Canadian Urological Association Update – 2022 Recommendations on Prostate Cancer Screening and Early Diagnosis

Endorsement of the 2021 Cancer Care Ontario guidelines on prostate multiparametric magnetic resonance imaging

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Aims

1. To provide guidance on the current best prostate cancer screening and early diagnosis practices for Canadian men
2. To provide information on new and emerging diagnostic modalities

Methods

1. Aims/questions defined a priori
2. Review of existing guidelines – bibliographic review
3. Updated literature review for dates not covered by existing guidelines
4. Literature review on adjunct testing modalities not covered in existing guidelines

Questions

1. Should Canadian men undergo prostate cancer screening?
2. At what age should prostate cancer screening begin?
3. When can prostate cancer screening be stopped?
4. How frequently should prostate cancer screening be performed?
5. What additional diagnostic tests are available for the early diagnosis of prostate cancer?

PSA screening

The CUA recommends **offering** PSA screening to men with a life expectancy greater than 10 years. The decision of whether or not to pursue PSA screening should be based on **shared decision-making** after the potential benefits and harms associated with screening have been discussed.

Age to begin screening

For men electing to undergo PSA screening:

- Begin PSA testing at **age 50** in most men

OR

- **Age 45** in men at an increased risk of prostate cancer

Frequency of screening

For men electing to undergo PSA screening, the **intervals between testing should be individualized** based on previous PSA levels.

Frequency of screening

- For men with **PSA <1 ng/ml**, repeat PSA testing every 4 years
- For men with **PSA 1–3 ng/ml**, repeat PSA testing every 2 years
- For men with **PSA >3 ng/ml**, consider more frequent PSA testing intervals or adjunctive testing strategies

When to discontinue screening

For men electing to undergo PSA screening, the age at which to discontinue PSA screening should be **based on current PSA level and life expectancy.**

When to discontinue screening

- For men aged 60 with a PSA <1 ng/ml, **consider** discontinuing PSA screening
- For all other men, discontinue PSA screening at **age 70**
- For men with a **life expectancy less than 10 years**, discontinue PSA screening

Adjunctive tests

- Multiparametric MRI
- PSA kinetics
- PSA density
- Free-to-total PSA
- 4K/PHI/PCA3
- Prostate cancer risk calculator**s**

Multiparametric MRI – *Endorsement of 2021 CCO recommendations*

For biopsy-naive patients at elevated risk of clinically significant prostate cancer, mpMRI is recommended prior to biopsy in patients who are candidates for curative management with suspected clinically localized prostate cancer.

- If the mpMRI is positive, mpMRI-targeted biopsy and TRUS-guided systematic biopsy should be performed together to maximize detection of csPCa.
- If the mpMRI is negative, consider forgoing any biopsy after discussion of the risks and benefits with the patient as part of shared decision-making and ongoing followup.

Multiparametric MRI – *Endorsement of 2021 CCO recommendations*

In patients who had a prior negative TRUS-guided systematic biopsy and demonstrate a high risk of having csPCa in whom curative management is being considered, mpMRI should be performed.

- If the MPMRI is positive, targeted biopsy should be performed. Concomitant TRUS-SB can be considered depending on the patient's risk profile and time since prior TRUS-SB biopsy,
- If the MPMRI is negative, consider forgoing a TRUS-SB only after discussion of the risks and benefits with the patient as part of shared decision making and ongoing followup.

PSA velocity

The CUA does not recommend using PSAV alone for clinical decision making in men undergoing routine screening. However, **PSAV can provide additional information** about a patient's risk of prostate cancer.

PSA density

The use of PSAD alone for clinical decision-making is discouraged. However, use PSAD can be considered in men with known prostate volumes.

Biomarkers

In men with a moderately elevated PSA, the **4K score, PHI, and PCA3 may improve the prediction of clinically significant prostate cancer** and provide additional information over PSA alone. However, the CUA recognizes that these are **expensive tests** that are not currently publicly funded in Canada. At the present time, the **CUA does not encourage the widespread use of these tests.**

Prostate cancer risk calculators

Prostate cancer risk calculators can be used to estimate the risk of clinically significant prostate cancer in men presenting with an elevated PSA.

Biopsy decision-making

Men undergoing screening should be involved in the decision-making regarding prostate biopsy, and the **decision to pursue biopsy should be based upon a discussion of the best evidence for estimating the risk for aggressive prostate cancer.**

Conclusions

- Shared decision-making is key to a successful prostate cancer screening program
- Smart screening practices may help reduce the over-treatment and over-diagnosis of indolent disease
- Use of information beyond PSA level can improve the prediction of clinically significant disease
- Difficult topic of great clinical interest that is rapidly changing. Aim is to update recommendations as evidence unfolds