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ED after Treatment for Localized Prostate Cancer

The underlined terms are listed in the glossary.

Prostate cancer is a malignant tumor in the prostate gland. It is the most common form of cancer in older men. There are various treatment options for localized prostate cancer. Two of the most common ones are radical prostatectomy and radiation therapy. These treatment options can affect sexual health, and men frequently experience erectile dysfunction (ED) after treatment.

Why is prostate cancer treatment associated with erection problems?

The prostate gland is located just below the bladder and is surrounded by nerves and blood vessels. These nerves and blood vessels are needed to achieve a normal erection. Much research has been done to understand where these nerves are located and how to prevent them from getting damaged during surgery or other treatments.

Radical prostatectomy

Radical prostatectomy is a surgical treatment option to remove the entire prostate and surrounding tissue.

If the tumour is limited to the prostate gland, the surgeon will try to keep the nerves that lead to the penis intact during surgery. This is called nerve-sparing surgery. Even if nerve-sparing surgery is successful, temporary ED is common after radical prostatectomy.

This is because your nerves are so delicate that they are affected by the slightest injuries. If any injury happens during surgery, the nerves stop transporting signals to the blood vessels in the penis. It can take up to 2 years for the nerves to recover.

The blood vessel running to and from the penis can also be affected by the surgery. As a result, less blood will flow to the spongy tissue of the penis, and damage it. Because of the damage it can be more difficult to recover from ED.

In some cases nerve-sparing surgery is not possible because the tumour has spread outside of the prostate, or for other reasons. Recovery of erectile function after non-nerve sparing surgery is unlikely but not impossible. Discuss your concerns and possible treatment options with your doctor.

Radiation therapy

Radiation therapy is a type of cancer treatment

that uses radiation to control or kill malignant cells. It can be done from outside the body, or by placing the radiation source into the prostate. Because the radiation can also kill healthy cells it may damage the nerves and blood vessels around the prostate which lead to the penis. Although there is still a risk of ED after radiation therapy, technical developments have increased the precision of the beam.

Will I be able to have normal erections after the treatment?

The risk of having ED after prostate cancer treatment depends on the surgical technique or type of radiation used by your doctor, but also on your:

- Age
- Build
- Disease characteristics
- Sexual health before the treatment

For possible treatment options, see the EAU Patient Information leaflet *Treatment for ED*.

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This leaflet is part of EAU Patient Information on Erectile Dysfunction. It contains general information about this condition. If you have any specific questions about your individual medical situation you should consult your doctor or other professional healthcare provider. No leaflet can replace a personal conversation with your doctor.

This information was produced by the European Association of Urology (EAU) in collaboration with the EAU Section of Andrological Urology (ESAU) and the Young Academic Urologists (YAU).

The content of this leaflet is in line with the EAU Guidelines.

You can find this and other information on urological diseases at our website: <http://patients.uroweb.org>

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