



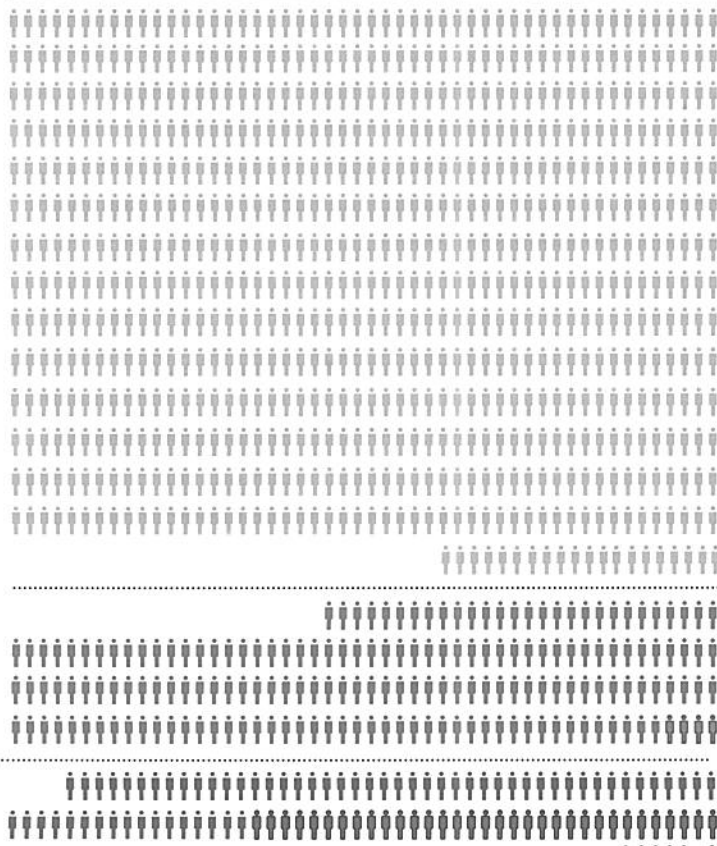
# Benefits and Harms of PSA Screening



The Canadian Task Force on Preventive Health Care recommends against screening for prostate cancer with the PSA test

- The CTFPHC found that the potential small benefit from PSA screening is outweighed by the potential significant harms of the screening and associated follow-up treatment.
- Men should understand that PSA screening may result in additional testing if the PSA level is raised.
- To save one life we would need to diagnose an additional 27 men with prostate cancer

## RESULTS OF SCREENING 1,000 MEN WITH THE PSA TEST (age 55–69 years, screened over a 13-year period, and with a PSA screening threshold of 3.0 ng/ml)



**What are my risks if I don't get screened?**

- Among men who *are screened* with the PSA test, the risk of dying from prostate cancer is **5 in 1,000**
- Among men who *are not screened* with the PSA test, the risk of dying from prostate cancer is **6 in 1,000**

- 720 men will have a negative PSA test
- 178 men with a positive PSA in whom follow-up testing does not identify prostate cancer
  - 4 of these 178 will experience biopsy complications such as infection and bleeding severe enough to require hospitalization
- 102 men will be diagnosed with prostate cancer
  - 33 of these 102 prostate cancers would not have caused illness or death
  - Because of uncertainty about whether their cancer will progress, most men will choose treatment and may experience complications of treatment

5 men will die from prostate cancer despite undergoing PSA screening

1 man will escape death from prostate cancer because he underwent PSA screening

**Complications of treatment for prostate cancer**

For every 1,000 men who receive treatment for prostate cancer:

- 114–214 will have short-term complications such as infections, additional surgeries, and blood transfusions
- 127–442 will experience long-term erectile dysfunction
- up to 178 will experience urinary incontinence
- 4–5 will die from complications of prostate cancer treatment

Statistics for benefits and harms were calculated from the European Randomized Study of Screening for Prostate Cancer



## PSA Screening: Patient FAQ



### 1. What is the PSA test?

The PSA test is a blood test that is commonly used to detect possible prostate cancer. Elevated PSA levels may indicate the presence of prostate cancer, but can also be caused by other common non-cancer related conditions such as an enlarged prostate (also known as benign prostatic hyperplasia or BPH) or inflammation of the prostate gland (also known as prostatitis) due to an infection or other cause.

### 2. Why does the CTFPHC recommend against PSA screening for prostate cancer?

The CTFPHC recommends against PSA screening because they found that the potential harms of screening outweigh the benefits.

### 3. Are there any other tests that can detect prostate cancer?

Currently no other screening tests have been proven to accurately identify prostate cancer. Several tests are being developed to improve the accuracy of PSA screening. However, right now there is not enough evidence to tell us whether or not they are accurate.

### 4. Why are there harms with PSA screening? Isn't it a simple blood test?

The PSA test is a simple blood test, but if the result is positive, men are likely to then undergo further tests such as a biopsy. There are several harms associated with biopsies, as described in the table. In addition, there is a risk that you will be diagnosed and treated for a slow-growing cancer that would not have caused any trouble in your lifetime.

### 5. What if I still want the PSA test?

Because of recent efforts to encourage screening for prostate cancer, some men may still be interested in the test. Talk to your doctor about the benefits and harms of PSA screening.

## BENEFITS

### LOWER RISK OF DYING FROM PROSTATE CANCER

- 1 out of every 1,000 men will escape death from prostate cancer because they were screened with PSA.

## HARMS

### FALSE-POSITIVE RESULTS

- Most men who have a positive PSA result will undergo a prostate biopsy.
- A false-positive result occurs when a man with a positive PSA result undergoes a biopsy, with the biopsy showing that he does not have prostate cancer.

**178 out of every 1,000 men screened with the PSA test will have an unnecessary biopsy to confirm they do not have prostate cancer.**

### COMPLICATIONS OF PROSTATE BIOPSY

- Prostate biopsy carries a number of complications, including blood in the urine or semen, rectal bleeding, infection and in rare cases, death.

**21 out of every 1,000 men who undergo prostate biopsy will have complications severe enough to require hospitalization.**

**2 out of every 1,000 men who undergo prostate biopsy will die within 120 days of the biopsy, because of complications.**

### OVERDIAGNOSIS

- Overdiagnosis is the detection of cancers that grow so slowly they would not have caused illness or death during the man's lifetime.

**Almost half of all the cancers detected through PSA screening would NOT have caused illness or death in the man's lifetime. However, because of uncertainty about whether their cancer would progress, most men will choose treatment and may experience complications of treatment.**

### HARMS OF TREATMENT

**For every 1,000 men who receive treatment for prostate cancer:**

- 114–214 will have short-term complications such as infections, additional surgeries, and blood transfusions
- 127–442 will experience long-term erectile dysfunction
- up to 178 will experience long-term urinary incontinence
- 4 or 5 will die from complications of prostate cancer surgery

*Statistics related to benefits and harms were calculated from the European Randomized Study of Screening for Prostate Cancer (ERSPC) and the prostate cancer screening review (<http://canadiantaskforce.ca/ctfphc-guidelines/2014-prostate-cancer/systematic-review/>)*