



BPH PLASMA treatment

Increase your knowledge of BPH treatment





Introduction

Your doctor has recommended PLASMA therapy for the treatment of your benign prostatic hyperplasia (BPH). He has also given you initial information about the proposed, minimally invasive procedure called transurethral resection of the prostate (TURP).

In this brochure, we have put together answers to your most important questions. Among other things, you will find more detailed information about the development of BPH, PLASMA technology and the TURP procedure.

“Plasma treatment for BPH is a very safe procedure. It has a significantly lower risk of complications, blood transfusion and clot retention. PLASMA is one of the first-choice treatments for all prostate sizes, officially recommended by the European Association of Urology. With PLASMA, each surgeon can offer the best-fitting treatment option to his patient.”

**Professor Dr J. Raßler, Urology
Department, St. Elisabeth Hospital,
Leipzig (Germany)**

What is BPH?

BPH is an enlargement of the prostate gland. This is a very common condition, and part of the natural aging process of men. As many as half of 60-year-old men, and up to nine out of ten 80-year-old men, are troubled with BPH symptoms.¹ BPH is not cancer, and it cannot turn into cancer. However, an enlarged prostate gland can cause physical problems that may considerably reduce the quality of life. The enlarged prostate puts pressure on the urethra, causing it to narrow.

This leads to such common 'prostate' symptoms as:

- Frequent or urgent need to urinate
- Increased frequency of urination at night
- Difficulty starting urination
- Weak urine stream, or a stream that stops and starts
- Dribbling at the end of urination
- Inability to completely empty the bladder

Less common signs and symptoms are:

- Urinary tract infection
- Inability to urinate
- Blood in the urine

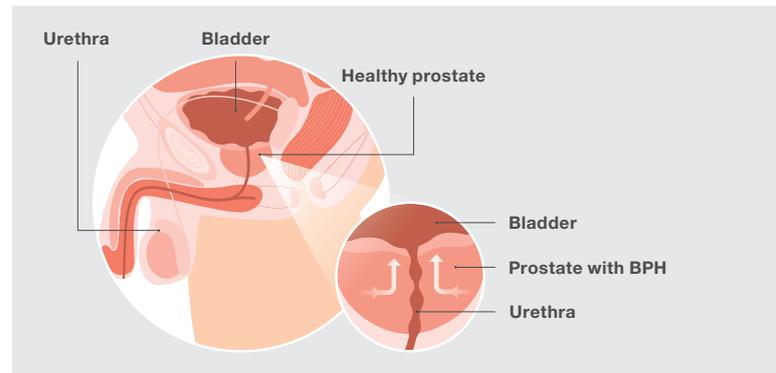
In particular, the frequent need to urinate, and the fear of not being able to reach a toilet in time, can disturb the normal routine, decrease quality of life and cause social isolation.

In an effort to avoid such situations of urinary urgency, a lot of men with BPH:²

- ... avoid drinking before bedtime (35%)

- ... plan their day around their access to toilet facilities (32%)
- ... do not get enough sleep (27%)

Ignoring the symptoms of BPH or postponing treatment will not make the symptoms go away. It is not a solution, either. Leaving BPH untreated may lead to even bigger problems, such as severe urinary tract or bladder infection, bladder stones or even renal failure.







What are the treatment options for BPH in general?

Most men with BPH need treatment to restore normal urinary function and be relieved of 'prostate' symptoms. The right choice of treatment generally depends on the severity of the symptoms.

While mild symptoms can often be relieved temporarily by lifestyle changes or medication, moderate or severe BPH requires surgical therapy to remove the enlarged prostate gland tissue.³ There are a variety of procedures for this, so a recommendation for an individual patient can only be made together with the doctor.

- **Catheter or intraprostatic stent:** A thin device is implanted into the prostate gland, which keeps prostatic tissue away and relieves the obstructed urinary channel. It is considered to be a temporary option for men who cannot undergo general anaesthesia.
- **Laser therapy:** A fine instrument is inserted into the urethra. Intensive laser light is then applied to burn or cut the prostate gland tissue. This treatment can be done with different types of laser.
- **Microwave or radiofrequency therapy:** An 'antenna' or a pair of tiny needles is inserted through the urethra into the prostate gland. Microwaves or radio waves create heat, which destroys prostate tissue, causing it to shrink. This therapy is especially effective for smaller prostates. It may require retreatment after some time as the prostate gland continues to grow.
- **Transurethral resection of the prostate (TURP):** The part of the prostate gland obstructing the urinary flow is removed, using a special form of electric energy. The so-called monopolar TURP procedure has become the gold standard over the past decade because of excellent long-term results and has proven to be one of the most effective procedures, targeting the cause of BPH directly.
- **Open prostatectomy:** A part of the prostate is removed via laparoscopy. Because this procedure requires a longer hospital stay, and TURP has similar or even better results, open prostatectomy is only done in special situations.
- **PLASMA or bipolar TURP:** TURP has evolved over the past decade. PLASMA (or bipolar) technology is regarded as the more advanced and safer form, and is increasingly performed in preference to conventional, monopolar TURP.



How does PLASMA-based TURP work?

Your doctor has recommended PLASMA-based TURP for the treatment of your BPH. Here is a description of the PLASMA technology and the minimally invasive TURP procedure.

What is PLASMA?

Substances can be solid, liquid, gas, or PLASMA. In more detail, gas molecules are energised, which turns the gas into PLASMA. PLASMA is one of the four fundamental states of matter. About 99% of visible matter in the universe consists of natural PLASMA, including the Northern Lights, solar winds, the sun and lightning. PLASMA is used every day in modern medicine, e.g. for the treatment of chronic wounds and skin diseases, in gastroenterology and surgery.

The procedure of PLASMA-based TURP

- **Before the procedure:** You will be brought to the treatment room and placed on a treatment bed. Normally, you will receive general anaesthesia for the procedure.
- **Start of the procedure:** Your doctor will fully inspect your urethra and bladder.

- **PLASMA therapy:** With a special device the innovative and gentle PLASMA is used to remove the tissue from your prostate that is blocking the urinary channel. The device glides on a gas layer over the tissue, smoothly vaporising it without cutting or direct contact. The obstruction tissue cell structure is carefully and with low operating temperature removed and the urinary channel is unblocked.
- As with all surgeries, **after further inspection** your doctor will insert a temporary catheter into your urethra. You will then be transferred to the recovery room. You can slowly return to your normal routine and expect symptomatic relief within the next few days.

To learn more about the treatment
please visit: www.bph-plasma.eu







What are the benefits of PLASMA therapy?

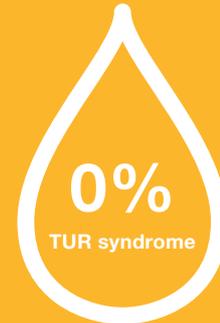
Increased safety profile

When doctors talk about PLASMA therapy, often the first thing they mention is the superior safety profile of PLASMA compared to monopolar therapy. Translated into non-medical language, this means that there will be less thermal damage and bleeding during the TURP procedure^{4,5,6} and thus less pain, discomfort and infection after the operation. This will also reduce your time in hospital compared to monopolar therapy.^{7,8} Additionally, with PLASMA therapy there is no risk of transurethral resection (TUR) syndrome, which can lead to cardiovascular problems or even death.⁸

Long-term symptomatic relief

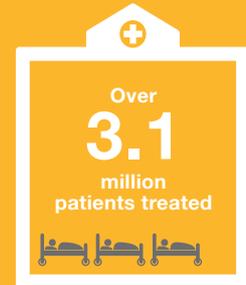
If your doctor has recommended surgery, your 'International Prostate Symptom Score' (IPSS) was probably in the range of moderate to severe. This will most likely dramatically change after PLASMA therapy. Statistically, within the first year after PLASMA treatment, the IPSS will fall permanently to around 5.^{9,10}

Symptoms are reduced as effectively and permanently as with the present standard procedure but with a more favourable perioperative profile.



Most widespread and thoroughly proven treatment

More than 3.1 million PLASMA procedures have been performed worldwide over the last ten years. This is one reason why the European Association of Urology (EAU) describes PLASMA therapy in its current guidelines as among the most frequently recommended first-choice treatments for all prostate sizes.¹¹ The EAU is the leading authority in Europe, and fosters standards of urological care and practice.





Your doctor will be happy to answer your remaining questions. It is in your doctor's interest that you feel completely informed and confident about the procedure and technologies.

· **How long will I have to stay in hospital after PLASMA therapy?**

The healing process in your prostate gland is accelerated by the gentle PLASMA therapy. Studies have shown that some men can go home the same day, but the average length of hospital stay is two to three days.⁷ The exact length of stay will depend on the national health system as well as your individual medical history, health condition and other personal factors. Your doctor will advise when you can resume your normal routine.

· **What kind of adverse effects may occur?**

You may experience post-operative discomfort, such as a light burning sensation, frequent urination or small amounts of blood in the urine. This will resolve itself after some days. Be assured that your doctor will do everything to minimise your discomfort.

· **Do I need to take BPH medication after PLASMA therapy?**

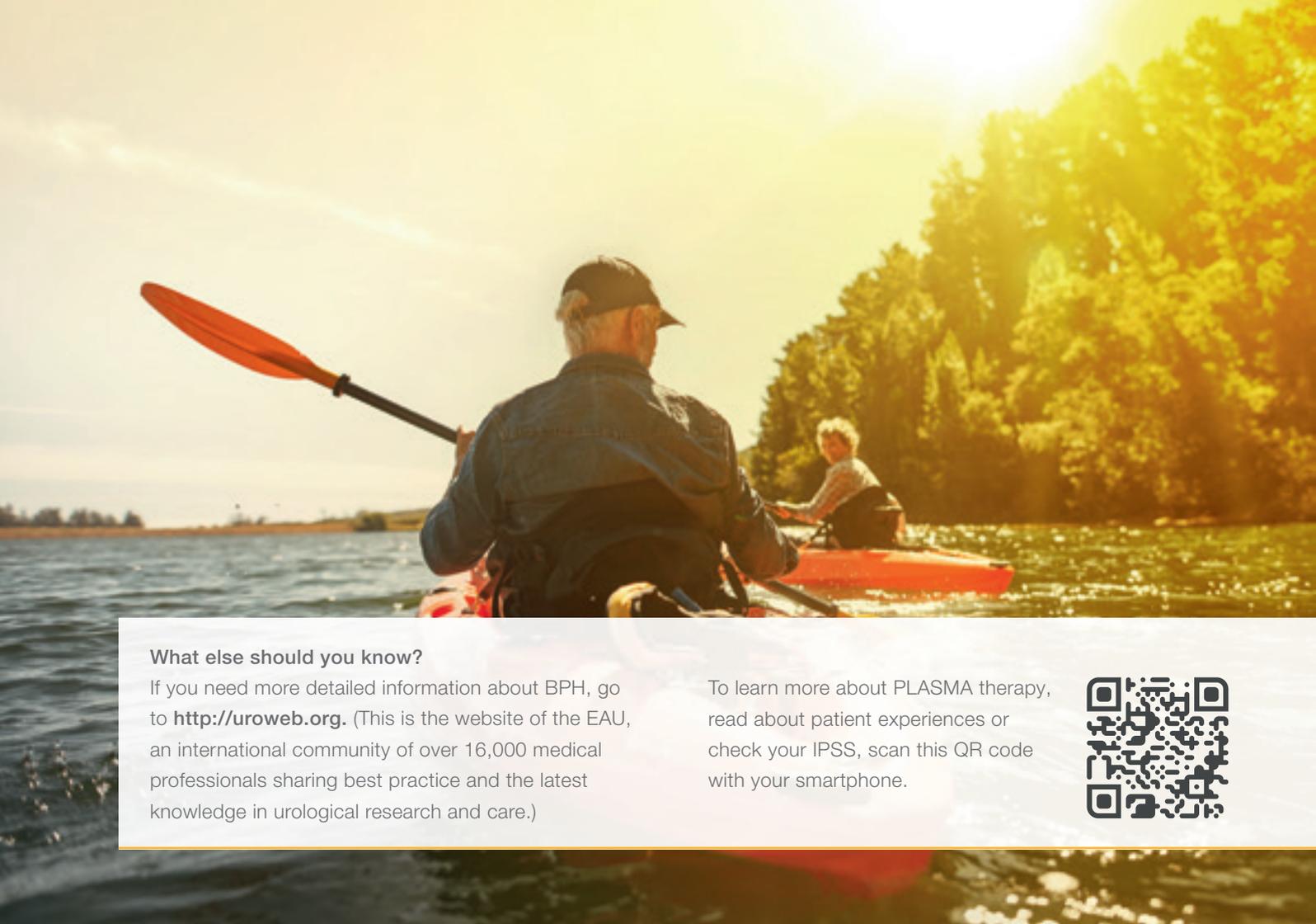
Most men with BPH need no medication after PLASMA therapy, because of long-term systematic relief. However, as with any medication, please consult your doctor.

· **Where can I find relevant clinical data?**

Multiple clinical studies on the outcomes and benefits of TURP and PLASMA therapy have been performed worldwide. Please see the references at the end.

For further questions answered by a doctor
please visit: www.bph-plasma.eu





What else should you know?

If you need more detailed information about BPH, go to <http://uroweb.org>. (This is the website of the EAU, an international community of over 16,000 medical professionals sharing best practice and the latest knowledge in urological research and care.)

To learn more about PLASMA therapy, read about patient experiences or check your IPSS, scan this QR code with your smartphone.



- ¹ Rohde V, et al. Gesundheitsberichterstattung des Bundes. Heft 36 (2007) Prostataerkrankungen.
- ² Napa Valley Urology Associates. Enlarged Prostate. <http://napaurology.com/mens-clinic/treatment-bph/enlarged-prostate/>
- ³ EAU Patient Information. Surgical Treatment of LUTS in Men with BPE. http://patients.uroweb.org/wp-content/uploads/Benign-prostatic-enlargement-Surgical-treatment_EN.pdf
- ⁴ Delongchamps NB, et al. Surgical management of BPH in patients on oral anticoagulation: transurethral bipolar plasma vaporization in saline versus transurethral monopolar resection of the prostate. Canadian Journal of Urology 18 (2011): 6007–6012.
- ⁵ Kan CF, et al. Heat Damage Zones Created by Different Energy Sources Used in the Treatment of Benign Prostatic Hyperplasia in a Pig Liver Model. J Endourol. 29(6) (2015): 714–717.
- ⁶ Geavlete B, et al. Bipolar Plasma Vaporization vs Monopolar and Bipolar TURP—A Prospective, Randomized, Long-term Comparison. Urology 78 (2011) 4: 930–935.
- ⁷ Wroclawski ML, et al. 'Button type' bipolar PLASMA vaporization of the prostate compared with standard transurethral resection: a systematic review and meta-analysis of short-term outcome studies. BJU Int. 177 (2016): 662–668.
- ⁸ Treharne C, Crowe L, Booth D, Ihara Z. Economic Value of the Transurethral Resection in Saline System for Treatment of Benign Prostatic Hyperplasia in England and Wales: Systematic Review, Meta-analysis and Cost-Consequence Model. EU Focus, March 2016.
- ⁹ Giulianelli R, et al. Bipolar Plasma Enucleation of the Prostate (B-TUEP) in Benign Prostate Hypertrophy Treatment: 3-Year Results. J Urol. 107 (2017): 190–195.
- ¹⁰ Geavlete B, et al. Transurethral resection (TUR) in saline plasma vaporization of the prostate vs standard TUR of the prostate: 'the better choice' in benign prostatic hyperplasia? BJUI 106 (2010): 1695–1699.
- ¹¹ EAU Guidelines on Management of Non-Neurogenic Male Lower Urinary Tract Symptoms (LUTS), incl. Benign Prostatic Obstruction (BPO). <http://uroweb.org/wp-content/uploads/EAU-Guidelines-Management-of-non-neurogenic-male-LUTS-2016.pdf>

Disclaimer

This overview is not intended to be for self-diagnosis, nor does it contain medical recommendations. It contains only general information about BPH and its treatment. For examination, as well as for any individual questions, consult your physician.

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