

What Is Prostate Specific Antigen Level

GCPII is a zinc metalloenzyme that resides in membranes. Most of the enzyme resides in the extracellular space. GCPII is a class II membrane glycoprotein. It catalyzes the hydrolysis of N-acetylaspartylglutamate (NAAG) to glutamate and N-acetylaspartate (NAA) according to the reaction scheme to the right. 40204cd829 Most prostate tumors remain small and cause no health problems. These are managed with active surveillance, monitoring the tumor with regular tests to ensure it has not grown. Tumors more likely to be dangerous can be destroyed with radiation therapy or surgically removed by radical prostatectomy. Those whose cancer spreads beyond the prostate are treated with hormone therapy, which reduces levels of... 40204cd829 The immune system normally destroys cancer cells in a process called immunosurveillance. However, cancers can adapt to evade the immune system. Tumors form when the immune system fails to destroy cancer cells and they are able to multiply. 40204cd829

Active surveillance of prostate cancer However, the extent to which this reduction was due to prostate-specific antigen based screening is debatable. reduction in prostate cancer mortality. Further Active surveillance is a management option for localized prostate cancer that can be offered to appropriate patients who would also be candidates for aggressive local therapies (surgery and radiotherapy), with the intent to intervene if the disease progresses. Active surveillance should not be confused with watchful waiting, another observational strategy for men who would not be candidates for curative therapy (surgery, radiation) because of a limited life expectancy 40204cd829

Most recent guidelines have recommended that the decision whether or not to screen should be based on shared decision-making, so that men are informed of the risks and benefits of screening. In 2012, the American Society of Clinical Oncology recommended screening be discouraged for those who are expected to live less than ten years, while for those with a longer life expectancy, a decision should be made by the person in question. In general, they concluded that based on recent research, "it is uncertain... 40204cd829 Some types of cancer, such as cervical cancer and liver cancer, are caused by viruses (oncoviruses). Traditional vaccines against those viruses, such as the HPV vaccine and the hepatitis B vaccine, prevent those types of cancer. Other cancers are to some extent caused by bacterial infections (e.g. stomach cancer and Helicobacter pylori). Traditional vaccines against cancer-causing bacteria (oncobacteria) are not further discussed in this article. 40204cd829 It may be referred to simply as prostatic intraepithelial neoplasia (PIN). It is considered to be a pre-malignancy, or carcinoma in situ, of the prostatic glands. 40204cd829

Prostate cancer staging Once patients are placed in prognostic categories, this information can contribute to the selection of an optimal approach to treatment. standard includes the Grade Groups. Prostate cancer stage can be assessed by either clinical or pathological staging methods. For prostate cancer, grade group information and prostate-specific antigen levels are used in conjunction with TNM status Prostate cancer staging is the process by which physicians categorize the risk of cancer having spread beyond the prostate, or equivalently, the probability of being cured with local therapies such as surgery or radiation. Clinical staging usually occurs before the first treatment and tumour presence is determined through imaging and rectal examination, while pathological staging is done after treatment once a biopsy is performed or the prostate is removed by looking at the cell types within the sample 40204cd829

PSA is produced for the ejaculate, where it liquefies semen in the seminal coagulum and allows sperm to swim freely. It is also believed to be instrumental in dissolving cervical mucus, allowing the entry of sperm into the uterus. 40204cd829 The prostate produces and contains fluid that forms part of semen, the substance emitted during ejaculation as part of the male sexual response. This prostatic fluid is slightly alkaline, and milky or white in appearance. The alkalinity of semen helps neutralize the acidity of the vaginal tract, prolonging the lifespan of sperm. The prostatic fluid is expelled in the first part of ejaculate, together with most of the sperm, because of the action of smooth muscle tissue within the prostate. In comparison with the few spermatozoa expelled together with mainly seminal vesicular fluid, those in prostatic fluid have better motility, longer survival, and better protection of... 40204cd829 Screening precedes a diagnosis and subsequent treatment. The digital rectal examination (DRE) is one screening tool, during which the prostate is manually assessed through the wall of the rectum. The second screening tool is the measurement of prostate-specific antigen (PSA) in the blood. The evidence remains insufficient to determine whether screening with PSA or DRE reduces mortality from prostate cancer. 40204cd829 PSA is present in small quantities in the serum of men with healthy prostates, but is often elevated in the presence of prostate cancer or other prostate disorders. PSA is not uniquely an indicator of prostate cancer, but may also detect prostatitis or benign prostatic hyperplasia. 40204cd829

Prostate cancer screening of the rectum. The evidence remains insufficient to determine Prostate cancer screening is the screening process used to detect undiagnosed prostate cancer in men without signs or symptoms. When abnormal prostate tissue or cancer is found early, it may be easier to treat and cure, but it is unclear if early detection reduces mortality rates. The second screening

tool is the measurement of prostate-specific antigen (PSA) in the blood 40204cd829

Active surveillance offers men with a prostate cancer that is thought to have a low risk of causing harm in the absence of treatment, a chance to delay or avoid aggressive treatment and its associated side effects. While prostate cancer is the most common non-cutaneous cancer and second leading cause of cancer-related death in American men, it is conservatively estimated that approximately 100,000 men per year in the United States who would be eligible for conservative treatment through active surveillance, undergo unnecessary treatments. The management of localized prostate cancer is controversial and men with localized disease diagnosed today often undergo treatments with significant side effects that will not improve... 40204cd829 == Method == 40204cd829 HGPIN in isolation is asymptomatic. It is typically discovered in prostate biopsies taken to rule-out prostate cancer and very frequently seen in prostates removed for prostate cancer. 40204cd829 Diagnosis requires a biopsy of the prostate. If cancer is present, the pathologist assigns a Gleason score; a higher score represents a more dangerous tumor. Medical imaging is performed to look for cancer that has spread outside the prostate. Based on the Gleason score, PSA levels, and imaging results, a cancer case is assigned a stage 1 to 4. A higher stage signifies a more advanced, more dangerous disease. 40204cd829 == Signs and symptoms == 40204cd829 == Discovery == 40204cd829

Prostate It is surrounded by an elastic, fibromuscular capsule and contains glandular and connective tissue. It differs between species anatomically, chemically, and physiologically. It is found in all male mammals. It is described in gross anatomy as consisting of lobes and in microanatomy by zone. have spread outside of the prostate. A digital rectal examination and the measurement of a prostate-specific antigen (PSA) level are usually the first investigations The prostate is an accessory gland of the male reproductive system and a muscle-driven mechanical switch between urination and ejaculation. Anatomically, the prostate is found below the bladder, with the urethra passing through it 40204cd829

Prostate-specific antigen PSA is a member of the kallikrein-related peptidase family and is secreted by the epithelial cells of the prostate gland in men and the paraurethral glands in women. Prostate-specific antigen (PSA), also known as gamma-seminoprotein or kallikrein-3 (KLK3), P-30 antigen, is a glycoprotein enzyme encoded in humans by Prostate-specific antigen (PSA), also known as gamma-seminoprotein or kallikrein-3 (KLK3), P-30 antigen, is a glycoprotein enzyme encoded in humans by the KLK3 gene 40204cd829

Glutamate carboxypeptidase II Human GCPII contains 750 amino acids and weighs approximately 84 kDa. peptidase I (NAALADase I), NAAG peptidase, or prostate-specific membrane antigen (PSMA) is an enzyme that in humans is encoded by the FOLH1 (folate hydrolase 1) gene, also known as N-acetyl-L-aspartyl-L-glutamate peptidase I (NAALADase I), NAAG peptidase, or prostate-specific membrane antigen (PSMA) is an enzyme that in humans is encoded by the FOLH1 (folate hydrolase 1) gene 40204cd829

Prostate cancer Those with high levels of PSA in their blood are at increased risk for developing prostate cancer. Abnormal growth of prostate tissue is usually detected through screening tests, typically blood tests that check for prostate-specific antigen (PSA) levels. growth of prostate tissue is usually detected through screening tests, typically blood tests that check for prostate-specific antigen (PSA) levels. Those Prostate cancer is the uncontrolled growth of cells in the prostate, a gland in the male reproductive system below the bladder 40204cd829

Treatment options include lifestyle changes, medications, a number of procedures, and surgery. In those with mild symptoms, weight loss, decreasing caffeine intake, and exercise are recommended, although the quality of the evidence for exercise is low. In those with more significant symptoms, medications may include alpha blockers such as terazosin or 5 α -reductase inhibitors... 40204cd829

High-grade prostatic intraepithelial neoplasia Blood tests for prostate specific antigen (PSA), digital rectal High-grade prostatic intraepithelial neoplasia (HGPIN) is an abnormality of prostatic glands and believed to precede the development of prostate adenocarcinoma (the most common form of prostate cancer). - complete removal of prostate and seminal vesicles (a treatment for prostate cancer) 40204cd829

== Medical diagnostic uses == 40204cd829 One approach to cancer vaccination is to separate proteins from cancer cells and immunize patients against those proteins as antigens, in the hope of stimulating... 40204cd829

Cancer vaccine vaccines or tumor antigen vaccines. Some of the vaccines are "autologous", being prepared from samples taken from the patient, and are specific to that patient. Vaccines that treat existing cancer are known as therapeutic cancer vaccines or tumor antigen vaccines. Some of the vaccines are "autologous", being prepared from samples taken from the patient, and are specific to that patient A cancer vaccine, or oncovaccine, is a vaccine that either treats existing cancer or prevents development of cancer 40204cd829

Benign prostatic hyperplasia Although prostate-specific antigen levels may be elevated in males

with BPH, the condition does not increase the risk of prostate cancer. Complications can include urinary tract infections, bladder stones, and chronic kidney problems. Symptoms may include frequent urination, trouble starting to urinate, weak stream, inability to urinate, or loss of bladder control. BPH is the most Benign prostatic hyperplasia (BPH), also called prostate enlargement, is a noncancerous increase in size of the prostate gland 40204cd829

There are two schemes commonly used to stage prostate cancer in the United States. The most common is promulgated by the American Joint Committee on Cancer (AJCC), and is known as the TNM system, which evaluates the size of the tumor, the extent of involved lymph nodes, and any metastasis (distant spread) and also takes into account cancer grade. As with many other cancers, these are often grouped into four stages (I–IV). Another scheme that was used in the past... 40204cd829 The cause is unclear. Risk factors include a family history, obesity, type 2 diabetes, not enough exercise, and erectile dysfunction. Medications like pseudoephedrine, anticholinergics, and calcium channel blockers may worsen symptoms. The underlying mechanism involves the prostate pressing on the urethra thereby making it difficult to pass urine out of the bladder. Diagnosis is typically based on symptoms and examination after ruling out other possible causes. 40204cd829 GCPII is expressed in many tissues of the body, including prostate epithelium, the proximal tubules of the kidney, the jejunal brush border of the small intestine and ganglia of the nervous system. It is also expressed in glia and neurons in the primate brain. 40204cd829 Indeed, the initial cloning of the cDNA encoding the gene expressing PSMA... 40204cd829 Neuroscientists primarily use the term NAALADase in their studies, while those studying folate metabolism use folate hydrolase, and those studying prostate cancer or oncology, PSMA. All refer to the same protein glutamate carboxypeptidase II. 40204cd829

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