

Instructions for radiotherapy using the breath hold technique

Why is the breath hold technique necessary?

When radiation treatment is used on the left or right chest wall, the heart can also be exposed to radiation. Scientific research shows that the heart can be damaged by radiation in the long term. Breathing in creates more space between the chest wall and the heart. This makes it possible to further reduce the radiation dose to the heart. This method is called the breath hold technique. In exceptional cases, it may also be recommended in right-sided breast cancer.

Breathing instructions for the breath hold technique

You will need to hold your breath for 30 seconds, several times in a row. The number of in breaths per radiation treatment (usually) varies between 5 and 15 times. We advise you to practice this for several days in order to achieve the best results.

Practice instructions

Lie down on your back with a pillow under your head. Extend your arms above your head and make sure they are supported and can remain as relaxed as possible.

- First calmly breathe in and out a few times.
- Now breathe in and out more deeply twice.
- After the second breath, take another deeper breath and hold your breath for 30 seconds. After that, continue breathing normally.
- Repeat this several times.

Below are several tips to go with the above practice instructions:

- It may help you if you recall a pleasant memory while holding your breath, for example a holiday, a walk in the woods or a concert you enjoyed. You can also put on some music that helps you relax.
- If you do not manage to hold your breath for 30 seconds, you can practice again later in the day.
- Don't breathe in completely but only to 80% of your lung capacity. You'll be able to hold it in longer.

If you can't manage it, that's not a problem. We'll make sure that the radiotherapy settings are optimised so that your chest wall gets the dose of radiation it needs with the minimum possible impact on your heart.



For more information about the radiation treatment procedure using the breath hold technique, go to

www.umcutrecht.nl/bestralingborstkanker

Appendix

Breathing instructions during radiotherapy

Before the treatment begins, the laboratory technicians will lay you on the radiotherapy device in the same position as previously on the CT scanner and go through the breathing instructions with you. Calmly breathe in and out. Once you are lying in exactly the right position, the laboratory technicians will give you the following breathing instructions:

- "Breathe in and out more deeply"
- "Breathe in and out more deeply"
- "Take a deep breath and then hold it in"

The radiotherapy table will now be set at the correct height. Once it is set up, you can continue breathing calmly and the radiotherapy device will be put in the starting position.

The laboratory technicians will then leave the radiotherapy room and go to the control room. Via the intercom, the laboratory technicians will repeat the breathing instructions:

- "Breathe in and out more deeply"
- "Breathe in and out more deeply"
- "Take a deep breath and then hold it in"

After this, the treatment will begin and you will hold your breath for a maximum of 30 seconds. Halfway through the procedure, you will hear the laboratory technician give you the following instruction:

"keep holding your breath"

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