

Radiotherapy

Radiation therapy of the left breast with Breath Hold

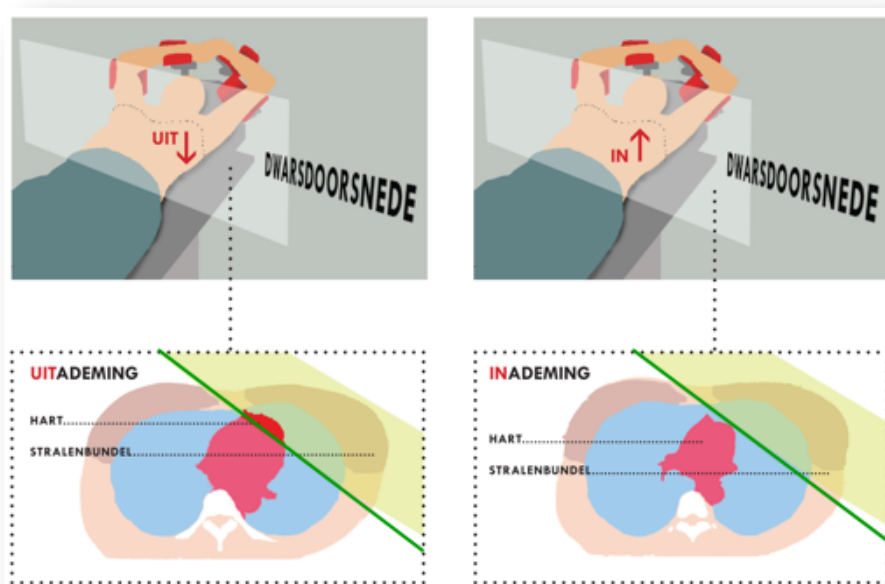
In some radiotherapy treatments for breast cancer or its precursors, part of the heart may be located within the radiation field. This can occur when radiating the left breast, the left chest wall, or the lymph nodes behind the breastbone. The extent to which the heart is within the radiation field depends largely on your body structure.

Preserving heart tissue during treatment

Keeping the heart out of the treatment field *as much as possible* is beneficial in the long term, and the easiest way to achieve this is by holding your breath during radiation.

The lungs are situated between the heart and the breast and by filling your lungs with air they push the heart to the back, away from the treatment fields. The technique that is applied to achieve this is called *Breath Hold*.

To maximize the efficiency of the breath hold technique you are asked to hold your breath for 25 seconds, multiple times. This can seem like a long period of time, but in our experience it is very achievable with some practice.



At the CT-scan you have just received instructions on how breath hold method works.

For the treatment, it is important that you hold your breath in the *same way* each time. Additionally, it is essential to take a deep breath and then hold it.

Exercise Instructions

We kindly ask that you practice at home daily before your CT appointment to ensure the best possible treatment.

- Ideally, practice lying down, in bed or on the sofa, with your forearms crossed above your head to replicate the treatment position.
- **First, breathe in and out slowly two times, then take a deep breath in and hold your breath.**
- Try to hold your breath for at least 25 seconds. After that, breathe out calmly.

Repeat this exercise several times (3 to 4 times), trying to hold your breath for as long as is *comfortable*. You will find that it gets easier with each practice. Try to practice at least twice a day.

What happens next?

- For the CT scan, we will practice with you again, we mark the areas for treatment, and perform the CT scan using the breath hold technique as we practiced together.
- While we work on your radiotherapy plan, *continue practicing daily* at home.
- Our care coordination team will call you with a date and time for your first radiotherapy session.
- During treatment with the breath hold technique, the radiotherapy technologist will clearly indicate when you need to hold your breath. Depending on the type of machine being used for your treatment, this will be communicated either verbally or via the green light, as shown during the CT scan.

We aim to give these instructions in sync with your natural breathing rhythm as much as possible. The radiotherapy will only begin when you are ready. Your breathing will be continuously monitored during the treatment. If you are unable to hold your breath in fully, the machine will stop the treatment.

To carry out the treatment, it is necessary to hold your breath steadily for at least 25 seconds several times. During each treatment session, this will occur between 5 and 10 times.

If you are unable to hold your breath, this will not affect the quality of the treatment. The radiotherapist and technologists will still ensure your breast is properly irradiated with minimal exposure to the heart.