Prostate-Specific Antigen (PSA) Test -

the following is an excerpt of information published by the *Canadian Cancer Society* - January 1, 2016

Prostate-specific antigen (PSA) is a protein made by the cells of the prostate gland. PSA is mostly found in semen, but it is also normal to find small amounts of PSA in the blood of healthy men. A PSA test measures the amount of PSA in the blood.

Why a PSA test is done -

A PSA test may be done for 2 reasons:

1) - To help detect prostate cancer

A PSA test may be done when the doctor suspects prostate cancer because of a man's health history or the results of a physical examination.

A PSA test may detect early prostate cancer in men who do not have symptoms.

Men over 50 should talk with their doctor about whether they should be tested for prostate cancer.

Although PSA testing detects prostate cancer earlier than waiting for symptoms to appear, experts are divided about whether it is a useful test or not.

An increased level does not necessarily mean that a man has prostate cancer.

Only about 1 in 4 men with an abnormal PSA result will actually have prostate cancer.

The others will have a benign condition, such as prostatitis (Inflammation of the prostate gland) or benign prostatic hyperplasia (BPH).

2) - To monitor response to cancer treatment and monitor disease recurrence and progression.

- PSA acts as a tumour marker (a substance that can be found in the body when cancer is present).

- A decrease in, or return to normal values of, PSA often means that the prostate cancer has responded to treatment. The lowest level that the PSA reaches (nadir) is used as a baseline for future PSA tests.

The PSA level should fall to a near undetectable level (less than 0.1) in men who have been treated with surgery.

The PSA level in men treated with radiation therapy also goes down after treatment, but because the prostate gland has not been removed, small amounts of PSA (up to 2.0) continue to be made by the benign parts of the prostate gland.

An increase in PSA may mean that the cancer is not responding to treatment, is growing or has come back (recurred).

- If a man's PSA level begins to rise, it may be the first sign of a recurrence. This may be referred to a biochemical failure or biochemical relapse. Biochemical failure is seen with repeated rises in the PSA level after it has reached its lowest level.
- A single elevated PSA measurement in a man with a history of prostate cancer does not always mean the cancer has recurred. In particular, after brachytherapy for prostate cancer, a temporary rise in PSA (PSA bounce) occurs in about half of all men, usually 1-4 years after treatment. Then the PSA level falls without any other treatment.

What PSA Results Mean -

It is normal to find small amounts of PSA in the blood of healthy men. A PSA level can go up and down for different reasons. The PSA level varies with age. It tends to increase gradually in men over 60 as the prostate glad grows.

PSA is reported as a whole number. Although many doctors refer to a normal PSA level being less than 4, however, the normal level depends very much on a man's age. A man in his 40s will have a PSA level that is well below 4, but a man in his 70s typically has a PSA level above 4.

The risk for prostate cancer rises with higher PSA levels. There is no limit to how high a PSA level may rise.

Sometimes men with prostate cancer have normal PSA.

A high PSA result should be checked again before further tests are done.

Knowing whether or not a man's PSA level is steadily increasing or decreasing may be as important as the actual level. A jump from previous results may indicate that cancer has developed.

PSA levels by Age -

Younger than 50	0.0-2.5
50-59	0.0-3.5
60-69	0.0-4.5
70 and older	0.0-6.5

Reasons for Higher than Normal PSA Levels -

Many problems with the prostate can cause the PSA level to rise, so an increased level doesn't necessarily mean a man has prostate cancer. PSA levels may be higher because of:

An enlarged prostate gland (benign prostatic hyperplasia or BPH)

An inflamed or infected prostate gland (prostatitis)

A recent medical test on the prostate gland (such as DRE, TRUS, or biopsy)

Recent sexual activity (including ejaculation)

Cancer cells in the prostate