

# Prostate cancer guidelines

**The guidelines presented in this document are designed for educational purposes only** and are loosely based on the principles outlined in the European Association of Urology (EAU) and European Society for Medical Oncology (ESMO) guidelines for the management of prostate cancer. These guidelines aim to provide a structured framework and terminology commonly seen in clinical practice and medical guidelines. **It is important to note that these guidelines do not substitute for the official EAU and ESMO guidelines, which should be consulted for precise and up-to-date recommendations in the management of prostate cancer.**

This guideline document consists of two parts: diagnostics and curative treatment. The diagnostics part is more extensively elaborated and is used both in the e-learning for creating a Metro Map and Metro Net. The curative treatment part, on the other hand, is only used for the care path of the Metro Net.

## Terms

- LPC: Localized Prostate Cancer
- LAPC: Locally Advanced Prostate Cancer
- HSPC: Hormone-Sensitive Prostate Cancer
- nmCRPC: Non-Metastatic Castration-Resistant Prostate Cancer
- mHSPC: Metastatic Hormone-Sensitive Prostate Cancer
- mCRPC: Metastatic Castration-Resistant Prostate Cancer

## Contents

Diagnostics .....	3
Objectives .....	3
Scope .....	3
Signs and Symptoms .....	3
Entry into the Prostate Cancer Care Pathway .....	3
Diagnostic pathway .....	5
Initial Consultation and Examination .....	5
Assessment and Referral .....	5
Consultation and Examination .....	5
Secondary Consult and Additional Diagnostic Steps .....	5
Multiparametric Magnetic Resonance Imaging (mpMRI) .....	5
Biopsy .....	5
Imaging for Intermediate and High-Risk Patients .....	6
Consultation about Findings and Diagnosis .....	6
Specialized Urologist and Multidisciplinary Meeting .....	6
Consult advice MOC and consideration .....	6
Consultations with Urologist and/or Radiotherapist .....	6
Shared Decision-Making and Treatment Selection .....	6

Conclusion .....	7
Treatment (curative).....	8
Objectives .....	8
Scope .....	8
Treatment modalities .....	8
Deferred Treatment (Active Surveillance/Watchful Waiting) .....	8
Initial local treatment.....	8
Follow-Up .....	9
Restaging .....	9
Treatment Options after Restaging.....	9
Local Salvage Treatment .....	9
Conclusion .....	9

# Diagnostics

## Objectives

The objectives of the diagnostic phase in the management of prostate cancer, are as follows:

- To accurately assess the patient's risk of prostate cancer based on clinical parameters, including medical history, physical examination, and initial tests.
- To determine the need for further diagnostic procedures, such as imaging and biopsy, to confirm the presence of prostate cancer and provide essential information for treatment planning.
- To stage the disease and assess its extent, including the detection of metastases, in order to guide appropriate treatment decisions.
- To facilitate shared decision-making between the healthcare team and the patient, considering individual preferences, clinical characteristics, and the available evidence.
- To provide comprehensive information to the patient about their diagnosis, treatment options, and available supportive care.

## Scope

The diagnostic pathway for prostate cancer encompasses the diagnostic procedures, consultations, and discussions involved in the comprehensive evaluation of patients suspected of having prostate cancer.

## Signs and Symptoms

### Entry into the Prostate Cancer Care Pathway

Patients commonly enter the prostate cancer care pathway through two primary ways: proactive prostate cancer screening conducted by a general practitioner (GP) for men identified as having an elevated risk, or by symptom presentation from a patient. These entry points play a crucial role in facilitating timely diagnosis, appropriate management, and improved patient outcomes.

### Prostate Cancer Screening

Proactive screening involves the systematic identification of individuals at increased risk of developing prostate cancer, allowing for early detection and intervention. General practitioners are at the forefront of this screening process, utilizing evidence-based guidelines to identify men who may benefit from screening based on their individual risk factors.

### Symptom Presentation

In addition to screening, patients may enter the prostate cancer care pathway based on the onset of symptoms indicative of prostate pathology. Recognizing and promptly addressing these symptoms is essential in ensuring timely diagnosis and appropriate management. Patients experiencing symptoms such as urinary disturbances (e.g., weak or interrupted urine flow, nocturia), hematuria (blood in urine or seminal fluid), sexual dysfunction (e.g., erectile dysfunction), lower urinary tract discomfort, or pain while sitting should be considered for further evaluation. The following sections outline the signs and symptoms associated with different stages of prostate cancer:

### Localized Prostate Cancer (LPC) and Locally Advanced Prostate Cancer (LAPC)

LPC refers to tumors confined to the prostate gland, while LAPC indicates spread beyond the prostate but not to distant sites. The following signs and symptoms may be observed in patients with LPC or LAPC:

#### *Urinary Symptoms:*

- Weak or interrupted urine flow
- Nocturia (frequent urination at night)

- Hematuria (blood in urine or seminal fluid)

*Sexual Symptoms:*

- Onset of erectile dysfunction

*Lower Urinary Tract Symptoms:*

- Discomfort or pain while sitting

Metastatic Hormone-Sensitive Prostate Cancer (mHSPC)

mHSPC refers to the spread of cancer beyond the prostate gland to distant sites. Patients with mHSPC may present with the following signs and symptoms:

*Skeletal Symptoms:*

- Bone pain, particularly in the back, hips, thighs, shoulders, or other bones

*General Symptoms:*

- Peripheral edema (fluid build-up in legs or feet)
- Unexplained weight loss
- Fatigue

*Gastrointestinal Symptoms:*

- Altered bowel habits

## Diagnostic pathway

### Initial Consultation and Examination

During the initial consultation, the GP conducts an **anamnesis** to obtain a comprehensive medical history from the patient, focusing on genitourinary symptoms, personal medical history, family history of prostate cancer, and relevant risk factors. A **physical examination** is performed, including a digital rectal examination (DRE) to assess the prostate gland, and a **PSA test** is conducted to measure prostate-specific antigen levels. The GP can conduct multiple PSA tests over a period of 6 to 12 weeks to improve accuracy in risk assessment. **Risk calculators** are utilized to assess the patient's risk profile accurately, considering age, family history, ethnicity, and PSA levels. The results of the PSA test and risk assessment findings are discussed, providing clear explanations and implications for further diagnostic evaluations.

In preparation for the next consult, patients are provided with reliable decision aids on how to prepare a consult and to understand treatment options. These resources aim to ensure patients are well-prepared and informed for the subsequent consultations and investigations.

### Assessment and Referral

Patients receive their PSA test results from the GP, which provide valuable information regarding their prostate health. If the results indicate a potential concern, the GP may refer the patients to a urologist at an outpatient clinic for further evaluation and specialized care, marking the beginning of the diagnostic pathway for prostate cancer. If the PSA values do not indicate concern or if other factors come into play, patients may not need to continue treatment or transfer to an alternative care path.

### Consultation and Examination

During the consultation, the urologist conducts an anamnesis, a digital rectal examination (DRE) and a transrectal ultrasound (TRUS) to evaluate the prostate gland. Additionally, a risk calculator and a questionnaire are utilized to further assess the patient's risk profile. Optionally, another prostate-specific antigen (PSA) test may be performed to aid in risk stratification. Urine testing to detect the prostate cancer antigen 3 gene (Pca3-gen) and uroflowmetry to evaluate urinary tract function may also optionally be performed. The test results are thoroughly discussed, and based on the findings, the indication for additional diagnostics is determined. During this phase, the patient also receives important care path information, including general information about the hospital.

### Secondary Consult and Additional Diagnostic Steps

Following the initial consultation and examination, a secondary consult is scheduled where the patient and urologist discuss the outcome and determine the need for additional diagnostic steps. In certain cases, patients may be referred to a different care path or back to their GP, where a repeat PSA test is scheduled after two years.

### Multiparametric Magnetic Resonance Imaging (mpMRI)

Subsequently, an mpMRI is performed by a radiologist to create a detailed picture of the prostate gland. The radiologist updates the risk calculator based on the imaging findings. The mpMRI plays a crucial role in detecting and localizing suspicious lesions within the prostate, providing valuable information for biopsy planning and risk stratification. Additionally, the radiologist informs the patient about the biopsy procedure and the optional PSMA PET/CT-scan, which can further aid in disease characterization.

### Biopsy

A biopsy is then conducted by either a physician assistant or a urologist. The biopsy involves the collection of tissue samples from the prostate gland to determine the Gleason score, a key indicator of tumor aggressiveness. Transperineal biopsy is the preferred approach, although transrectal biopsy can also be performed. The biopsy can be targeted, guided by the findings from the mpMRI, or conducted using a systematic approach.

## Imaging for Intermediate and High-Risk Patients

For patients classified as intermediate or high risk, additional imaging is warranted to assess disease extent. This includes the option of either a PSMA-PET/CT scan or a CT scan and a bone scan. High-risk criteria include a PSA level above 20, a tumor volume of CT2c/CT3 based on DRE, TRUS, and MRI, and a biopsy pattern of 4 or higher.

The PSMA-PET/CT scan may be conducted to further determine the Gleason grade. The scan aids in determining the TNML stage, and updates the risk calculator. A PSMA-PET/CT scan helps in determining the location of the disease, including the presence of metastases, which can influence treatment decisions.

The CT scan, also conducted by a radiologist, assists in determining the TNM stage. The bone scan, performed by a radiologist, detects the presence of metastases in the bones and updates the risk calculator. Low-risk patients, do not require a PSMA-PET/CT scan, CT scan, or bone scan.

## Consultation about Findings and Diagnosis

Following the completion of the initial diagnostic procedures, a consultation is scheduled to discuss the findings and provide a diagnosis. During this consultation, the urologist thoroughly discusses the diagnosis, staging, and treatment options with the patient. Optionally, immediately after the consult, the patient has the opportunity to connect with a nurse specialist who can provide additional information on the diagnosis, staging, and treatment options. The patient receives comprehensive information about prostate cancer, including tools from the nurse specialist to aid in dealing with cancer and decision-making.

## Specialized Urologist and Multidisciplinary Meeting

Depending on the case, the patient may be transferred to a specialized urologist for further evaluation and treatment planning. If the specialized urologist is located in a separate hospital, the patient receives practical information about the hospital.

Furthermore, the patient's case is discussed in a Multidisciplinary Meeting (MOC) involving a urologist, radiotherapist, oncologist, specialist oncology nurse, research nurse, oncology nurse, radiologist, pathologist, physician assistant, and optionally, a nuclear physician. The MOC focuses on evaluating the diagnosis, treatment options, disease staging, frailty, age, comorbidities, and the patient's personal preferences. This multidisciplinary approach ensures comprehensive evaluation and individualized treatment planning.

## Consult advice MOC and consideration

Following the MOC, the urologist provides the patient with the treatment advice and recommendations discussed during the meeting. This ensures that the patient is informed about the proposed treatment plan. Additionally, if metastatic disease is detected, appropriate referrals to specialized treatment options can be made to address the specific needs of the patient. Patients are encouraged to consider treatment options and participate in decision-making. Patients can also consider seeking a second opinion for alternative perspectives. The urologist can recommend online resources for evidence-based information and information on how to prepare a decision talk.

## Consultations with Urologist and/or Radiotherapist

The patient may have a consultation with the urologist to discuss radical prostatectomy, or a consultation with the radiotherapist to discuss radiotherapy. The availability of these consultations depends on the specific hospital and treatment options.

## Shared Decision-Making and Treatment Selection

Finally, in a shared decision-making process involving the urologist or radiotherapist, the patient, the treatment strategy is decided upon. The initial local treatment options include radiotherapy or radical prostatectomy. However, an alternative approach can be chosen, such as active surveillance or watchful waiting, based on low-risk criteria. In cases where radiotherapy or radical prostatectomy is not applicable, and there is a high risk of disease progression, androgen deprivation therapy (ADT) may be considered, although this is relatively rare.

After the shared decision-making consultation, the patient may further discuss treatment decisions, planning, and receive information on lifestyle and exercise programs with a nurse specialist. If the fracture risk score indicates a need, a DEXA scan may be recommended, and will be discussed.

Along with discussing treatment decisions, the nurse also offers information on medications and devices that may be part of the treatment plan. They provide education on potential alarm signals to be aware of during treatment and offer advice on lifestyle modifications. The nurse can also provide tools to help patients organise for treatment.

## Conclusion

The diagnostic phases play a critical role in accurately assessing disease risk, confirming the presence of prostate cancer, determining disease extent, and facilitating shared decision-making for treatment selection. By adhering to standardized and evidence-based diagnostic practices, healthcare professionals can ensure optimal care and improved patient outcomes. The comprehensive evaluation of patients suspected of having prostate cancer, including consultation, examination, imaging, and biopsy, ensures a systematic approach aligned with the guidelines. The involvement of multidisciplinary teams, patient education, and shared decision-making further enhance the quality of care and patient satisfaction in the management of prostate cancer.

## Treatment (curative)

### Objectives

The objectives of the treatment, are as follows:

- To determine the most appropriate treatment modality for the patient's specific disease stage and risk profile.
- To achieve disease eradication or effective control of prostate cancer through selected treatment interventions.
- To improve overall survival rates and long-term outcomes for patients with prostate cancer.
- To enhance the patient's quality of life by minimizing treatment-related complications and side effects.
- To tailor the treatment approach to individual patient circumstances, considering factors such as age, health status, and patient preferences.
- To closely monitor treatment response through regular assessment of indicators such as PSA levels, clinical examinations, and imaging studies.
- To provide comprehensive support, education, and access to supportive care services throughout the treatment phase.

### Scope

The treatment phase for prostate cancer encompasses the curative part of the various treatment modalities, consultations, and decisions involved in the comprehensive management and therapeutic interventions for patients diagnosed with prostate cancer.

### Treatment modalities

#### Deferred Treatment (Active Surveillance/Watchful Waiting)

Deferred treatment, including active surveillance and watchful waiting, is an appropriate option for carefully selected patients with low-risk prostate cancer. This approach involves regular monitoring of PSA levels, digital rectal examination (DRE), and repeat biopsies at scheduled intervals to assess disease progression. Treatment may be initiated if there is evidence of disease progression. Patients who have received local treatment but show signs of persistent or recurrent disease may also be considered for deferred treatment.

#### Initial local treatment

The two primary options for initial local treatment are salvage radiotherapy (CHAPTER: Radiotherapy) or salvage radical prostatectomy (CHAPTER: Radical Prostatectomy), depending on the patient's clinical circumstances, previous treatment received, and individual factors.

#### Radical Prostatectomy

Radical prostatectomy is a curative treatment option for **localized prostate cancer**, including hormone-sensitive prostate cancer (HSPC). It involves the surgical removal of the prostate gland and surrounding tissues. This procedure can be performed using open, laparoscopic, or robotic-assisted techniques. Lymph node dissection may also be performed for accurate staging.

#### Radiotherapy

Radiotherapy, including external beam radiotherapy (EBRT) or brachytherapy, is a primary treatment option for **localized prostate cancer**. It delivers high-energy radiation to the prostate gland, either externally or internally. Radiotherapy can be used alone or in combination with androgen deprivation therapy (ADT) based on the risk profile and patient preferences.



## Follow-Up

Following initial local treatment for prostate cancer, patients receive regular follow-up visits. Patients undergo periodic assessments to monitor their post-treatment progress. These assessments typically include clinical examinations, PSA measurements, and imaging studies. The frequency of follow-up visits may vary depending on the patient's risk profile, treatment modality, and individual circumstances. The goal is to detect any signs of disease recurrence or progression as early as possible.

## Restaging

If there are indications of disease recurrence or progression during the follow-up phase, restaging becomes necessary. Restaging involves a comprehensive evaluation of the disease extent and characteristics to guide subsequent treatment decisions. This typically includes imaging studies such as bone scans, CT scans, and MRI scans, as well as targeted biopsies if warranted.

## Treatment Options after Restaging

After restaging, patients may be referred to different treatment options based on the findings and individual factors. Two common options are deferred treatment (Deferred Treatment) and local salvage treatment.

## Local Salvage Treatment

In cases where restaging reveals localized disease recurrence or progression, local salvage treatment options may be recommended. Local salvage treatment aims to target the specific area of disease recurrence or persistence while preserving overall prostate function. Treatment modalities such as salvage radiotherapy (CHAPTER: Radiotherapy) or salvage radical prostatectomy (CHAPTER: Radical Prostatectomy) can be considered, depending on the patient's clinical circumstances, previous treatment received, and individual factors. After local salvage, patients go through a follow-up phase similar to follow up after initial local treatment (CHAPTER: Follow up)

## Conclusion

The treatment phase of prostate cancer is crucial in providing appropriate and personalized interventions to patients. It encompasses a range of treatment modalities, including deferred treatment, radical prostatectomy, radiotherapy, and hormonal therapy. By following standardized and evidence-based treatment approaches, healthcare professionals can optimize patient outcomes and enhance the quality of care. The involvement of multidisciplinary teams, regular follow-up visits, and restaging evaluations contribute to the comprehensive management of prostate cancer. Patient education and shared decision-making play a vital role in ensuring patient satisfaction and individualized treatment plans. Through these efforts, the treatment phase aims to control disease progression, improve quality of life, and achieve the best possible outcomes for patients with prostate cancer.