

Deep Inspiration Breath Hold: Radiation therapy treatment

**Information for patients,
families and friends**

About this booklet

This booklet is designed to give you information about about Deep Inspiration Breath Hold (DIBH).

It also outlines how to practice breathing for your CT scan.

What is DIBH?

Patients having treatment to their left breast or chest wall may benefit from holding their breath during treatment delivery. The reason for this is that taking a deep breath in and holding your breath causes your lungs to expand which increases the distance between your heart and your breast or chest wall. In some patients, depending on where their heart is positioned, this can significantly move the heart away from the radiotherapy treatment area.

Radiation Treatment with DIBH

Your radiation oncologist will have discussed with you that you may be a candidate for DIBH. Remember that this is only one of the treatment options and is not right for everyone. The technique must be anatomically beneficial for you for us to go ahead with DIBH. This will be decided after the first part of your planning CT scan.

At the Planning CT

When you come for your planning session, a CT scan will be taken with you breathing normally first, then holding your breath for about 15 seconds. Your radiation oncologist will analyze the scan and decide whether or not DIBH will be of any benefit to you.

As holding your breath is not a natural habit, to make it more comfortable and familiar on the day of your planning session we suggest you practise at home in the days prior to the CT scan. You will need to be able to take a deep breath in and hold it for about 15-20 seconds. See the following page for instructions on how to practise this breathing. We suggest you practise this at home in the days leading up to your scan.

At Treatment

To help us to ensure you are in the correct position we use a system called AlignRT. AlignRT enables us to compare your position at your planning session to your position each day at treatment, thus confirming you are in the 'right spot'. The system uses 3 cameras mounted on the ceiling. These cameras use a red light to detect where and how you are positioned. You will not be able to feel this light and the system does not use any radiation.

The treatment machine will pause the treatment beam if the cameras detect that you are not in the correct position. This allows us to only give the treatment to you in the "right spot".

DIBH Breathing

Instructions for practice at home

How to lie down

Lie down on your back on a firm surface with a pillow under your head. Place your arms above your head as shown in the picture below.



Breathing

- Try to relax as much as possible.
- Breathe normally for 15 seconds or so.
- Take a deep breath in through your nose, until you reach a natural “full” point.
- As you do this, try to keep your back flat on the surface you are lying on.
- Hold this for position for as long as comfortable (aim for 20-30 seconds if possible).
- Relax and breathe normally again

Repeat the steps above until you are comfortable with the process



Correct: back flat on surface when taking deep breath



Incorrect: back arched when taking deep breath



Frequently Asked Questions

What should I expect at treatment?

At the treatment setup and prior to each treatment field, the therapists will tell you to hold your breath. Slowly take a deep breath in and hold when you reach your natural full point. Try to keep your back flat on the table. The therapists will coach you as needed to achieve the required breath hold position.

What if I move or don't breathe correctly?

The Align RT system will continually monitor your skin surface and compare it to the planning position. The radiation beam will be delivered to you only when you are in your required breath hold position.

How do I know when the treatment starts?

You will know that the radiation treatment has started when you hear a buzzing sound. If you move out of the correct position the machine will pause the treatment beam. While the beam is paused, the machine still sounds the same, but there will be no x-rays coming from the machine. When you move back into the correct position the treatment beam will resume.

How long do I have to hold my breath?

Typically, each treatment beam is about 30 seconds or less. If it is hard to comfortably hold your breath for the entire treatment beam then please let the radiation therapists know beforehand and they can stop the beam halfway through, allowing you a break.

What if I have to take a breath sooner than planned?

If you need to release your breath at any time during the treatment you may do so, and the treatment will automatically pause. You may still hear a buzzing noise while this happens, but this is normal.

The therapist will give you instructions to take another deep breath when you are ready. Once you regain the required breath hold position the machine will restart and the treatment will resume.

How will I know when and what to do?

The therapists will monitor your breathing from the control room at all times and will give you guidance and support as needed. Your therapists will also let you know via a microphone when to hold your breath and when you can relax and breathe normally. You just need to follow their instructions.

There is also a visual guide that is available to help you. The guide lets you know when you are in the required position, to make it easier for you to hold your position.

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If you would like to provide feedback or request a copy of this information in a different format, contact us at patient.information@alfred.org.au



First Published March 2013. This Edition January 2017.

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Developed & reviewed
by our consumers

Prompt Doc No: AHG0001930
Approval Date: 03/04/2018
Review & Update by: 30/04/2021