common side effect of pain medication.

Drink plenty of fluids (two to three litres a day) and eat a high fibre diet with fruits and vegetables. If your symptoms do not improve or you are concerned, please contact your nurse specialist for advice.

**Sex** - When you feel ready, you can resume normal sexual activities. Please discuss any concerns with your doctor or nurse.

**Returning to work** – This will depend on the type of work that you do, but as a general rule you will probably need six weeks off work. If your job involves more manual work, you may need longer off work. Please discuss this with your doctor.

## Contact details

It is very important that if you have any concerns or problems after leaving hospital, you contact someone as soon as possible.

**The Royal Marsden Macmillan Hotline:** 020 8915 6899

(available 24 hours a day, 7 days a week)

Your Key Worker: ……

Telephone: 020 7352 8171 x4508/1996

(Monday to Friday, 9am – 5pm)

## Further information and support

- Patient Advice and Liaison Service (PALS)

  If you have any questions, feedback or complaints about our services or your care, please contact PALS:

  Email: patientcentre@rmh.nhs.uk

  Freephone: 0800 783 3176

- **NHS Choices**

  NHS Choices provides online information and guidance on all aspects of health and healthcare, to help you make choices about your health.

  Website: www.nhs.uk

- **Macmillan Cancer Support**

  Macmillan Cancer Support is one of the largest British charities and provides specialist health care, information and financial support to people affected by cancer.

  Website: www.macmillan.org.uk

  Support line: 0808 808 00 00 (Freephone)

- **Cancer Research UK**

  Cancer Research UK has a patient information website, with information on all types of cancer and treatment choices.

  Website: www.cancerresearchuk.org

- **Orchid – male cancer charity**

  Orchid is the UK's leading charity working on behalf of anyone affected by or interested in male cancer – prostate, testicular and penile cancer.

  Website: www.orchid-cancer.org.uk

  Helpline: 0808 802 0010

## References

This booklet is evidence based wherever the appropriate evidence is available, and represents an accumulation of expert opinion and professional interpretation.

Details of the references used in writing this booklet are available on request from:

The Royal Marsden Help Centre
Freephone: 0800 783 7176
Email: patientcentre@rmh.nhs.uk

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Should you require information in an alternative format, please contact The Royal Marsden Help Centre.

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