Bedside Ultrasound Examination

What is a bedside ultrasound examination?

A bedside ultrasound examination is a very specific ultrasound scan that is performed whilst you are in your bed in the Emergency Department. It is performed by an Emergency doctor who has been trained to use an ultrasound machine to answer a specific clinical question regarding your presentation to hospital. The Emergency doctor uses the ultrasound machine as part of the physical examination, like a stethoscope, to help diagnose your medical problem, so that you can receive the correct treatment as quickly as possible.

Why do I need a bedside ultrasound?

Bedside ultrasound will be used by your doctor to answer a specific binary (yes / no) question in the Emergency Department to diagnose a potentially life threatening medical condition.

For example if you are involved in a motor vehicle accident, injuring your chest and abdomen, your doctor would perform an extended focused assessment with sonography in trauma (E-FAST) scan to look for a punctured lung or internal bleeding. A positive scan speeds up the diagnosis and management of life threatening internal injuries leading to better patient outcomes. A negative scan is reassuring and allows the doctor time to investigate and treat other injuries that are unable to be assessed with bedside ultrasound.

An emergency doctor can perform a variety of different bedside ultrasound tests depending on their level of training. These scans may include a basic echocardiogram (heart ultrasound), abdominal aortic aneurysm, gallbladder, deep venous thrombosis (DVT) or early pregnancy ultrasound and many more.

The reasons for performing these scans and the results will be explained to you at your bedside, by your doctor. The aim is to diagnose and treat your medical problem quickly so that you can receive the best medical care possible.

How is it performed?

Your bedside ultrasound examination will be performed in your bed in the Emergency Department by an Emergency doctor. Most scans will be performed whilst you are lying on your back, but you may be asked to move around the bed or hold your breath to obtain better pictures.

Much like a pregnant mother having an ultrasound scan, the doctor will squirt cold jelly on the part of body being scanned and then place an ultrasound probe onto your skin. This will generate images of the inside of your body on the machine. The doctor will move the ultrasound probe around your body to search for abnormalities and examine different internal organs and structures. Some pressure will be applied but this should not be painful. Once completed, the doctor will clean you and the ultrasound machine, tell you the results of your scan and what these results mean for you.

What are the risks?

There have been no adverse effects caused by diagnostic ultrasound, although in theory ultrasound waves can cause tissue heating. For this reason your doctor will scan you for as short a time as possible.

How are these scans different from a formal ultrasound scan?

A bedside ultrasound is not a comprehensive ultrasound examination and does **not** replace a formal ultrasound scan that is performed in a Radiology Department. Bedside ultrasound examinations answer very limited questions only and you will not be provided with a written report once the examination has been completed. You may be referred for a formal ultrasound even if no abnormalities are found during your bedside ultrasound.

Why do I need another ultrasound scan?

The Emergency doctor performing your scan may not find any abnormalities. Although this is a good thing, it may not mean that 'the scan is completely normal'. This is because every abnormality cannot be assessed with bedside ultrasound, so you may be advised that you still require a **formal and more comprehensive ultrasound scan** performed in a Department of Radiology to complete your investigation. This may either be completed during your hospital stay or be arranged as an out-patient either by your Emergency doctor or family doctor.

Your doctor will explain the details of any further ultrasound scans that are required. If you have any questions or concerns about your bedside ultrasound examination, just ask.