

The therapy is usually well-tolerated and induces relatively few side-effects. This type of therapy is performed in close consultation with a urologist and is usually repeated up to 3 times every 8 weeks to achieve optimal effects.

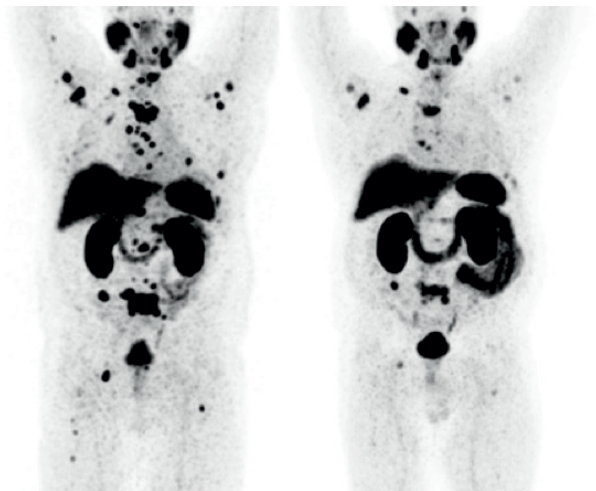


Fig.4. [177Lu]Lutetium-PSMA Therapy  
Left side: ahead of therapy; Right side: following onset of therapy

#### Therapy of bone metastases:

Bone metastases of prostate cancer can be targeted by means of bone-specific radionuclide therapies. This includes well-established **Quadramet®**-therapy (Samarium-153-EDTMP), providing reduction of pain associated with bone metastases. Additionally, we also offer the recently introduced **Xofigo®** (Radium-223) therapy, which in addition to pain relief has been reported to increase survival. Xofigo®-therapy represents a valuable treatment option, particularly if chemotherapy is no longer successful/indicated or not well-tolerated.

#### Consultation and Registration:

All procedures are carried out in coordination with your urologist. To inform yourself about the new available procedures, we are also offering prostate-specific outpatient consultation in our clinic.

#### Private insurance, Therapy with Lu-177-PSMA, Xofigo®, Quadramet®

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#### General insurance

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#### Diagnostics: PSMA PET-CT, bone scan, etc.

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#### Where to find us:

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#### ÖPNV:

KVB Linie 9 Haltestelle Lindenburg

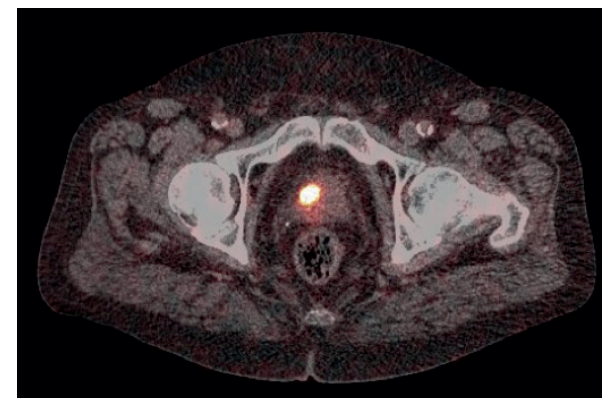
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UNIKLINIK  
KÖLN

CIO Centrum für  
Integrierte Onkologie  
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## Prostate Cancer Novel options for diagnosis and therapy



Information provided by the  
Department of Nuclear Medicine  
(Director: Prof. Dr. Alexander Drzezga)



## Dear patients,

Today prostate cancer represents the most frequent malignant disorder in Males.

For successful therapy, early detection and precise localisation of the tumour, of its recurrence and of potential metastases are crucial. In this context, novel procedures in Nuclear Medicine have demonstrated very high potential.

In addition, new therapy options have recently been introduced in our field, combining high efficacy with little side effects. These innovative procedures represent a major focus of our work and we would like to introduce them to you in this leaflet. Thank you very much for your interest.

Sincerely,

Prof. Dr. med. Alexander Drzezga  
Director, Department of Nuclear Medicine

## DIAGNOSTICS

### PSMA-PET/CT:

PSMA PET/CT represents a novel, highly sensitive imaging procedure for the diagnosis of prostate cancer. Cells of the prostate carcinoma express a specific molecule on their surface, the so-called prostate-specific membrane antigen (PSMA). This target can be detected in smallest traces using sensitive PET/CT imaging (Positron Emission Tomography) in combination with newly developed radiotracers (slightly radioactive marker compounds) such as [68Ga]PSMA or [18F]PSMA (see fig.'s 2-4). PSMA PET/CT has demonstrated very high potential, especially in detecting a recurrence, e.g. if PSA-values start rising again following surgery or radiation therapy. Even for **PSA-values below 1 ng/ml**, high sensitivity has been documented.

Further indications include biopsy planning or staging in unclear cases. In our clinic, we have gained experience with these imaging techniques since 2013. The examination is carried out on a state-of-the-art PET/CT-scanner providing highest diagnostic quality at low radiation exposure, whilst ensuring high patient comfort (see fig. 1).



Fig. 1. State-of-the-art PET/CT-scanner

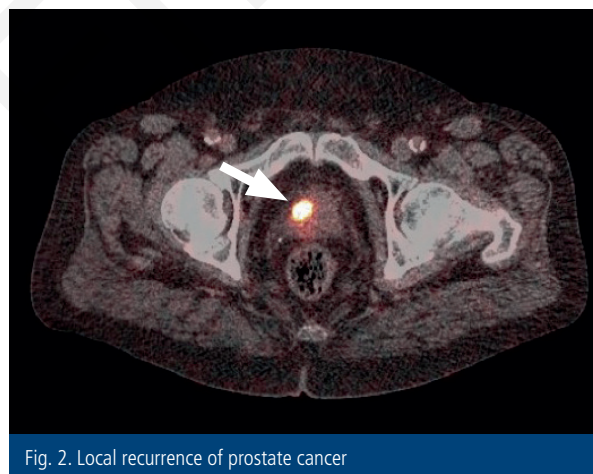


Fig. 2. Local recurrence of prostate cancer

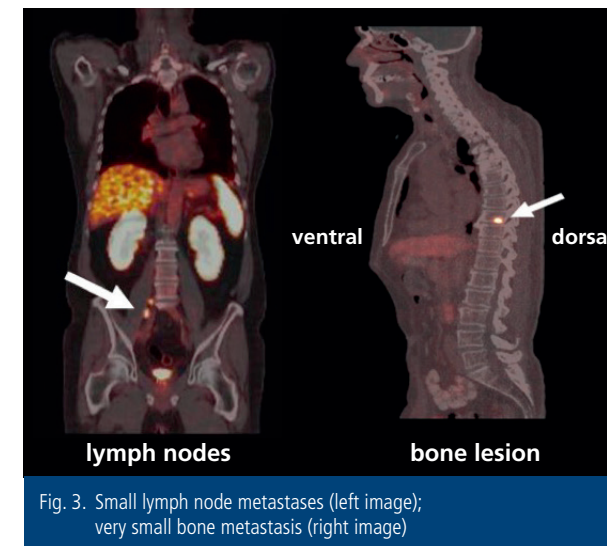


Fig. 3. Small lymph node metastases (left image); very small bone metastasis (right image)

## THERAPY

### Lutetium-177-PSMA-therapy

The prostate-specific antigen can not only be used for diagnosis of prostate cancer (see PSMA PET/CT), but also for therapy of metastasized prostate cancer (as an individual therapy attempt). For this purpose, the PSMA-binding molecule is charged with a therapeutically active radionuclide with low range (Lutetium-177) and injected via a peripheral vein. The labelled substance finds its way specifically to prostate cancer cells and thus applies a therapeutically active dose to the tumour cells, whilst sparing healthy tissue (see fig. 4).

The [177Lu]PSMA-therapy is carried out as an in-patient treatment, usually in 3-4 days. The procedure is particularly well-suited when other forms of therapies have already been exhausted and if metastases are present in other organs than the bone.