

Guideline 27-3 IN REVIEW

A Quality Initiative of the
Program in Evidence-Based Care (PEBC), Cancer Care Ontario (CCO)

Magnetic Resonance Imaging for Pre-Treatment Local Staging of Prostate Cancer

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An assessment conducted in January 2023 placed Guideline 27-3 IN REVIEW. This means that it is undergoing a review for currency and relevance. It is still appropriate for this document to be available while this updating process unfolds. The PEBC has a formal and standardized process to ensure the currency of each document ([PEBC Assessment & Review Protocol](#))

Guideline 27-3 is comprised of 5 five sections. You can access the summary and full report here:

<https://www.cancercareontario.ca/en/guidelines-advice/types-of-cancer/606>

- Section 1: Guideline Recommendations
- Section 2: Recommendations and Key Evidence
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- Section 4: Systematic Review
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Magnetic Resonance Imaging for Pre-Treatment Local Staging of Prostate Cancer

Section 1: Recommendations

This section is a quick reference guide and provides the guideline recommendations only. For key evidence associated with each recommendation, the systematic review, and the guideline development process, see the Full Report.

GUIDELINE OBJECTIVES

To make recommendations with respect to the use of T2-weighted magnetic resonance imaging (MRI) ± functional sequences in the pre-treatment local staging of patients with newly diagnosed prostate cancer.

Note:

- MRI refers to T2-weighted MRI.
- Functional sequences include dynamic contrast-enhanced imaging (DCE), diffusion-weighted imaging (DWI), and proton magnetic resonance spectroscopic imaging (MRS).
- In this guideline, the terminology of MRI ± functional sequences is used interchangeably with MRI ± DCE, DWI, and MRS (See Glossary of Terms, Appendix 1).

TARGET POPULATION

Men with newly diagnosed biopsy-confirmed prostate cancer who are under consideration for radical treatment.

INTENDED USERS

Clinicians who are involved in the staging and treatment of prostate cancer patients.

RECOMMENDATIONS

Recommendation 1

Multiparametric MRI (mpMRI) use for pre-treatment local staging of prostate cancer is a reasonable option for assessment of extraprostatic extension (EPE) in intermediate- and high-risk patients being considered for radical therapy if knowledge of EPE will alter management.

Qualifying Statements for Recommendation 1

- mpMRI is the addition of two or more functional sequences to T2-weighted MRI such as DCE, DWI, and MRS imaging. See Appendix 10 for mpMRI and technical specifications [1].
- Prostate cancer risk groups are defined according to the Prostate Cancer Treatment Pathway [2]. See Appendix 2 for risk level definitions.
- Based on consensus expert clinical opinion, pre-treatment local staging of selected newly diagnosed intermediate-risk prostate cancer patients by mpMRI could be beneficial as it would add useful information regarding the characteristics of the intraprostatic tumour such as its location and extent, as well as inform on the presence of EPE to help aid in treatment planning.
- Due to the relatively low sensitivity of pre-treatment local staging by MRI (± functional sequences) for the detection of EPE and, thus, the possibility of false-negative findings, the clinical management of those patients receiving negative results should

be considered on an individual basis in the context of pre-treatment clinical nomograms. This particularly applies to high-risk surgical patients. Caution should be exercised when considering nerve-sparing surgery on the basis of mpMRI evaluation indicating no EPE on the side of prostate cancer.

Recommendation 2

Centres using mpMRI for local prostate cancer staging must have a quality assurance program in place to measure diagnostic performance of mpMRI.

Qualifying Statements for Recommendation 2

- This recommendation is based on consensus expert clinical opinion. Use of standardized reporting has shown statistically significant improvements in sensitivity [3] warranting further consideration of mpMRI quality assurance programs.
- mpMRI is the addition of two or more functional sequences to T2-weighted MRI such as DCE, DWI, and MRS imaging. See Appendix 10 for mpMRI and technical specifications [1].