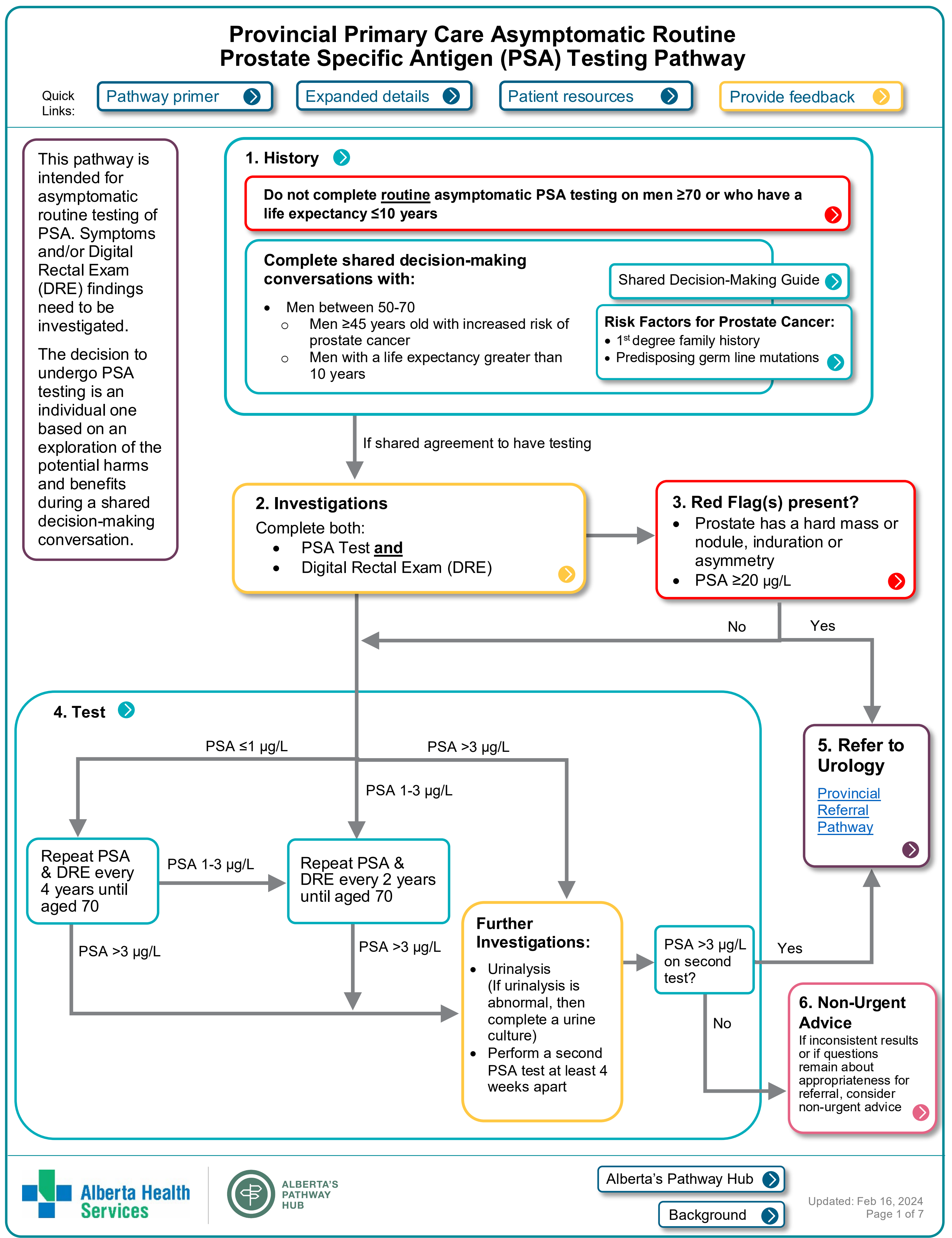
Provincial Primary Care Asymptomatic Routine
Prostate Specific Antigen (PSA) Testing Pathway
Quick Links:
Pathway primer
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This pathway is intended for asymptomatic routine testing of PSA. Symptoms and/or Digital Rectal Exam (DRE) findings need to be investigated.
The decision to undergo PSA testing is an individual one based on an exploration of the potential harms and benefits during a shared decision-making conversation.
1. History
Do not complete routine asymptomatic PSA testing on men ≥70 or who have a life expectancy ≤10 years
Complete shared decision-making conversations with:
Men between 50-70
Men ≥45 years old with increased risk of prostate cancer
Men with a life expectancy greater than 10 years
Shared Decision-Making Guide
Risk Factors for Prostate Cancer:
1st degree family history
Predisposing germ line mutations
If shared agreement to have testing
2. Investigations
Complete both:
PSA Test and
Digital Rectal Exam (DRE)
3. Red Flag(s) present?
Prostate has a hard mass or nodule, induration or asymmetry
PSA ≥20 µg/L
No
Yes
4. Test
PSA ≤1 µg/L
PSA >3 µg/L
PSA 1-3 µg/L
Repeat PSA & DRE every 4 years until aged 70
PSA 1-3 µg/L
Repeat PSA & DRE every 2 years until aged 70
PSA >3 µg/L
PSA >3 µg/L
Further Investigations:
Urinalysis (If urinalysis is abnormal, then complete a urine culture)
Perform a second PSA test at least 4 weeks apart
PSA >3 µg/L on second test?
Yes
No
5. Refer to Urology
Provincial Referral Pathway
6. Non-Urgent Advice
If inconsistent results or if questions remain about appropriateness for referral, consider non-urgent advice
Alberta Health Services
ALBERTA'S PATHWAY HUB
Alberta's Pathway Hub
Background
Updated: Feb 16, 2024
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This primary care pathway was co-developed by primary and specialty care and includes input from multidisciplinary teams. It is intended to be used in conjunction with specialty advice services, when required, to support care within the community.

EXPANDED DETAILS

Pathway Primer

Prostate cancer is the third leading cause of cancer-related death in Canada and the most commonly diagnosed non-cutaneous malignancy among Canadian men [1] . "Prostate cancer is a heterogeneous disease with a clinical course ranging from indolent to life-threatening. Identifying and treating men with clinically significant prostate cancer while avoiding the over-diagnosis and over-treatment of indolent disease remains a significant challenge" .[1]

It is acknowledged that prostate cancer screening is one of the most debated and contentious issues in urology. There are conflicting recommendations on Prostate Specific Antigen (PSA) screening and currently there is a lack of consensus among professional and government organizations on PSA screening. Please see the Canadian Urological Association supplementary table outlining the differences between the recommendations:

- Supplementary Table 1 [1]

The Canadian Urological Association (CUA) has developed evidence-based recommendations to guide providers on prostate cancer screening and early diagnosis for Canadian men, which are based on recent updates from several large, randomized, prospective trials, as well as the emergence of several new diagnostic tests. [1]

Based on these current CUA recommendations, this pathway has been developed to provide guidance on **asymptomatic routine PSA testing in the Primary Care setting in Alberta**. Please note that symptoms and/or Digital Rectal Exam (DRE) findings need to be investigated and are not represented in this clinical pathway.

1. History

A core component of this primary care pathway is to ensure that routine PSA testing is not being completed on men ≥70 or who have a life expectancy less than 10 years in Alberta. Prostate cancer over-diagnosis is highest in men at age >70 and several studies have suggested that screening in this age group is not recommended. The evidence from the ERSPC study has shown that starting screening at age >70 does not result in a reduction in prostate cancer mortality.[2]

PSA testing is unlikely to provide benefit for men with a high risk of mortality from other causes.[3] Although estimating life expectancy can be quite challenging it is recommended that providers account for a patient's general health status and their risks of mortality when considering whether or not to offer PSA testing. If life expectancy is limited by other serious illnesses or comorbidities, PSA screening should not be initiated. [4]

The Goteborg trial findings recommend commencing PSA testing at age 50. [5] For men aged less than 45, PSA testing has not been prospectively studied, however a recently published case-control study identified that the risk of developing metastatic prostate cancer within 15 years among men in this age group was very low. Hence, PSA testing in these men may lead to biopsies and diagnoses that are unlikely to provide benefit.[6] There are however the following risk factors for men ≥45 years old [7,8]

- 1st degree family history
- Predisposing germ line mutations

If these factors exist in men ≥45 years old, it is recommended to engage in a shared decision-making conversation to determine whether to proceed with PSA testing.

Shared Decision-Making

- Making the decision to have a PSA test depends on a variety of factors and is an individual decision. PSA testing may not be the best option for all men and ensuring an exploration of the benefits and risks of PSA testing is critical. Providers need to engage in a thorough discussion on the potential risks and benefits of PSA screening with their patients to ensure that shared decision-making is accomplished. Shared decision-making (SDM) is a consultation process, grounded in trust and respect, where a provider and their patient collaboratively participate in making a health decision. It respects the rights of patients and encourages them to be fully involved in decisions about their care. It ensures all options within the health decision are fully explored, and considers the patient's values, preferences and circumstances. SDM is the current standard in most cancer-screening guidelines.
- The AHS Provincial Pathways Unit has developed this Shared Decision-Making Guide to support providers in having a brief, yet thorough SDM conversation on whether to have a PSA test or not.

2. Investigations

In order to have the most fulsome clinical picture both a PSA test with a Digital Rectal Exam (DRE) are recommended when referring to Urology in Alberta. [9,10,]

3. Red Flags

A DRE that reveals a hard mass or nodule, induration or asymmetry represents a higher risk of upgrading and should prompt further assessment with a urologist.

A PSA level of >20 µg/L puts the patient at high risk for prostate cancer. Referral to urology is recommended to complete further investigation.[11]

4. Test

The suggested PSA testing intervals for men electing to undergo PSA testing is based off the current CUA guidelines. [1] As indicated in the guidelines, the frequency at which PSA screening should be performed has not been rigorously studied to date, however men in the screening arms of the ERSPC trial and Goteborg trial underwent testing at intervals of four and two years, respectively, providing the basis for these recommendations.[1]

5. Referral Process

- Referral pathways are guidelines to help referring providers know what information, labs and diagnostic imaging are required with their referral to a specialty.
- Referral pathways are co-designed with Primary and Specialty Care, AHS Operations, and patients to ensure the right amount of information is included throughout the referral process to triage the patient as quickly as possible.
- To ensure referring providers have referral information at their fingertips, referral pathways may link to clinical pathways when available. AHS manages referral pathways and extensive work is ongoing as part of the Alberta Surgical Initiative. If you have questions or want to know more about the referral pathway development process, please email access.ereferral@ahs.ca.
- Follow the Provincial Adult Urology Referral Pathway and use the Facilitated Access to Specialized Treatment (FAST) Adult Urology Referral Form.

6. Non-Urgent Advice Options

If PSA test results are inconsistent or if questions remain about appropriateness for referral, consider non-urgent advice for your patient. Based on a consultation with a urologist, a referral may be initiated, or additional patient care strategies may be developed.

Zone	Program	Online Request	Phone Number	Hours of operation	Anticipated Turnaround Time
Non-Urgent Electronic					
All Zones	eReferral (FAQ) eReferral		N/A	**Mon - Fri**	5 business days
Non-Urgent Telephone					
Edmonton, North	ConnectMD ConnectMD	Online Request	1-844-633-2263	**Mon - Fri** 9am – 6pm*	2 business days
Calgary	Specialist Link Specialist Link Connecting Primary and Specialty Care	Online Request	403-910-2551	**Mon - Fri** 8am – 5pm*	1 hour

Shared Decision-Making Guide:
On whether to have a PSA test or not

1

Making the decision to have a PSA test depends on a variety of factors and is an individual decision. To start, ensure your patient knows and understand what a PSA test is.

2

Help your patient explore the pros and cons of having a PSA test based on their life and what matters to them personally:

	Have a PSA Test	Don't Have a PSA Test
Pro	**Explore with your patient why they might consider having a PSA test. Discuss what benefits there may be for the patient and for the things/people that are important to the patient.** • Detecting certain types of prostate cancer early can be critical. Elevated PSA results may reveal prostate cancer that's likely to metastasize, or it may reveal a quick-growing cancer that's likely to cause other health problems. • In some cases, identifying the cancer early may mean less aggressive treatment — thus reducing the risk of certain side effects, such as erectile dysfunction and incontinence. • *Among men who are screened with the PSA test, the risk of dying from prostate cancer is 5 in 1,000 (2014-prostate-cancer-harms-and-benefits-colour-en.pdf (canadiantaskforce.ca))*	**Explore what the benefits of <u>not</u> having a PSA test maybe for the patient.** • PSA tests aren't foolproof. There is the potential for false positives and false negatives. • *Discuss the erroneous PSA values that can arise due to BPH, prostatitis and aging.* • Prostate cancer usually develops slowly. Many men with prostate cancer will not have clinical progression of their cancer during their lifetime. The treatment may be more invasive than the disease.
Con	**Explore what might be unappealing or concerning for the patient in having a PSA test.** • *Patients need to understand that PSA screening may result in additional testing if the PSA level is raised.* • *Follow-up diagnostics to determine the cause of an elevated PSA test can* be invasive, stressful, or time-consuming. Some side effects of additional tests may include urinary incontinence, erectile dysfunction or bowel dysfunction. • A diagnosis of prostate cancer can provoke anxiety and confusion. Treating a non-invasive cancer may impact a patient's quality of life due to possible side effects of treatment where the disease itself may not result in an impact the patient's quality of life.	**Explore the downside of <u>not</u> having a PSA test with the patient.** • The number of deaths from prostate cancer has gone down since PSA testing became available. • *Among men who are <u>not</u> screened with the PSA test, the risk of dying from prostate cancer is 6 in 1,000 (2014-prostate-cancer-harms-and-benefits-colour-en.pdf (canadiantaskforce.ca)* • *For some patients, knowing is better than not knowing. By not getting their PSA, some patients may not benefit from the awareness that the value could provide.*

3

Check your patients' readiness to move forward or not with PSA testing by asking:

Do you understand what you would do with an elevated result and how that may impact your quality of life?

Do you have enough information to make a fully informed decision on whether to have a PSA test or not?

BACKGROUND

About this pathway

- This pathway was developed in collaboration with Primary Care Physicians, Urologists, Oncologists, Patient and Family Advisors, and the Alberta Health Services (AHS) Provincial Pathways Unit. Condition-specific clinical pathways are intended to offer evidence-based guidance to support primary care providers in caring for patients with a range of clinical conditions.

Authors and conflict of interest declaration

- This pathway was reviewed by a multi-disciplinary team. Names of participating reviewers and their conflict of interest declarations are available on request.

Pathway review process, timelines

- Primary care pathways undergo scheduled review every two to three years, or earlier if there is a clinically significant change in knowledge or practice. The next scheduled review is Q3 2025 However, we welcome feedback at any time. Please email comments to AlbertaPathways@ahs.ca.

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PATIENT RESOURCES

It is important to ensure patients have been provided with relevant health information that can guide them in a shared decision making conversation with their healthcare provider. Below are links to resources that can support a patient who is considering whether to have a PSA test or not.

MyHealth Alberta: Prostate Cancer Screening: Should I Have a PSA Test?	https://myhealth.alberta.ca/health/pages/conditions.aspx?Hwid=aa38144
MyHealth Alberta: About Prostate-Specific Antigen (PSA) Test	https://myhealth.alberta.ca/health/AfterCareInformation/pages/conditions.aspx?HwId=zw1240
Prostate Cancer—1000-Person Tool – Canadian Task Force on Preventive Health Care	https://canadiantaskforce.ca/tools-resources/prostate-cancer-harms-and-benefits

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