Deep breath hold during radiotherapy to the breast

Information for patients
This leaflet aims to help you and your family understand more about radiotherapy to the left breast or chest wall using Voluntary Deep Inspiration Breath Hold (vDIBH).

The following information outlines what to expect during your radiotherapy planning and treatment.

**What is vDIBH?**

vDIBH is a technique where you hold your breath for short periods of time (about 25 seconds) during a radiotherapy planning CT scan and for treatment. You will be offered support and guidance through each step of the planning and treatment process.

We use vDIBH if you are having your left breast treated because the heart sits behind the left breast and chest wall. When you hold your breath, your lungs fill with air and your heart moves away from your chest wall, minimising the amount of heart in the area being treated.

As everyone’s size and shape is different, we won’t know if you will benefit from vDIBH until you have had your first planning CT scan (see your leaflet ‘Radiotherapy to the Breast’). For some people, even when breathing normally, their heart will not be in the treatment area, so vDIBH is not needed.
Are there any alternatives?
Radiotherapy treatment is carefully planned, so don’t worry if you cannot hold your breath, or if vDIBH is not suitable for you. Your treatment will be planned with you breathing normally and your heart will be shielded as much as possible.

What happens during my CT planning scan?
When you attend, the radiographers will first explain what to expect during your appointment. You will then have a CT scan whilst you breathe normally. In this first scan we will be able to see where your heart sits and assess if vDIBH would be beneficial for you.

If vDIBH isn’t suitable for you, the radiographers will discuss this with you after the scan. Your next appointment to attend will be your first treatment appointment.

If vDIBH may be of benefit, the radiographers will explain and practice the breath hold technique with you. You will then need to have a second CT scan whilst holding your breath. This scan may be on the same day as your first scan or you may be asked to return at a later date which will give you the opportunity to practice holding your breath.

When you have your second CT scan, you will be asked to hold your breath for the whole scan (usually 15 seconds). The radiographers will talk to you through an intercom, letting you know when to hold your breath and when to breathe normally again.
What happens during my radiotherapy treatment?

Each time you have your radiotherapy treatment, you will lie down on the treatment couch in the same position as your planning CT scan. The radiographers will get you into the correct position and then ask you to hold your breath and release it several times until they are happy it is consistent.

The radiographers will then leave the room and talk to you through an intercom. They will let you know when to hold your breath and when to breathe normally again. When the radiographers are ready to switch on the treatment, they will ask you to hold your breath for around 25 seconds. This will happen several times until the treatment is finished.

The radiographers will monitor your breathing and positioning from outside the room using CCTV cameras. If you release your breath without being told to, the radiographers will see this and switch off the treatment. The radiographers will explain this to you in more detail before your first treatment.