

Medical Tests

for intensive care patients

As an intensive care patient, you will have many tests done. This information sheet tells you more about these different tests.



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Introduction

While you are in the Intensive Care Unit (ICU), which can also be known as a Critical Care Unit, you will have different medical tests to help medical staff find out about what is happening in your body, what treatment you might need or if your treatment is helping you.

Below are different tests that you may have. You can ask the nurses and doctors who are doing the tests if you would like to find out more about them or why you are having them.

Blood tests

What are these tests?

Samples of your blood will be taken often when you are in ICU. Blood will be taken from a line that will be put usually into a vein or artery in your arm or on the top of your hand. This is called an arterial line. This means you will not have to have blood taken by needles in your arm, so it won't hurt to have blood taken.



Why will I have them?

Blood tests will help doctors know how you are responding to your treatment and if you need your treatment changing.

X-ray

What is this test?

A film, similar to a photographic film, is placed behind the part of the body being X-rayed. The X-ray machine fires a short burst of X-rays through part of your body. The X-rays hit the film, which is then developed. The more X-rays that hit the film, the blacker this appears on the film.

This means that dense parts of the body that block some of the X-rays show up

white (such as bones). Hollow or air-filled parts of the body show up black (such as parts of the lung).

Why might I need a x-ray?

They are used to see the inside of your body. Chest X-rays are commonly used in ICU to look at people's chest and lungs and to check the position of breathing tubes, intravenous lines and drains. Intravenous lines are tubes that are put in to give you medicine or fluid. Drains are tubes that take out fluid from your body.

An x-ray can be done in the ICU, using a large X-ray machine that is brought to your bed.

CT scan

What is this test?

A CT scan is a special type of X-ray test. CT stands for Computerised Tomography. It is also sometimes called a CAT scan which stands for Computed Axial Tomography.



A CT scan can be done on any section of the head or body. It can give clear pictures of bones.

It also gives pictures of soft tissues (such as muscles, organs, large blood vessels, the brain and nerves) which an ordinary X-ray test cannot show.

Why might I need a CT scan?

A CT scan is used:

- to find out why someone's level of consciousness or awareness has changed, or to look at a head injury. This is the most common reason why a CT scan is used in the ICU.
- to see if there are problems in the body, such as abscesses or abnormal blood vessels, or to see if fluid has built up in an area of the body
- to give a surgeon a clear picture of an area of the body before or after surgery.
- To help doctors find the right place to take biopsies (tissue samples).

If you need a CT scan, you will be taken to another part of the hospital to have one. An ICU doctor or nurse will come with you.

You will be helped to get on a flat bed that moves into the scanner. The scanner is a round ring, so you will not be surrounded by the machine. Having a CT scan should not be painful and the machine is not noisy. The person who works the machine is called a radiographer. They will be in a room next door to you, but you can talk to them by an intercom. You may be asked to lie still, or breathe in and out at certain times during the scan to help get clear pictures. The scan will take about 15 minutes.

MRI scan

What is this test?

MRI stands for Magnetic Resonance Imaging. An MRI scan uses a strong magnetic field and radio waves to create pictures on a computer, of tissues, organs and other structures inside the body. An MRI scan can give clear pictures of most parts of the body.



Why might I need an MRI?

An MRI is used for detailed pictures of the body such as your organs, soft tissues and bone. The MRI scanner uses an extremely strong magnet, so people with certain types of medical implant cannot be scanned. This is because the magnet can potentially move medical devices with metal in them, or affect their function. The staff on the ICU would check this before a scan is done.

If you need an MRI scan, you will be taken to another part of the hospital to have one. An ICU doctor or nurse will come with you. You will be helped to get on to a flat bed that will then move inside the scanner, which is like being in a tunnel. It can be very noisy so you will be given earplugs. During the scan, the machine will make loud tapping noises. This is the electric current in the scanner coils being turned on and off.

How long the scan will take will depend on how much of your body is being

scanned. It can take between 15-60 minutes to have a scan done. The radiographer will be in a room next door to you, but you can talk to them by an intercom.

Bronchoscopy

What is this test?

Bronchoscopy can help to diagnose and treat some conditions of the airways (known as bronchi) and lungs. The bronchoscope is a thin, flexible, telescope. It is about the width of a drinking straw. The tip of the bronchoscope contains a light and a tiny video camera so the doctor can see inside your airway and lungs.

If you have a tube to help you breathe (either a tube in your mouth or nose or through the front of your neck), the bronchoscopy is passed through this tube and into the lungs.

Why might I need a bronchoscopy?

Bronchoscopy may be used to help diagnose (find out about) breathing problems. The doctor may just look into your airways or they may take samples of tissue (called a biopsy) or mucus. Bronchoscopy can also be used to help treat pneumonia and chest infections by clearing the lungs of mucus.

A bronchoscopy will be done in your bed in the ICU. You may be given some sedation (medicine to make you sleep) while it is done.

Endoscopy

What is this test?

This test can be called endoscopy or a gastroscopy. It is a test where a doctor looks into the upper part of your gut (called the upper gastrointestinal tract). The upper gut consists of the oesophagus (gullet), stomach and duodenum. The doctor uses an endoscope to do this. An endoscope is a thin, flexible, telescope and is the width of a drinking straw. The endoscope is passed through the mouth, into the oesophagus and down towards the stomach. The tip of the endoscope contains a light and a tiny video camera so the doctor can see inside your gut.

You may be given drugs to make you sleepy for this test or given a spray to numb the back of your throat so you don't gag or retch when the tube is put in place.

Why might I need an endoscopy?

An endoscopy will be used if your medical team want to see inside your oesophagus or stomach if you have pain or if your stomach is swollen.

An endoscopy can be done in your bed in the ICU.

Lumbar puncture

What is it?

A lumbar puncture (sometimes called a spinal tap) is where a sample of cerebrospinal fluid (CSF) is taken for testing. CSF is the fluid that surrounds the brain (cerebrum) and spinal cord.

This is done by inserting a needle through the skin and tissues between two vertebrae (the small bones which your spine consists of) in your lower back. There is space here around the spinal cord which is filled with CSF. A small amount is collected into a pot. Sometimes the pressure of the fluid is measured when it comes out into the pot by attaching a special tube to the needle.

Why might I need a lumbar puncture?

This test is mainly used to diagnose meningitis (which is an infection of the meninges - the structure that surrounds the brain and spinal cord). It is also used to help diagnose some other conditions of the brain and spinal cord.

The area where the needle is put in will be made numb by an anaesthetic cream.

A lumbar puncture can be done in your bed in the ICU.

Conclusion

If you have any questions about the tests that you need, or are worried about them, let your medical team know so they can give you more information and talk with you about them.

More information

This information sheet is based on one by Chelsea & Westminster Hospital Foundation NHS Trust.

The Royal Blackburn Teaching Hospitals NHS Trust Critical Care Unit have a more detailed information sheet called *About Procedures and Treatments*:

www.elht.nhs.uk/services/critical-care-unit

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