Wrightington, Wigan and Leigh Teaching Hospitals
NHS Foundation Trust

Percutaneous Nephrostomy Insertion (PCN)

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Percutaneous Nephrostomy (PCN) Insertion

Patient Information

Radiology Interventional Suite - RAEI

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Introduction

This leaflet tells you about the procedure known as Percutaneous Nephrostomy (PCN) Insertion. It explains what is involved and what the possible risks are. It is not meant to be a substitute for an informed discussion between you and your doctor but can act as a starting point for such a discussion.

This procedure will be performed in the X-ray department. The X-ray Department is also known as the Radiology or Imaging Department. It is the facility in the hospital where Radiological examinations of patients are carried out. These examinations use a range of imaging equipment, such as a Computed Tomography (CT) scanner, an ultrasound machine, or a Magnetic Resonance (MR) Imaging scanner.

Radiologists are doctors specially trained to interpret images, they can also carry out more complex examinations. Radiologists are supported by Radiographers, who are trained to take X-rays and perform other imaging procedures, and Radiology Nurses, who are trained to care for patients having radiological procedures.

What is a PCN?

A PCN, also known as a Percutaneous (meaning through the skin) Nephrostomy (a tube into the kidney), is when a small tube called a drain is inserted into the kidney through the skin to drain your urine.

Why do I need a PCN insertion?

The most common reason for needing a PCN is a blockage in the ureter. The urine from a normal kidney drains through the ureter (a narrow muscular tube) into the bladder. If the

ureter becomes blocked, the kidney can rapidly be affected, especially when infection is also present. If left untreated, the kidney will become damaged.

A PCN relieves the symptoms of the blockage and keeps the kidney working.

Who has made the decision?

The Consultant in charge of your case and the Radiologist will have discussed your situation and feel that this is the best treatment option. However, you will also have the opportunity for your opinion to be considered and if, after discussion with your doctors, you do not want the procedure conducted, you can decide against it.

Where will the procedure take place?

It will take place in the X-ray Department, in a room that is adapted for these specialist procedures.

Who will be performing the PCN insertion?

An Interventional Radiologist will do the procedure. These Radiologists have special expertise in using specialist equipment and performing these types of procedure. The Radiologist will use the images to conduct the procedure.

How can I prepare for the procedure?

You will have been advised of the date, time and location (usually the Surgical Assessment Lounge) of where to report to.

You will be a patient in the hospital for at least one night so please bring an overnight bag and all your medications with you to the hospital.

You will be asked not to eat for four hours beforehand but are able to take sips of water.

You will be advised to continue taking your normal medication even on the morning of your admission, that is unless they belong to one of the groups of medication listed below:

Antiplatelets (Aspirin / Clopidogrel)

Anticoagulants (Warfarin / Apixaban / Rivaroxaban / Edoxaban).

Diabetic medication (Insulin injections or Diabetic tablets such as Metformin).

You will be given advice about these medications when your appointment is arranged so it is important to let staff know if you are taking any of them when they ask. If you are unsure ask to speak to the Radiology Nurses.

Once you arrive on the Surgical Assessment Lounge:

You will be asked to put on a hospital gown.

You will be given a single of dose of antibiotics; This will be administered through a cannula (a thin plastic tube that is inserted into your vein) or in tablet form to protect you from infection.

If you have any allergies, you MUST let the doctor / nurse know.

If you have previously reacted to intravenous contrast medium (dye used for kidney X-rays and CT scans), you MUST also tell the doctor/nurse about this.

What actually happens during the procedure?

You will be taken to the X-ray Department and into the Interventional Radiology Suite. You will be asked various questions by a team member then the Radiologist will discuss the procedure with you in full, they will explain the associated risks and complications. This is an opportunity for you to ask any questions you may have. Please ensure you are satisfied with everything that has been explained to you about the procedure before you sign the consent form.

You will be asked to get onto the X-ray table and lie on your stomach. However, if you are unable to lie on your stomach the procedure can be performed with you on your side or back but this is not ideal. A Radiology Nurse will place stickers on your back and connect you to an ECG machine (heart monitor). Your blood pressure will be checked every ten minutes and your pulse and oxygen levels will be continuously monitored throughout the procedure.

The Radiologist will use an ultrasound machine to determine the best place for inserting the drain. Your skin will be cleaned with an antiseptic solution and a sterile drape will be placed over your body. The skin will then be made numb by injecting local anaesthetic. A fine needle will then be inserted into the kidney through the skin; X-rays will be used to ensure the needle is in the correct position. A small guide wire will then be placed through the needle and into your kidney.

- You may feel pressure and pushing as the drain is being inserted into the kidney.
- Once in place, the drain will then be ‘locked’ to ensure it does not fall out.
- The drain will be protected with a drainage bag; this bag will attach to your skin and collect the urine.

Will it hurt?

When the local anaesthetic is injected, it will sting to start with, but this soon passes and it should then feel numb. After this, the procedure should not be painful.

There will be a member of staff standing next to you and looking after you.

You will be awake during the procedure and be able to tell the staff if you feel any pain or become uncomfortable in any other way.

As the contrast dye, passes around your body, you may get a warm feeling, which some people can find a little unpleasant; however, this feeling soon passes.

How long will the procedure take?

Every patient's situation is different, and it is not always easy to predict how complex or how straightforward the procedure will be. Generally, the procedure will be over in about half an hour, but you may be in the X-ray Department for longer.

What happens the procedure is done?

After the procedure, you will be transferred to a hospital bed and taken to a ward. You will need to recover in hospital overnight for routine monitoring.

Once you are discharged, it is important you take care of the drain and the drainage bag. The discharging ward will make a referral to the district nursing team to change your drainage bag at your local clinic. Your bag will need to be emptied regularly, so that it does not become too heavy and cause irritation to the PCN tube or skin. The Radiology Nurses will refer you for supplies of drainage bags and other items. You will be contacted by a company called Fittleworth who will organise delivery of these items and explain the procedure to obtain items regularly.

Once you are at home it is important to ensure you drink at least 3 litres of fluid (preferably water but any non-alcoholic fluid is acceptable) on a daily basis, this will help to stop the urine becoming too concentrated and blocking the tube.

If you experience a high temperature, back pain, redness, swelling around the tube, leakage of urine from the drainage site, or if your tube falls out, you should contact the Radiology

Team on the number provided in this leaflet.

Are there any risks or complications of the procedure?

PCN is a very safe procedure but with any procedure, complications are possible; this leaflet includes the most common complications and risks that are associated with this procedure.

The possibility of you experiencing risks or complications varies but these will be discussed with you before you sign the consent form.

The main risk is bleeding from the kidney. It is common for the urine to be bloody immediately after the procedure. This usually clears over the following 24 – 48hrs.

On rare occasions, the bleeding may be more severe and require a transfusion.

Very rarely the bleeding may require another surgical operation or radiological procedure to stop it.

The urine in the kidney may be infected. This can generally be treated satisfactorily with antibiotics, but occasionally you can feel unwell after the procedure.

Sometimes there is a leak of urine from the kidney, resulting in a small collection of fluid inside the abdomen. If this becomes a large collection, it may require draining under local anaesthetic.

Despite these possible complications, the procedure is normally very safe and will almost certainly result in a significant improvement in your medical condition.

How long will the PCN tube need to stay in for?

Your consultant will decide how long the PCN needs to stay in place, this differs from patient to patient.

If the tube is still needed after 3 months, the X-ray department will send you an appointment for you to attend hospital as a day case patient to have your tube changed.

Safety

X-rays are a type of radiation. We are all exposed to natural background radiation every day; this comes from the sun, the food we eat, and the ground. Being exposed to X-rays carries a small risk, but your consultant feels that this risk is outweighed by the benefits of having this procedure. We take all safeguards to minimise the amount of X?rays you receive.

Information for patients between the ages of 12 and 55

The risks of radiation are slightly higher for an unborn child so you will be asked to confirm that you are not pregnant before the examination can proceed.

This applies to all patients whether you are male or female.

If there is a chance you may be pregnant, please let a member of staff know at the earliest opportunity or contact the Interventional Radiology team on 01942 778713 (this is the direct phone number for Interventional Radiology where your procedure will be performed), Interventional Radiology is open Monday to Friday 8.30am to 5pm except Bank Holidays.

Finally

Some of your questions should have been answered by this leaflet but remember that this is only a starting point for discussion about your treatment with the doctors looking after you. Make sure you are satisfied that you have received enough information about the procedure before you sign the consent form.



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