

THE HARLEY STREET CLINIC®



DEEP INSPIRATION BREATH HOLD (DIBH)

BREAST CANCER IS THE
MOST FREQUENTLY
DIAGNOSED CANCER
AMONGST FEMALES IN
THE WORLD WITH AN
ESTIMATED 1.7 MILLION
CASES A YEAR¹

References

1. Torre, L. A., Bray, F., Siegel, R. L., Ferlay, J., Lortet-Tieulent, J. and Jemal, A. (2015), Global cancer statistics, 2012. *CA: A Cancer Journal for Clinicians*, 65: 87–108. doi: 10.3322/caac.21262

DEEP INSPIRATION BREATH HOLD (DIBH)

In the UK 38,611 breast cancer patients received radiotherapy treatment during 2014-15, an increase of 424 cases on the previous year¹.

Early diagnosis and more effective treatment options mean breast cancer patients are surviving long after their original diagnosis. The possibility of developing long term side effects due to cancer fighting therapies then becomes a real issue.

For breast cancer patients receiving radiotherapy to the left side the main concern is the proximity of the heart to the treatment area.

Heart tissue can potentially receive some of the radiation dose due to an individuals' internal anatomy and the position of the tumour within the breast. Evidence has shown that these incidental doses of radiation can cause patients heart related problems years after treatment has finished.

At The Harley Street Clinic we use a specialised technique to deliver radiotherapy to the left breast with patients in a breath hold position. This is known as DIBH and is designed to reduce the incidental heart dose by treating patients in a Deep Inspiration Breath Hold (DIBH) position.

References

1. NATCANSAT (National Cancer Statistics): Number of radiotherapy episodes and attendances by financial year in England. Analysis produced 30th July 2015.



HOW DOES THE DIBH TECHNIQUE WORK?

The technique requires a patient to hold air in their lungs for a maximum of 20 seconds at a time whilst the radiotherapy treatment is being delivered. Their position is monitored using a 3D outlining system.

Holding in a deep breath of air stabilizes the chest wall and allows the lungs to expand, pushing the heart away from the treatment area within the chest cavity. This action can reduce the incidental radiation dose the heart receives during radiotherapy treatment delivery.

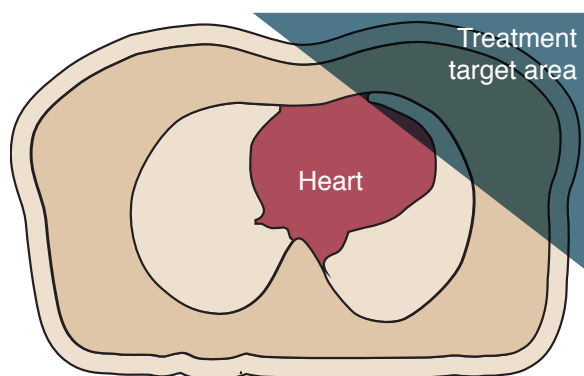
Is it right for me?

It is important to note this technique may not be suitable or benefit all patients with a left sided breast cancer diagnosis.

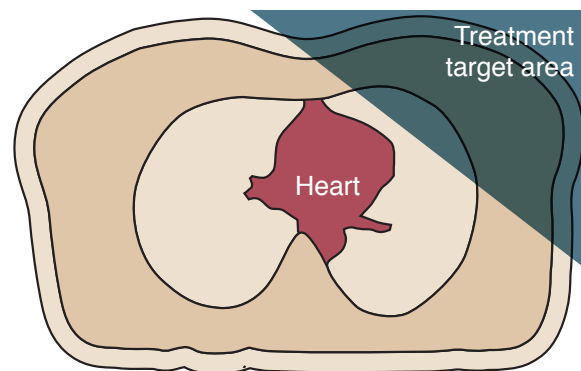
The specialist consultant oncologist will decide what technique is best for each patient and tailor the radiotherapy treatment to their individual needs.

When a patient attends their radiotherapy planning appointment the pre-treatment radiographers assess individuals to see whether they are able to hold their breath in a stable and reproducible position for the required duration.

CT PLANNING SCANS ILLUSTRATE HOW THE BREATH HOLD DISPLACES THE HEART AWAY FROM THE RADIATION TREATMENT TARGET AREA:



Free Breathing Scan



DIBH / Breath Hold Scan

WHAT HAPPENS?

Patients are required to lie on a 'breast board' with their arms raised and supported out of the treatment area.

As for all breast cancer patients the treatment area must be exposed to enable accurate set up and radiation field placement.

Patients are guided and coached in breath hold by the treatment radiographers, along with a computer tablet. The tablet displays a real time coaching bar that indicates to the patient the correct breath-hold level.

The 3D outlining system captures images of the body at many frames per second which the computer processes to form a real-time moving 3D image of the patient.

The system calculates a patients' position and informs the treatment radiographers if any fine adjustments need to be made before radiotherapy treatment can be delivered.

The radiation beam is activated only when the patient is aligned correctly according to the 3D outlining system and the treatment radiographers.

If during radiotherapy treatment a patient was unable to hold their breath for the required time, this change in a patient's position will automatically terminate the radiation beam. Patients are therefore in control and when ready to resume treatment, returning to the correct breath-hold position will allow the radiation beam to be activated again.

The DIBH technique is simple to follow and extremely effective in its outcome. The Harley Street Clinic radiotherapy department has been delivering this technique effectively since 2011.

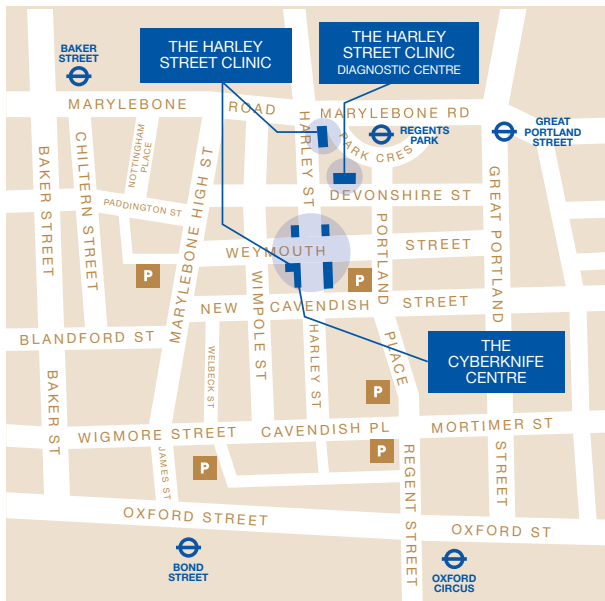


“AFTER THE TREATMENT I GOT OFF THE
BED AND WENT OUT ONTO THE STREET
WITH NO ACHES AND PAINS, IT WAS EASY.”

Former patient

“THE WHOLE TREATMENT PLAN
WAS DESIGNED AROUND ME
SPECIFICALLY WHICH MADE ME
FEEL EXTREMELY CONFIDENT.”

Former patient



For further information regarding this technique please use the contact details below. Treatment can be accessed through private medical insurance or patients can self-pay.

Website address:
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