



Colorectal and peritoneal oncology centre

Laparoscopic cyto-reductive surgery and HIPEC (heated intra-peritoneal chemotherapy)

What is pseudomyxoma peritonei?

Pseudomyxoma (PMP) is a rare, often slow-growing, tumour usually starting from the appendix. It produces large amounts of a jelly-like substance (mucus) that collects in the abdomen. The tumour does not spread through the blood or lymph nodes but stays in the abdomen increasing in size. This can cause problems with moving and breathing and affects the body's ability to absorb food properly. This disease can be described as a low grade or slow growing tumour.

What causes PMP?

Most people with PMP have a tumour (adenoma) in the appendix. Like many other tumours, this can develop in people who lead healthy lifestyles. There is no clear association within families. It does not appear to be an inherited condition.

Why am I having surgery?

The treatment we offer for PMP varies depending on the extent that the tumour has spread. When there is little disease seen on scans we can treat this with keyhole (laparoscopic) surgery, however if more disease is found during the operation we may need to change the technique to open surgery to remove the disease. Surgery usually involves removing the affected area which can mean removing the peritoneum (the lining of the abdomen), bowel, the spleen or the uterus. Before you are woken up from the anaesthetic, heated chemotherapy drugs are put in the abdomen to kill any tumour cells that cannot be seen (HIPEC).

What is laparoscopic surgery?

Keyhole surgery is an alternative way to perform surgery for a wide variety of conditions if the person and condition is suitable. Keyhole surgery is carried out through a small cut or incision in your skin rather than the traditionally bigger cut on the tummy. Many kinds of problems can be treated by keyhole surgery and because the wound is small, it means you get better more quickly so you can leave hospital earlier. It leaves a smaller scar and causes less pain.

Consent to treatment

Your surgeon will explain the operation and the reasons for it and will give you some written information to support what they have said about your treatment. It is important that you understand what the planned treatment involves.

We will ask you to sign a consent form agreeing to accept the treatment you are being offered. The basis of the agreement is that you have had The Christie's written description of the proposed treatment and that you have been given an opportunity to discuss any concerns. You

are entitled to request a second opinion from another doctor who specialises in treatment of this cancer. You can ask your own consultant or your GP to refer you. Your consent may be withdrawn at any time before or during treatment. Should you decide to withdraw your consent then a member of your treating team will discuss the possible consequences with you.

What are the advantages of keyhole surgery?

Cytoreductive surgery is a big operation and traditionally involves a large cut or opening in the tummy. This would mean a much longer time for the wound to heal and for you to feel well again. Keyhole surgery is different, and although it takes slightly longer to do, your surgeon is able to perform the same task but through a number of small cuts to your body. It means that you:

- get well more quickly and have a shorter hospital stay - with a traditional operation patients stay about two weeks but with the keyhole surgery the hospital stay is usually only one week
- have less pain from your wound which means less risk of wound complications
- get back to your normal activity quicker
- have smaller scars
- have a reduced risk of developing other problems including chest infections and possibly reduced risk of hernias and adhesions in the long-term

Are there any alternatives to keyhole surgery?

It is possible to have traditional surgery. However, the recovery time is longer because the procedure is more invasive. Patients usually stay in hospital for about two weeks with the traditional surgery compared to about one week with laparoscopic surgery. Recovery usually takes 8 to 12 weeks with a traditional operation compared to about six weeks with keyhole surgery.

Are there any risks?

As with all surgery, there is always a risk. There is a 1 in 20 chance the procedure cannot be performed with keyhole surgery and will need a larger cut.

If part of the bowel is removed there is a risk that the join in your bowel might leak; this can affect between 1 in 50 and 1 in 8 of the bowel joins depending on where the join is in the bowel. If this happens you may need another operation and a permanent or temporary colostomy bag. Sometimes this can be treated by a scan and a tube (a drain) placed in your abdomen temporarily. If the join is in a part of the bowel where the risk of a leak is highest then we would protect this area with a stoma. This is removed when the join has healed (after about 3 months).

There is also a risk of a chest infection or a blood clot developing in your leg or lung. This affects about one in ten people. That is why it is important after your surgery to sit up in bed, carry out breathing exercises and start walking as soon as possible to help clear the chest and prevent the clots forming in the leg. You will also be given a daily injection to keep the blood thin and prevent any possible clots developing.

Before the operation

To make sure everything runs smoothly, it is important for you to get ready for your operation. We will give you information before your operation date about what you need to do. You must not have anything solid to eat for six hours before your surgery but you can have fluids up to two

hours before your surgery. We will ask you to come to the surgical day case unit (department 4) at 7am on the day of your operation or we may admit you the day before depending on where you live. The nursing staff will take down your details and you will have an enema.

It is important to follow these instructions otherwise your operation may be delayed or even cancelled. If you have any questions, you can contact your hospital nurse who will be able to explain and answer any queries you may have. You will be on an enhanced recovery programme which is a pathway designed to speed recovery following surgery.

Your anaesthetist will talk to you and describe what your anaesthetic will involve and will give you the anaesthetic or medicine that will keep you asleep during your operation. It is important that you let your anaesthetist know if you have any medical problems or allergies.

Preparation and tests before the operation

- Drugs such as aspirin, blood thinners, anti-inflammatory medications (arthritis medications) and Vitamin E will need to be stopped temporarily for several days to a week before surgery.
- Diet medication or St. John's Wort should not be used for the two weeks before surgery.
- It is important to stop smoking before the operation.
- Pre-operative preparation includes blood tests, medical assessment, chest x-ray and an ECG depending on your age and medical condition.
- It is recommended that you shower the night before or morning of the operation.
- The rectum and colon must be empty before surgery. You will usually have an enema on the day of your operation.
- You should not eat food after 3am on the morning of surgery but can drink water till 7am on the day of surgery. Take the medications that your surgeon has told you are allowed to take on the day of your surgery.
- It is a good idea to arrange beforehand for any help you may need at home after surgery.

What does the operation involve?

Because your bowel and other parts of your body are tightly packed under your skin, there is not much room for your surgeon to work inside. To create more space for your surgeon to work, a small amount of carbon dioxide is used to inflate your tummy.

Your surgeon works through small cuts made in your skin and uses a laparoscope, a tiny sophisticated telescope connected to a video camera, to carry out the operation. The operation will always involve removing the belly button, the gall bladder, the falciform ligament (a bit of fatty tissue between the belly button and the liver), the omentum (more fatty tissue), and the ovaries. We do not always remove the uterus or any bowel but if we find any disease there it may be necessary. If part of the bowel is removed, we normally join the bowel back together but it can sometimes be necessary to protect the join with a temporary stoma (where the bowel opens on to the tummy wall). As surgery will vary from one person to another, your surgeon will explain what the operation will mean to you. Antibiotics are given by the anaesthetist at the time of surgery.

How long does the operation take?

The operation and checking may take between six and nine hours but patients are usually in a special area in theatre to recover from the anaesthetic for a further two hours. Patients may be

off the ward for 11 hours. Following the procedure, the patient is transferred to the ward on a monitored bed for observation. Sometimes the patient is kept in the critical care unit for overnight observation.

What complications can occur?

These complications include:

- infection (common)
- bleeding (requiring a transfusion of blood is uncommon)
- blood clots to the lungs (uncommon)
- if bowel is removed: a leak where the bowel is joined together (uncommon)
- it may not be possible to perform keyhole surgery and an open operation may be needed (uncommon)
- injury to adjacent organs such as the small intestine, ureter, or bladder (rare)

It is important for you to recognize the early signs of possible complications. Contact your surgeon if you notice severe abdominal pain, fever, chills, or rectal bleeding. (Phone numbers on page 7). These are complications which occur with open operation as well.

What happens if the operation cannot be performed or completed by the laparoscopic (keyhole) method?

Sometimes, the laparoscopic method cannot be performed on some patients. This decision is made by your surgeon either before or during the actual operation. Some of the reasons may include:

- obesity
- a history of abdominal surgery causing dense scar tissue (adhesions)
- if the surgeon is unable to see the internal organs
- bleeding problems during the operation
- more disease than expected

After the operation

- After your operation, we will take you on a bed to the ward or the oncology critical care unit. You may feel some pain in your shoulders and hear a crackling sound (as the gas used during the operation escapes) from your wound. Both the pain (caused by a build up of gas) and crackling noise are short-lived and should not cause any harm.
- Your wound will be covered with a dressing (small bandage or plaster). You will have a needle in one of your veins in your arm/back of hand to allow your nurse to inject you with medicines and extra fluids if you need them. There will also be a thin tube (or catheter) from your bladder to check how much urine you are making. This is inserted into the bladder when you are asleep during the operation.
- You may also have: a thin tube in your neck to help measure the amount of fluid in your body, and a thin tube to drain any fluids that might ooze from your wound. You may have a thin tube in your back (called an epidural) or arm (attached to a small pump) that allows your nurse to inject painkillers to relieve pain. Sometimes you may also have a small tube attached to your nose to empty your stomach.

- You may need to have a blood transfusion and/or blood products after the operation.
- We encourage you to be out of bed the day after surgery and to walk. This will help reduce the soreness in your muscles.
- Please ensure you are given advice at the time of discharge of what to expect following surgery by the ward staff who will also provide you with the contact information if there are any issues.

Your recovery

One of the advantages of laparoscopic surgery is the speed of your recovery. Within a few hours you will be able to sit up in bed. To reduce the risk of chest infections, blood clots and to keep your lungs working well, it is important to get moving again as soon as possible.

The nursing staff will help you to get out of bed and sit in a chair. Getting fluids into your body is important and you will be able to start drinking right away. Depending on how you are feeling, you will be able to eat again within one to two days. After a few days you may feel a build up of wind inside your bowel or want to go to the toilet as normal. When you go to the toilet, it is normal for you to pass a small amount of blood and mucous (slimy liquid).

After you go home

Your health will be regularly checked in the weeks and months that follow your operation. You will also have regular follow-up appointments at the hospital outpatients department. If you are worried or have any questions, you can talk to your hospital doctor's secretary or GP to arrange an earlier follow-up appointment.

Getting fit again

It is normal to feel weak and tired when you leave (or are 'discharged' from) hospital. Although your body needs time to recover from the stress of a major operation, it is important to start your day-to-day activities as soon as you can.

Walking – you can begin walking the day after your surgery. This can be as simple as moving around your home or longer walks as time goes by.

Stairs – you can walk up and down stairs, but in the early days after surgery, it is wise to have someone with you.

Lifting – you can begin to lift light objects (less than 10lbs or 5kg) after you leave hospital and gradually increase the amount you lift over the next few days. Always stop lifting anything if it causes any pain or discomfort.

Showers – you can take a shower two days after surgery. Gently wash your wound with soap and water. Be sure to rinse well and dry your wound gently.

Driving – driving is not allowed (for a few weeks after surgery or) before your first follow-up appointment with your surgeon. Do not drive if you are taking prescription painkillers. Speak to your insurance company to find out when they will cover you after your surgery.

Working – this can vary from one person to another. People with jobs that are not physically demanding (for example office work) can often return to work within three weeks of their operation. Physically demanding jobs may require a longer (4-6 weeks) time resting.

Diet

Normally, you can eat as normal after your surgery, although it is best to avoid any foods that you know have caused you problems in the past. (Spicy food or food with large amounts of fibre can cause some cramps). Sometimes, solid food can upset you by causing wind or pain. If this happens, dietary supplements or drinks, which you can get from your GP, can help.

Wound care

- After your operation, the cut (or 'incision') will be stitched back together by your surgeon. There are different ways of stitching the incision.
- Depending on the type of stitch used (often called sutures), these will gradually dissolve in your body and disappear. Sometimes you might see some loose stitches hanging from your wound. These will dissolve or can be addressed when reviewed in the clinic.
- If the suture used is not the kind that dissolves or metal clips are used, then they will need to be removed after 10 days by your GP if you can travel, or district nurse if not.
- If Steri-Strips (small pieces of sticky tape) have been used to hold your incision together, they begin to lift off themselves as the wound heals. After about ten days, they can be gently peeled off.

Medication

Pain

You may feel some pain after your operation but normally it's not serious and painkillers containing paracetamol or ibuprofen are usually sufficient to stop any pain you have.

Constipation

Having surgery and some medicines can cause you to be constipated. It should not last long and return to normal after one to two weeks, but if not, laxatives (medicines that help you go to the toilet more often) can help.

Contacting The Christie

If any of the following occur, contact your surgeon right away.

- if you are always feeling sick (nausea) or being sick (vomiting)
- if you are losing blood from your bottom
- if your body temperature is higher than 37.5°C
- if you have any pus coming out of your wound or any increase in redness around the wound
- if you have an increase in pain
- if you have diarrhoea that does not go away

The colorectal and peritoneal oncology centre

The colorectal and peritoneal oncology centre has an international reputation for treating advanced and early colorectal cancer, appendix tumours, peritoneal tumours, anal cancer and tumours within the pelvis.

If you have a query regarding our service, please contact **0161 446 8051**.

The service will provide:

- ongoing advice and support for patients, their partners and families
- information and advice about treatment and treatment options
- a point of contact should problems arise
- a link with other health care professionals involved in your care
- referral to specialist services.

Who can contact us?

Any healthcare professional who needs information or advice or would like to refer a patient. Any patient who would like referring can contact the service themselves or by referral from another healthcare professional. We are happy to speak to partners, friends and family, providing the patient has given consent.

If you know the name of your consultant, please contact their secretary directly:

<p>Consultants: Miss S T O'Dwyer Mr M S Wilson Mr P E Fulford Prof A Renehan Mr C R Selvasekar Mr O Aziz Miss A Minicozzi</p>	<p>Contact: Eve Kennerley 0161 446 8311 Gill Harrison 0161 446 3366 Rebecca Brown 0161 918 7352 Bev Tyrrell 0161 918 2189 John Lupea 0161 918 2310 Laura Elliott 0161 918 2057 Marion McKenna 0161 918 2391</p>
<p>Clinical Nurse Specialists: Rebecca Halstead Rachel Connolly Lisa Wardlow Sarah Wemyss</p>	<p>Contact: 0161 918 7096 / 07766 780952 rebecca.halstead@christie.nhs.uk 0161 918 7859 / 07785 725629 rachel.connolly@christie.nhs.uk 0161 918 7183 / 07826 892213 lisa.wardlow@christie.nhs.uk 0161 918 2097 / 07824 373 785 sarah.wemyss@christie.nhs.uk Fax: 0161 918 7078</p>
<p>Service Manager: Hannah Rogers</p>	

Working hours are 8am to 4pm (at other times please leave a message).

Key worker

Your key worker (nurse) can be contacted on

If your key worker is not available, please leave a message on the answering machine with your name, date of birth and telephone number. All messages will be responded to as quickly as possible, but this may not always be on the same day.

If you have any problems after your operation, please contact Ward 10 on 0161 446 3860.

Further information

For information about the colorectal and peritoneal oncology centre visit www.christie.nhs.uk/cpoc

Christie information

The cancer information centre at The Christie in Withington stocks a wide range of booklets free to patients, their families and carers and offers a free confidential service for anyone affected by cancer. Contact **0161 446 8100**.

Complementary therapy and smoking cessation

There is an outpatient drop-in service at The Christie on Tuesday and Thursday from 4pm. Contact directly by calling **0161 446 8236** or **0161 918 7175**.

Maggie's centre

The centre provides a full programme of practical and emotional support, including psychological support, benefits advice, nutrition and head care workshops, relaxation and stress management. Contact Maggie's on **0161 641 4848** or email manchester@maggiescentres.org

Macmillan Cancer Support

This is a national charity offering advice and support. Call the freephone helpline **0808 808 0000** (Monday to Friday, 9am to 8pm) or if you are hard of hearing, use the textphone **0808 808 0121**. Macmillan Cancer Support publish booklets which are free and available on their website www.macmillan.org.uk

If you need information in a different format, such as easy read, large print, BSL, braille, email, SMS text or other communication support, please tell your ward or clinic nurse.

We try to ensure that all our information given to patients is accurate, balanced and based on the most up-to-date scientific evidence. If you would like to have details about the sources used please contact patient.information@christie.nhs.uk

For more information about The Christie and our services, please visit www.christie.nhs.uk or visit the cancer information centres at Withington, Oldham or Salford.

Contact The Christie Hotline for
urgent support and specialist advice

**The Christie Hotline:
0161 446 3658**

Open 24 hours a day, 7 days a week

The Christie NHS Foundation Trust
Wilmslow Road
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T: 0161 446 3000
www.christie.nhs.uk

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