

Evidence Discussion Prostate Cancer (ONC-19)

General Considerations (ONC-19.0)

Screening can begin as early as age 40 for high-risk patients (Black/African-American identity, certain germline mutations, and concerning family history) and 45 for individuals with average risk.¹ Those with a first-degree relative diagnosed at age less than 60 years have a more than 2 fold increase in likelihood of prostate cancer diagnosis.¹ Individuals with African ancestry have a 60% higher incidence of prostate cancer.¹ Individuals with high-risk adverse clinical and pathologic factors may benefit from a more aggressive diagnostic and therapeutic approach at the time of relapse after initial treatment.

Suspected Prostate Cancer (ONC 19.1)

Based on the high-risk factors outlined above along with age, digital rectal exam (DRE) findings and PSA level, further imaging work-up may be indicated to include transrectal ultrasound with or without biopsy, MRI of the pelvis without and/or with contrast as well as MRI/US fusion biopsy is indicated. These interventions will help dictate the appropriate therapy for each individual diagnosed with prostate cancer.

Initial work-up/Staging (19.2)

Risk stratification uses a minimum of stage, Gleason grade, and PSA to assign individuals to risk groups that in turn help select the imaging options and predict the probability of biochemical recurrence after definitive local therapy.³ The current prostate cancer grading system was adopted from the ISUP 2014 consensus conference with the goal to limit overtreatment. The grading system is divided into 6 risk groups.

The goal of imaging is to detect and characterize disease in order to guide disease management.² Very low risk, low risk, and favorable intermediate risk does not routinely require advanced imaging. NCCN states that “conventional bone scans are rarely positive in asymptomatic patients with PSA <10 ng/mL”. Very low risk, low risk, and favorable intermediate risk groups have very low risk of positive bone scan or CT scan.²

Unfavorable intermediate risk, high-risk, and very high-risk do require imaging that can be a combination of CT/MRI pelvis or PSMA PET using specific radiotracers. In individuals with known or suspected metastatic disease, CT chest, abdomen, and pelvis along with bone scan are indicated. NCCN supports bone imaging for those at high risk for skeletal metastases.²

For inconclusive bone findings on both CT/MRI and bone scan or conventional imaging suggests oligo- or low-volume metastatic disease, PET/CT using specific radiotracers can be performed to confirm the individual is a candidate for localized treatment. While

F18-FDG PET/CT scans are considered investigational and experimental for evaluation of prostate cancer, other radiotracers (C11 choline, F18-Fluciclovine, PSMA-specific) are FDA approved and have influenced treatment planning but the impact on long term survival remains to be studied.²

Restaging/Recurrence (19.3)

For non-metastatic prostate cancer previously treated with local therapy (prostatectomy, radiation, ablation, etc.) in the setting of clinical suspicion for recurrence, PSA fails to become undetectable post prostatectomy, palpable anastomotic recurrence and PSA rises above post-treatment baseline (two consecutive measurements that are > 0.2 and < 0.5), CT chest, abdomen, and pelvis or CT chest and abdomen with MRI pelvis along with bone scan can be performed. If the PSA rises to ≥ 0.5 and the individual is a candidate for salvage local therapy, CT/MRI/bone scan can be performed or PSMA imaging using specific radiotracers. In the setting of distant metastatic disease, CT imaging along with bone scan is the mainstay of imaging with PET/CT reserved for inconclusive conventional imaging or oligo-/low volume disease that needs confirmation. NCCN states “CT provides a high level of anatomic detail, and may detect gross extracapsular disease, nodal metastatic disease, and/or visceral metastatic disease”.² PSMA imaging at baseline is indicated for individuals being considered for 177Lu-PSMA-617 (Pluvicto) treatment.⁴

Follow-up on Active Surveillance (19.4)

For certain individuals who fall into a low risk category, close monitoring in the absence of treatment can be pursued with the intent to offer curative therapy in the event progression occurs. Current guidelines include PSA every 6 months, DRE every 12 months, repeat prostate biopsy every 12 months and repeat mpMRI no more often than every 12 months.² NCCN states that a metastatic staging evaluation is not indicated for those on active surveillance.² With progression and the decision to pursue treatment, imaging is performed according to the same principles as stated in initial staging.

Surveillance/Follow-up (ONC 19.5)

For individuals who are asymptomatic or have chronic stable findings to include DRE and PSA, advanced imaging is not routinely indicated. This form of monitoring is also referred to as observation. NCCN states that the advantages of observation avoidance of “possible side effects of unnecessary confirmatory testing and definitive therapy”.²

References:

1. Moses KA, Sprenkle PC, Bahler C, et al. National Comprehensive Cancer Network (NCCN) Guidelines V2.2024 – March 6, 2024. Prostate Cancer Early Detection available at: https://www.nccn.org/professionals/physician_gls/pdf/prostate_detection.pdf. Referenced with permission from the NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines™) for Prostate Cancer Early Detection V2.2024 – March 6, 2024 ©2024 National Comprehensive Cancer Network, Inc. All rights reserved. The NCCN Guidelines™ and illustrations herein may not be reproduced in any form for any purpose without the express written permission of the NCCN. To view the most recent and complete version of the NCCN Guidelines™, go online to NCCN.org
2. Schaeffer E, Srinivas S, Adra N, et al. National Comprehensive Cancer Network (NCCN) Guidelines Version 4.2024 – May 17, 2024. Prostate cancer, available at: https://www.nccn.org/professionals/physician_gls/pdf/prostate.pdf. Referenced with permission from the NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines™) for Prostate cancer V4.2024 – May 17, 2024. ©2024 National Comprehensive Cancer Network, Inc. All rights reserved. The NCCN Guidelines™ and illustrations herein may not be reproduced in any form for any purpose without the express written permission of the NCCN. To view the most recent and complete version of the NCCN Guidelines™, go online to NCCN.org
3. D'Amico AV, Whittington R, Malkowicz SB, et al. Pretreatment nomogram for prostate-specific antigen recurrence after radical prostatectomy or external-beam radiation therapy for clinically localized prostate cancer. *J Clin Oncol*. 1999;17:168-172.
4. Sartor O, de Bono J, Chi KN, et. al. Lutetium-177-PSMA-617 for metastatic castration-resistant prostate cancer. *N Engl J Med*. 2021;385:1091-1103. doi:10.1056/NEJMoa2107322.