Preparation for Deep Inspiration Breath Hold Radiation Therapy

You may benefit from a Radiation Therapy technique called Deep Inspiration Breath Hold. If this technique is recommended for you, this leaflet will help prepare you for your planning CT scan and your radiation therapy treatment.

What is Deep Inspiration Breath Hold?
Deep inspiration breath hold is a radiation therapy technique where you take a deep breath in during treatment, and hold this breath while the radiation is delivered. By taking a deep breath in, your lungs fill with air and your heart will move away from your chest. Deep inspiration breath hold can be useful in situations where radiation therapy is needed in the chest region to avoid radiation dose to the heart.

What is Deep Inspiration Breath Hold used for?
Deep inspiration breath hold is used in particular circumstances to minimise radiation dose to the heart. This may be used for:
- left-sided breast cancer
- other tumours of the chest or upper abdomen as required
As the natural position of the heart can vary greatly from person to person, this will be assessed on an individual basis by the radiation therapy team.

What does Deep Inspiration Breath Hold mean for you?
Deep inspiration breath hold involves matching the delivery of radiation to your breath hold in order to limit the amount of your heart that is exposed to the radiation beam during treatment. The radiation therapy team will provide you with coaching before starting your treatment.

During deep inspiration breath hold you will be required to hold your breath for up to 20 seconds. The radiation beam will only turn on when you have taken a deep breath in. As you can see in the picture below, the heart moves away from the treatment area (represented by the white box) as the lungs fill with air.

The following page provides instructions on how to practice your breathing.
How am I supposed to breathe?

Follow and practice the next steps at home to learn the ‘tummy breathing’ style we need you to do for your treatment:

1. Lie on your back on your bed or on the floor.
2. Use a pillow to support your knees and head.
3. Place your arms above your head (this is similar to the radiation treatment position).
4. Take a few normal breaths in and out.

5. Now practice taking a deep breath in through your nose, filling your chest and stomach (tummy).

6. Breathe out slowly and return to your normal breathing.

7. Repeat 4 to 7 times in a row, focusing on your breathing and the movement of your chest and stomach. **Important:** Your back should not arch upwards when you take a deep breath in. If your back is moving off the bed you need to breathe deeper into your tummy.

How do I hold my breath?

Once you are comfortable taking deep breaths in and out, we would like you to practice holding your breath, working your way up to 20 seconds in total.

8. When you are ready, take a deep breath in and hold your breath for a maximum of 20 seconds.


10. Breathe normally again until you have your breath back.

11. Once you feel you have your breath back, it is time to try again.

Practice this way of breathing a few times daily. Work your way up to holding your breath for the full 20 seconds. Remember to relax, focus on your breathing and most importantly take it at your own pace. Your radiation therapy team will be there to assist and coach you.