PSA

by

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English is a complex language that continues to evolve over time. The use of abbreviations in language predates the birth of Christ. Around 80 BC, the Romans began referring to their government as "*Senatus Populusque Romanus*" (The Senate and People of Rome). While this was the official name for the Roman Empire, it was soon shortened to "S.P.Q.R." and would appear on doorways, military shields, government buildings and currency.

Since the Roman Empire, people around the world have shortened titles and phrases typically through the processes of abbreviations, initialisms, and acronyms. The definitions of the three processes mentioned are often overlapping and confusing.

Abbreviation - a shortened form of a written word or phrase.

Abbreviation	Word/Phrase
Approx.	Approximately
Dept.	Department
Mammo	Mammogram
Vet	Veteran or Veterinarian

Initialism - an abbreviation consisting of initial letters pronounced separately.

Initials	Word/Phrase
a.m.	*ante meridiem*
AD	*anno Domini*
FBI	Federal Bureau of Investigation
USA	United States of America

Acronym - an abbreviation formed from the initial letters of other words and pronounced as a word.

Acronym	Word/Phrase
ASAP	As Soon As Possible
KISS	Keep It Simple, Stupid
POTUS	President of the United States
SWAT	Special Weapons and Tactics

Regarding the overlapping of definitions, ASAP is an example of both abbreviations and acronyms. However, DOJ cannot be considered an acronym. If you try to pronounce DOJ as a word it would be pronounced "dōj," which actually means "Department of Government Efficiency" or the "chief magistrate of Venice or Genoa."

PSA, the subject of this commentary, is an example of initialism having more than 248 meanings. The two most common, popular or relevant meanings of PSA are:

- Public Service Announcement
  A message in the public interest disseminated without charge, with the objective of raising awareness of, and changing public attitudes and behavior towards, a social issue.

- Prostate-Specific Antigen (test)
  A protease secreted by the prostate gland. Levels of the protease in blood serum are usually elevated in people with prostate cancer and other conditions such as prostatitis and benign prostatic hyperplasia, and serum level is often used as a screening test for prostate cancer.

This commentary is not about public service announcements but rather men's prostate and prostate cancer.

Face it, today we live in a strange world where some people want us to think that men can become women and women become men. Biologically and surgically, this cannot be done no matter how much a person may wish it. While the outward appearance can be changed to look like the opposite sex, there are too many inner body workings that prevent such transmutation. Too fully change one's sex, would require extensive organ transplants to the point where transplanting the brain into another body might be easier. However, even this will not work as brain chemistry is different between the sexes (NIH).

The prostate is an essential gland for male reproduction. It is found in all male mammals and while it differs between species anatomically, chemically, and physiologically, its role is essentially the same in all species.

Like all organs in humans, the prostate is also susceptible to cancer. First discovered in the mid-1800s, prostate cancer has become the most common cancer among American men. From initial removal of the prostate in the 1800s to the integrated approach of using a combination of hormone therapy and radiation by the late 20th century, the survival rate from prostate cancer improved dramatically, as has the ability to continue having intercourse.

Since 2000, the treatment for prostate cancer has improved to the point that the five-year survival rate today is about 90%. While many studies have been, and continue to be done, to identify what causes prostate cancer, no definitive cause has been

identified. Regardless, we can probably assume that our DNA and life style plays important roles in whether men will or will not get prostate cancer.

While prevention looms on the horizon, it is possible to decrease the serious effects of prostate cancer through early detection and treatment. While the general consensus has been for men 50+ to start screening for prostate cancer, the rise of this debilitating cancer in younger men is suggests that starting at 40 or 45 would be much better.

Screening for prostate cancer is easy and should be done annually. While no standard prostate screening tests exists, three screening methods are currently being used.

- Digital rectal examination (DRE)
- Prostate specific antigen (PSA) test
- Urine test

While any test, even standard tests for other situations, can produce false results, the DRE has fallen out of general favor because it is subjective. However, this does not mean that a DRE can be effective, especially when the other two tests may have "normal" results. In a DRE the physician feels the prostate for anything concerning in the texture, shape or size of the prostate. Any abnormality that is found, may result in additional testing and/or biopsy.

The PSA test is the most common test used in the USA. This is a blood test that measures the level of PSA in the blood. While levels are higher in men with prostrate cancer, false positives may be caused by other conditions such as:

- Certain medical procedures
- Certain medications
- An enlarged prostate
- A prostate infection
- Having sex within 3 days of the exam

The third popular screening method is relatively new. At this time, it is not known if this method is FDA or AMA approved. Although research in early prostate cancer detection has been on-going for decades it was not until recently that Swedish researchers have developed a urine test employing artificial intelligence (AI). Using biomarkers and AI, the researchers have developed a test based on urine samples. The test is not only more accurate than PSA tests but can also distinguish between cancers that do not need treatment and extremely aggressive ones.

The newly discovered biomarkers found in urine can lead to earlier detection and diagnosis of prostrate cancer. Detecting this cancer earlier increases survival chances and reduce the number of biopsies needed for confirmation. Large-scale clinical trials are being planned for the next phase of the research.

This new area of ground breaking prostrate cancer detection could not have been done without AI. The procedure outperforms PSA tests but like all new medical procedures it does not come without cost. While DREs are the cheapest detection method, they are not reliable for initial examinations. PSA tests are invasive and involve lab costs. The new urine procedure can come with significant costs because specialized equipment is needed. Insurance companies will either increase premiums, not pay for the urine procedures and push for the lower cost of PSA testing. Overtime, however, the increase availability of the urine procedure and associated equipment, in conjunction with medical and patient demands, the cost per procedure will come down and the insurance companies will accept the procedure as a preventative measure rather than having to pay out for the more expensive surgical procedures.

Are You Over 40?

If you are over 40 years old, you should get an annual prostrate examination. Even if your results are normal, having the examination will provide a base line for future exams.

If you are over 70 and have a family history of prostate issues, you should continue to have regular prostate examinations.

DO NOT allow your doctor or insurance company dictate your needs. It is your life and you must be proactive by being your own advocate.