Florida Statewide Cancer Registry
Florida Cancer Data System

# 2021-2022 FCDS Educational Webcast Series

## 2022 Prostate & Testis: Recent Updates and How to Use Current Abstracting Resources for Cases

Steven Peace, CTR

February 17, 2022

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# CDC & Florida DOH Attribution

"Funding for this conference was made possible (in part) by the Centers for Disease Control and Prevention. The views expressed in written conference materials or publications and by speakers and moderators do not necessarily reflect the official policies of the Department of Health and Human Services, nor does the mention of trade names, commercial practices, or organizations imply endorsement by the US Government."

CDC Centers for Disease Control and Prevention

Florida HEALTH

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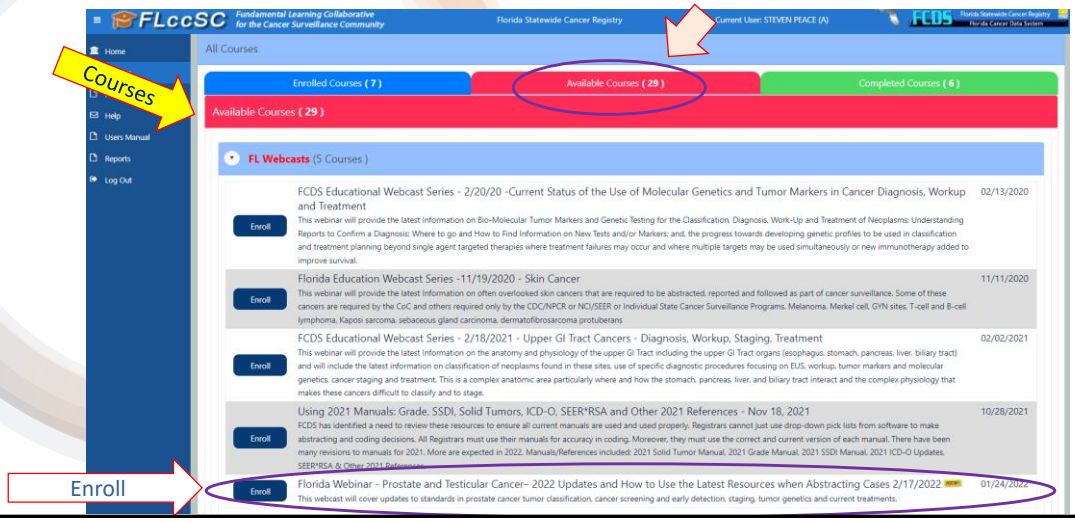
# FLccSC and CEU Certificate

You Must Take and Pass a 5 Question CEU Quiz to get a CEU Certificate – 2 CEUs

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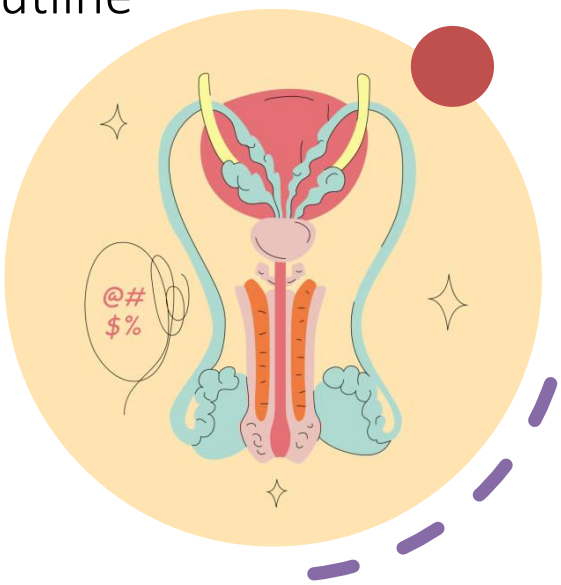
# 2022 Prostate & Testis Outline

- **Introduction to Neoplasms of the Prostate & Testis**
- **2022 Statistics for Prostate & Testis Cancers**
- **Anatomy of the Male Reproductive System**
- **Risk Factors – Signs & Symptoms**
- **Screening Guidelines, Diagnostic Workup, and Lab Tests**
- **Biological Tumor Markers, Single and Multi-Gene Testing**
- **Incidental Finding versus Diagnostic/Staging Procedure**
- **Prostate Cancer - Risk Stratification & Treatment Planning**
- **2022 Solid Tumor Rules – MP/Histology – no new rules**
- **2022 Staging for Prostate – SS2018 Focus (T & N for TNM)**
- **2022 Staging for Testis – SS2018 Focus (T & N for TNM)**
- **2022 NCCN Treatment Guidelines for Prostate**
- **Biochemical Progression/Biochemical Recurrence**
- **Controversy Over Neoadjuvant ADT/XRT & ADT/Surgery**
- **2022 NCCN Treatment Guidelines for Testis**
- **Text Documentation & References**
- **Questions**

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# Introduction to Neoplasms of the Prostate Cancer Statistics

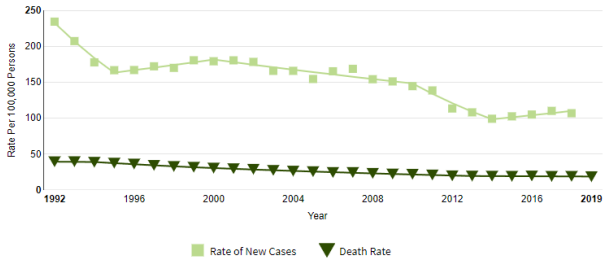
**At a Glance**

| | |
|---|---|
| Estimated New Cases in 2021 | 248,530 |
| % of All New Cancer Cases | 13.1% |
| Estimated Deaths in 2021 | 34,130 |
| % of All Cancer Deaths | 5.6% |

**5-Year Relative Survival**

**97.5%**

2011–2017




https://seer.cancer.gov/statfacts/html/prost.html

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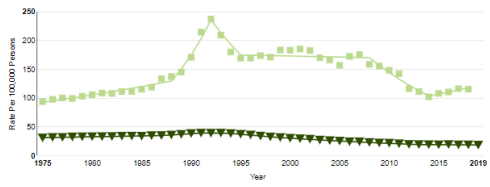
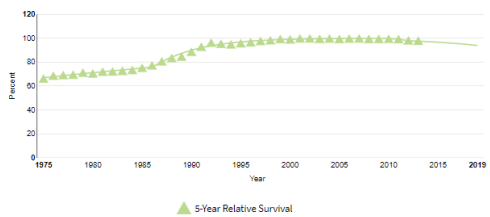
# Introduction to Neoplasms of the Prostate Cancer Statistics

**New Cases, Deaths and 5-Year Relative Survival**




New cases come from SEER 9. Deaths come from U.S. Mortality.
All Races, Males. Rates are Age-Adjusted.
Modeled trend lines were calculated from the underlying rates using the Joinpoint Trend Analysis Software.




https://seer.cancer.gov/statfacts/html/prost.html

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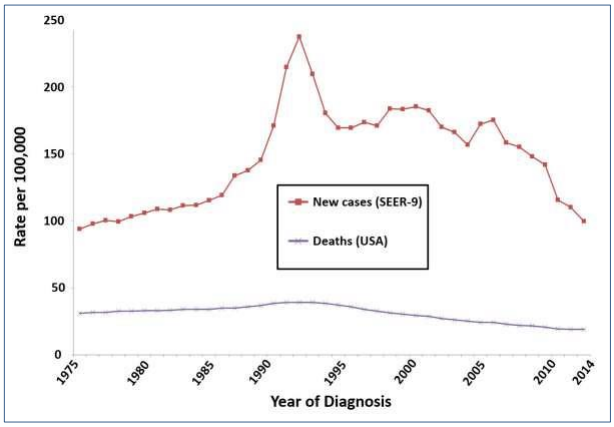
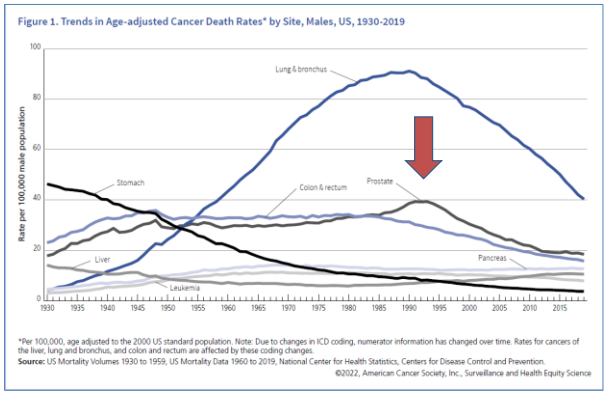
# Introduction to Neoplasms - Prostate




seer.cancer.gov




2022 ACS Cancer Facts & Figures



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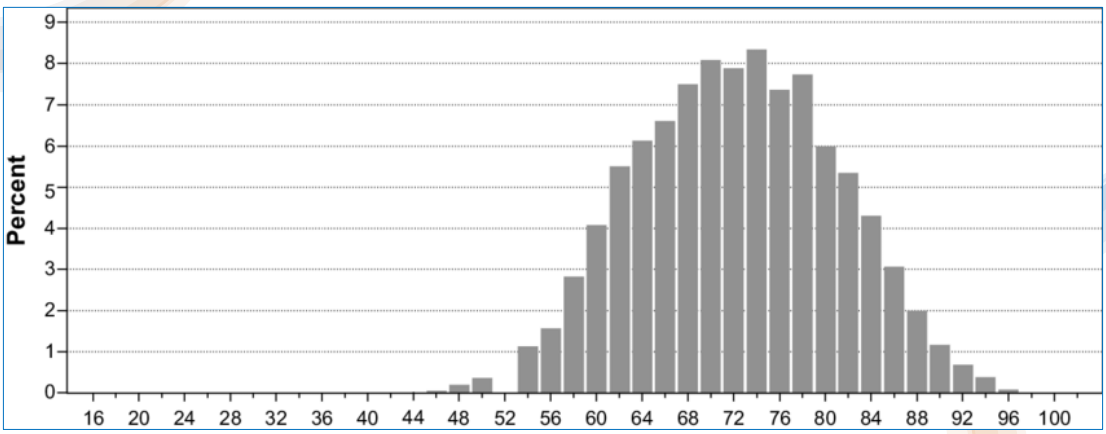
# Introduction to Neoplasms - Prostate




The age distribution of men diagnosed with prostate cancer in the period 1998-2009
Clinical Epidemiology DOI: 10.2147/CLEP.S20625



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# Risk Factors – Signs & Symptoms

**Risk Factors**

- Age – rare in men younger than 40, rapid increase in risk begins at age 50
- Age – most cases (60%) occur in men over age 65
- Race/Ethnicity – African American & Caribbean Men at increased risk
- Race/Ethnicity – Asian American & Hispanic Men at decreased risk
- Geography – Most Common in North American Northwestern Europe, Australia, Caribbean Islands
- Geography – Less Common in Asia, Africa, Central America, South America
- Geography – Screening accounts for at least some of the increased risk in developed countries
- Family History & Genetic Factors – BRCA1, BRCA2, Lynch Syndrome, HNPCC – 1st degree relative
- Personal History – Prostatitis & STDs, Obesity & Diet
- Chemical Exposures – Agent Orange

- **Signs & Symptoms**
  - Urinary Difficulties – urge, stream, flow, dribbling, frequent/excessive urination, urinary retention
  - Urinary Difficulties – loss of bladder (or bowel) control (cancer pressing on spinal cord)
  - Blood in Urine
  - Erectile Dysfunction
  - Bone Pain – hips, back, chest
  - Weakness/Numbness in legs, feet



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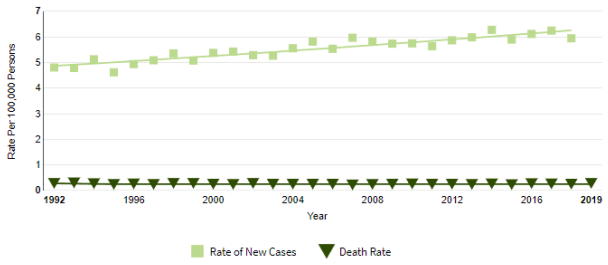
# Introduction to Neoplasms of the Testis Cancer Statistics

**At a Glance**

| | |
|---|---|
| Estimated New Cases in 2021 | 9,470 |
| % of All New Cancer Cases | 0.5% |
| Estimated Deaths in 2021 | 440 |
| % of All Cancer Deaths | 0.1% |

| 5-Year Relative Survival |
|---|
| 94.9% |
| 2011–2017 |




https://seer.cancer.gov/statfacts/html/testis.html



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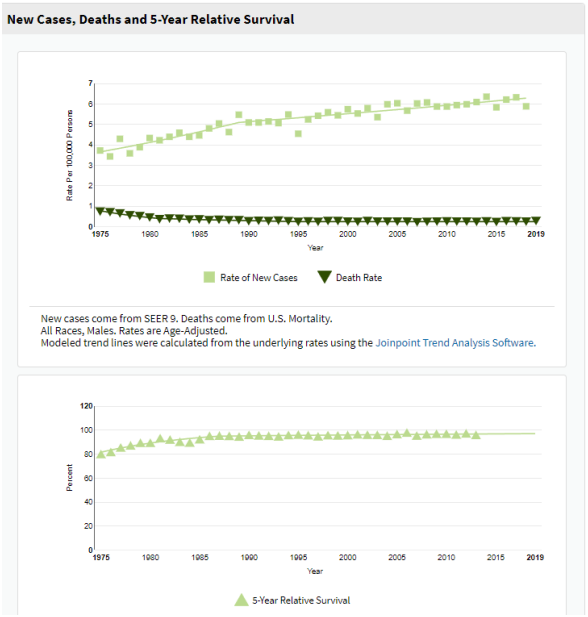
# Introduction to Neoplasms of the Testis Cancer Statistics

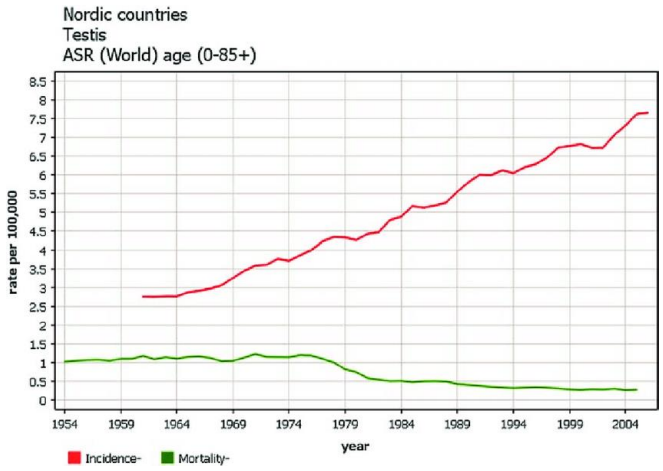



https://seer.cancer.gov/statfacts/html/testis.html





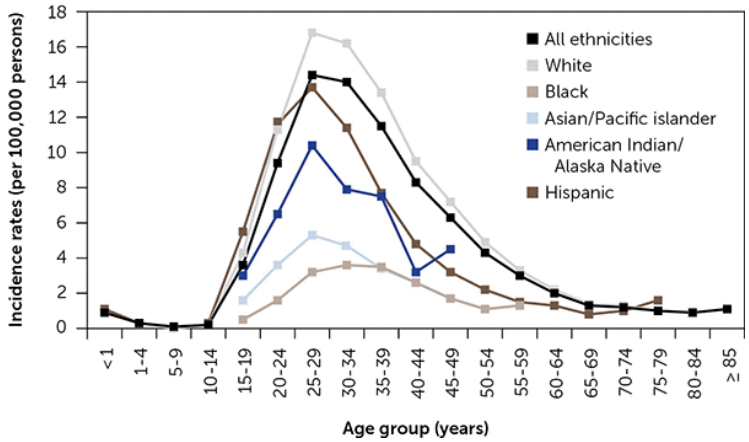
# Introduction to Neoplasms - Testis





NORDCAN & The American Academy of Family Physicians - 2018 Feb 15;97(4):261-268

# Introduction to Neoplasms - Testis




Testicular Cancer: Diagnosis and Treatment - The American Academy of Family Physicians, 2018 Feb 15;97(4):261-268

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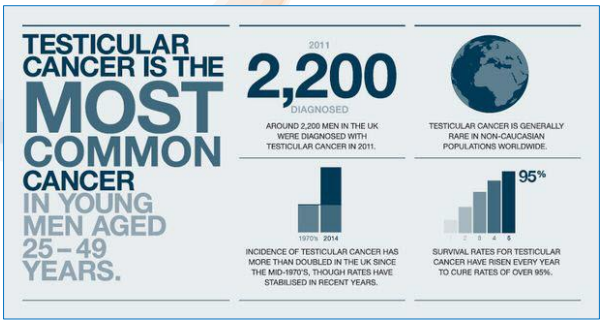
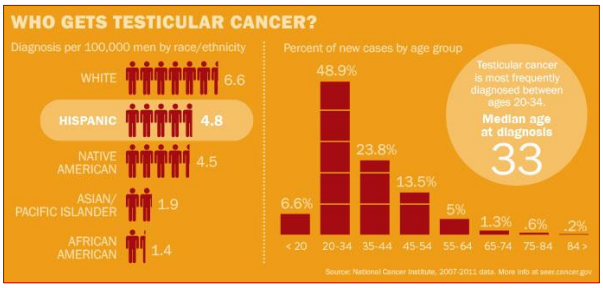
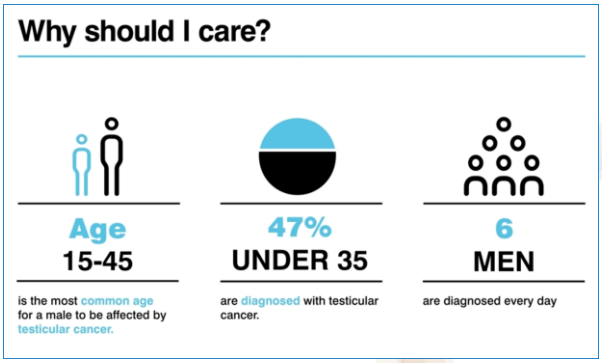
# Testicular Cancer Infographics

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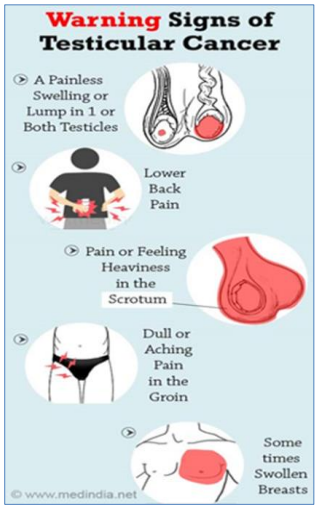
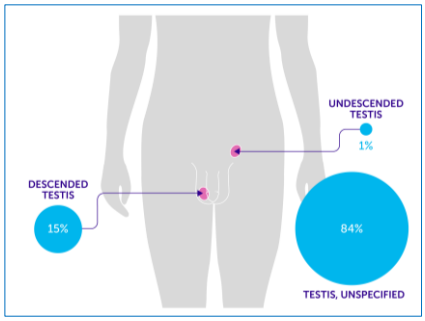
# Risk Factors – Signs & Symptoms




## Testicular cancer risk factors include:

- **An undescended testicle** (one that does not move down from the abdomen to the scrotum before birth).
- **Family history of testicular cancer.**
- **Personal history of cancer in one testicle.**
- **HIV and AIDS.**
- **Living in the U.S. and Europe** (risk is lowest among men in Africa and Asia).

**Source: American Cancer Society**

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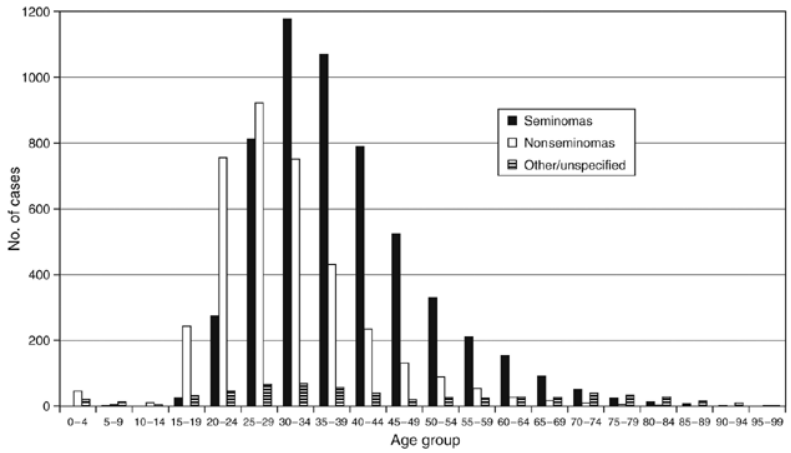
# Risk Factors – Signs & Symptoms




Age Distributions by Testis Cancer Type – British Journal of Cancer ISSN 1532-1827

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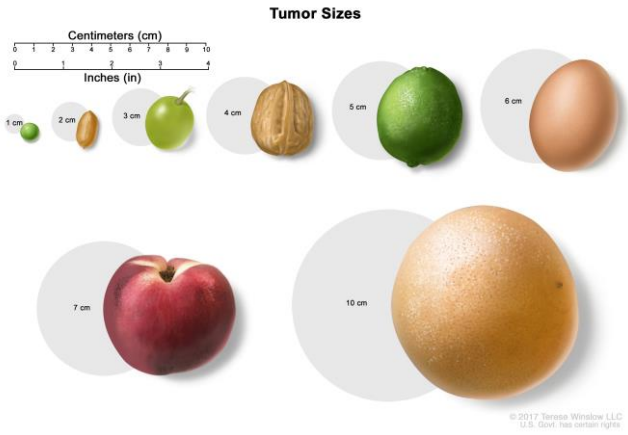
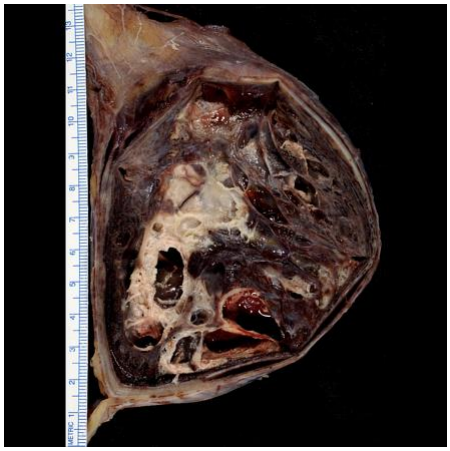
# Risk Factors – Signs & Symptoms
# Tumor Size – Don't Wait Until Tumor is >10cm



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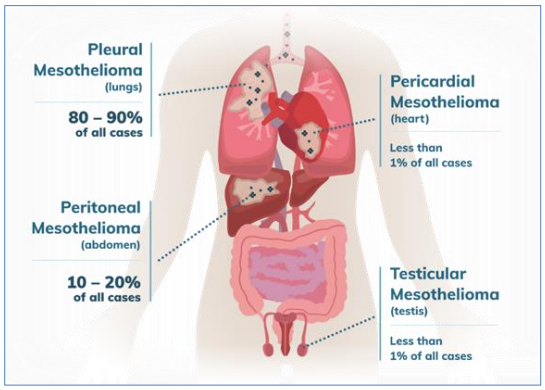
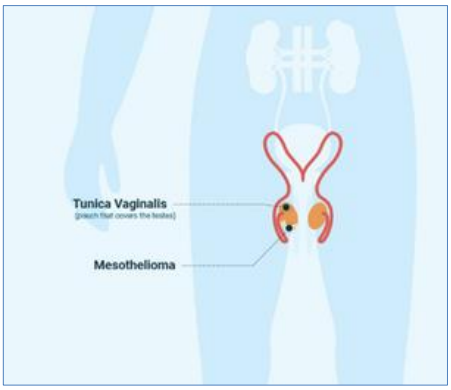
# Risk Factors – Signs & Symptoms
# Testicular Mesothelioma

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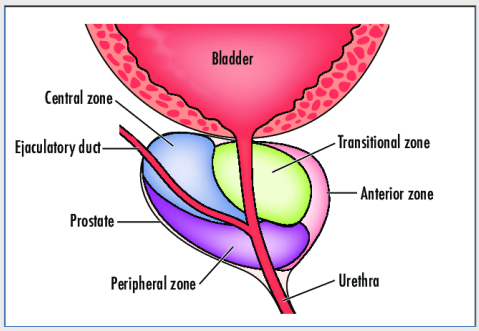
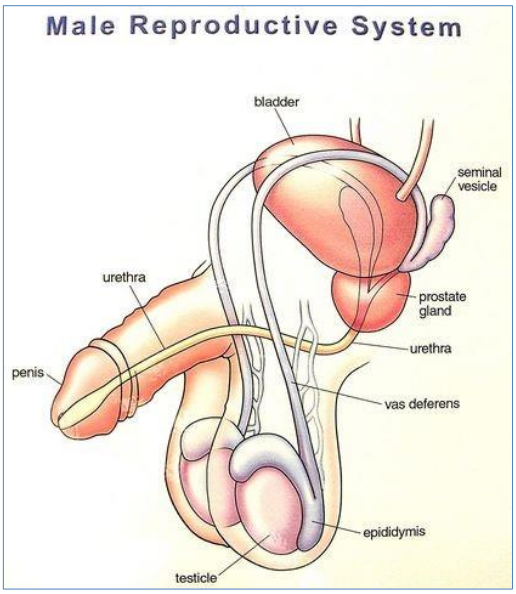
# Anatomy of the Male Reproductive System

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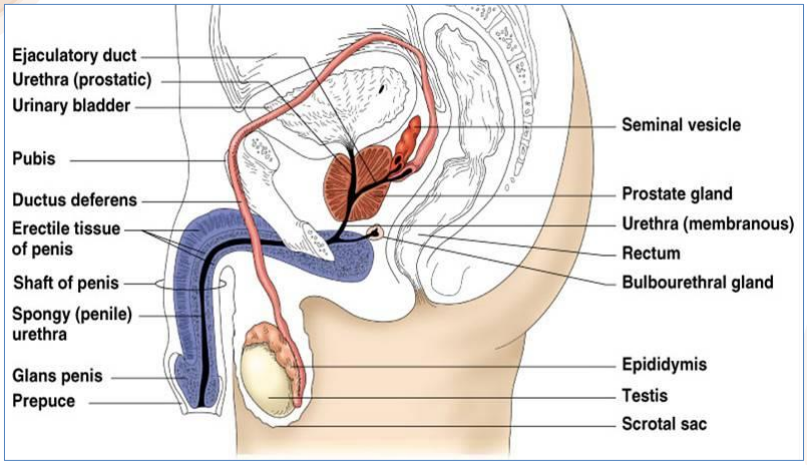
# Regional Anatomy of the Male Genital System

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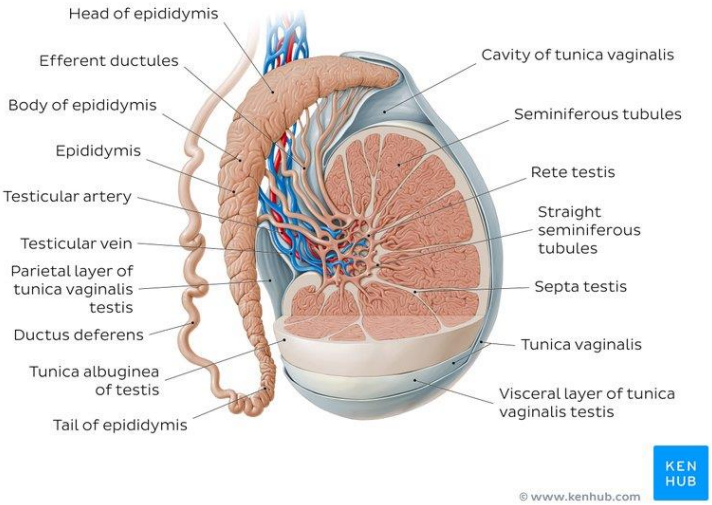
# Anatomy of the Testis


https://www.kenhub.com/en/library/anatomy/the-testes

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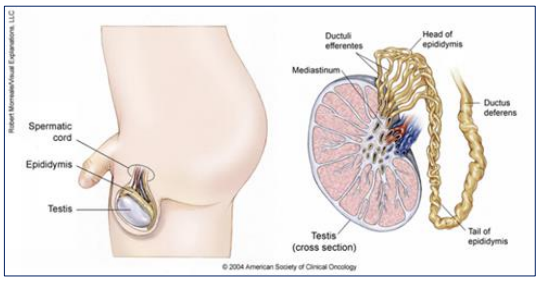
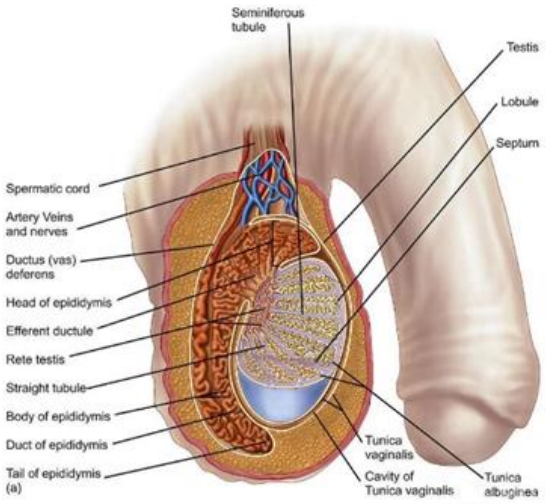
# Anatomy of the Testis




https://fineartamerica.com/featured/anatomy-of-male-testis-stocktrek-images.html

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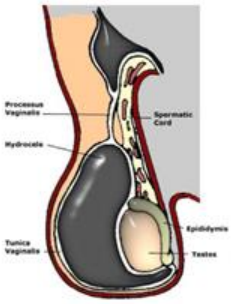
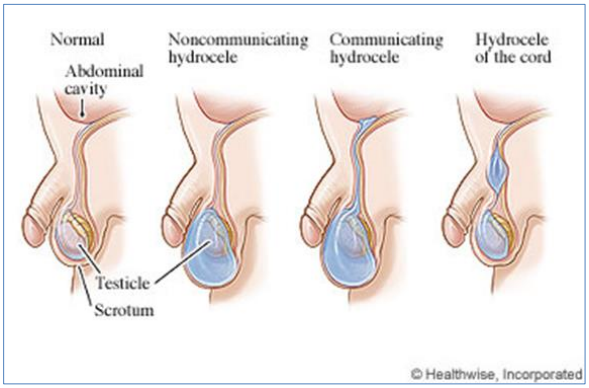
# Anatomy of the Testis

## Hydroceles

- A hydrocele is a collection of peritoneal fluid between the parietal and visceral layers of the tunica vaginalis, the investing layer that directly surrounds the testis and spermatic cord




https://elmwoodpediatrics.com/health-library/healthwise/?DOCHWID=zm2443

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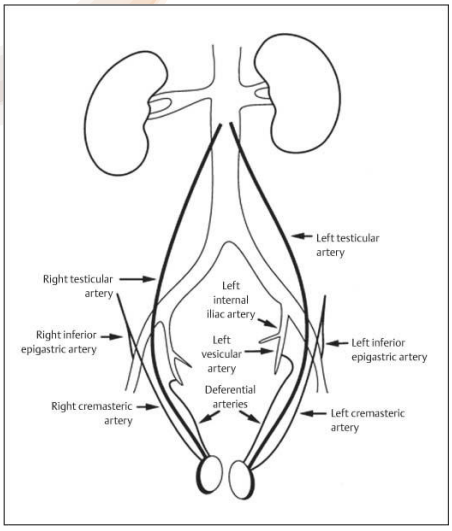
# Lymphatic Drainage - Testis



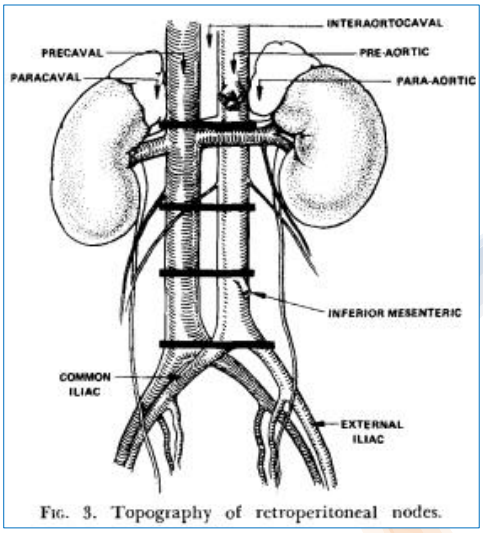




Fig. 3. Topography of retroperitoneal nodes.

Sidhu PS. Clinical and imaging features of testicular torsion: role of ultrasound. Clin Radiol 1999;54:134–143

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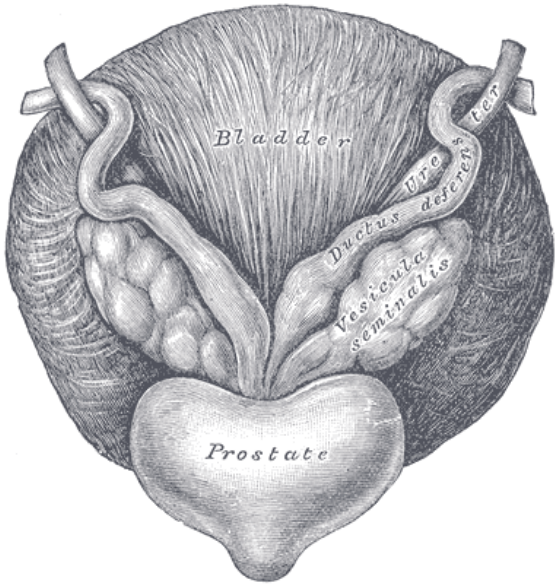
# Anatomy of the Prostate

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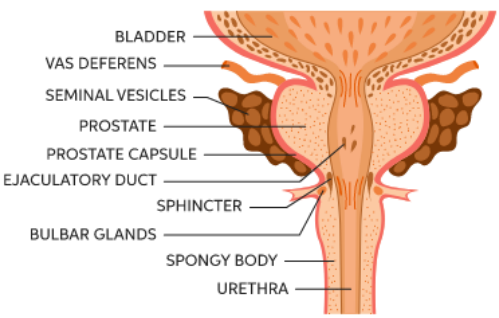
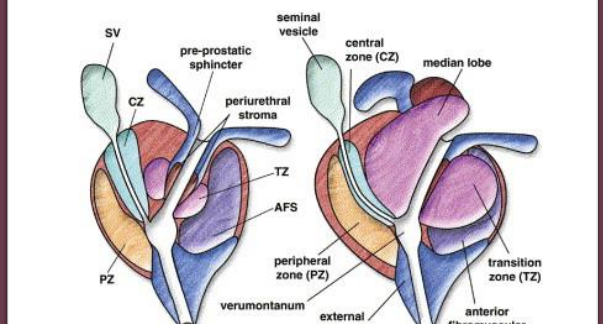
## Anatomy of the Prostate




https://www.redjournal.org/article/S0360-3016(05)00298-1/pdf

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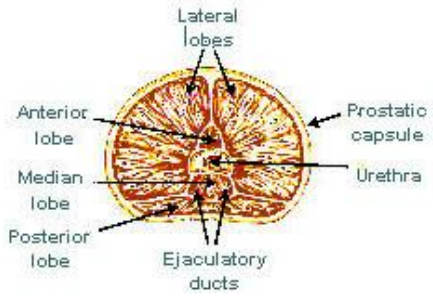
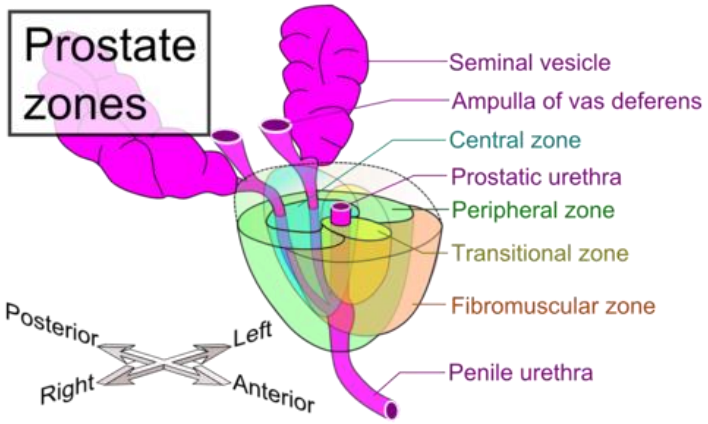
# Anatomy of the Prostate




SEER Training Modules and Wikipedia Prostate

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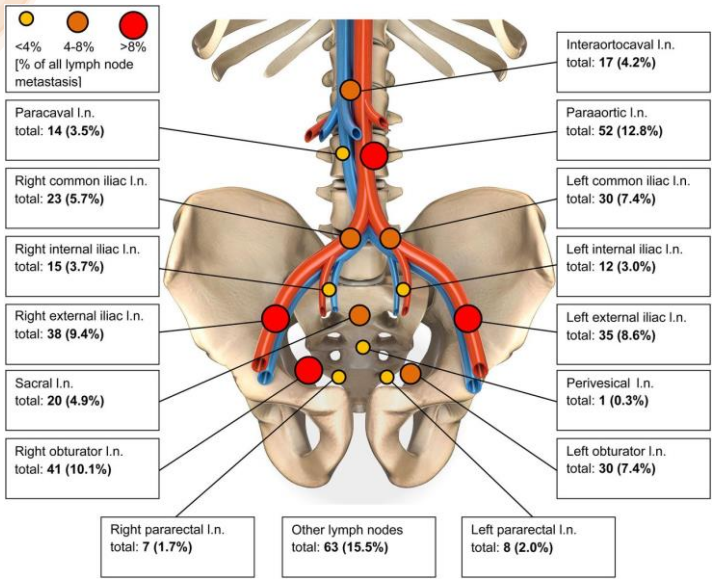
# Lymphatic Drainage - Prostate

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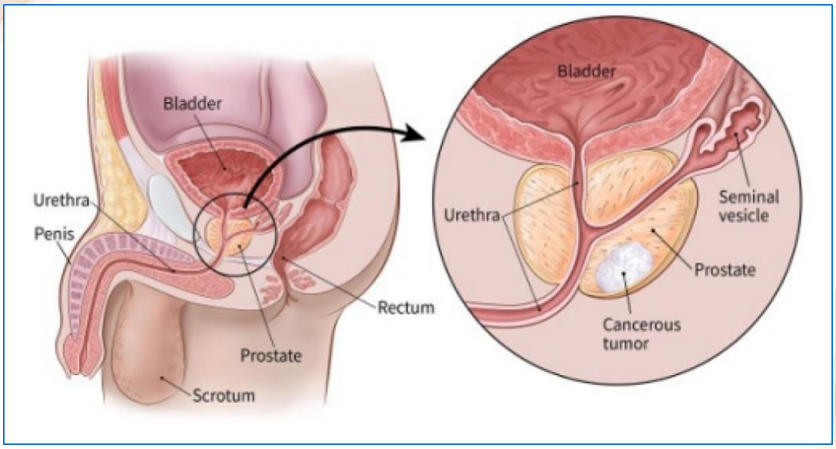
# Regional Anatomy - Prostate

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# Diagnostic Workup – Prostate

- <u>What To Look For & Document When Reviewing Prostate Cancer Cases</u>
  - Age of Patient – Life Expectancy Estimate
  - Cancer Screening History – DRE/PSA History
  - MRI Prostate – PIRADS
  - Suspected Cancer or Incidental Finding with BPH as Primary Diagnosis
  - History & Physical Exam - Digital Rectal Exam, History of PSA Testing (Dates/Values), Exposures
  - Biopsy – FNA, Core Biopsy, Sextant/Extended/Saturation, TRUS, MRI/TRUS, TURP
  - Any Suspected Capsular Invasion or Bone Metastasis
  - Pathology Report(s) – Gleason Pattern & Score
  - CT Abdomen – nodal or other metastasis
  - Risk Stratification References – Mention of Risk Group Used in TX Planning
  - Treatment Preference – Sexual Function Issues
  - Genetic Testing – BRCA1, BRCA2, ATM, PALB2, CHEK2, MLH1, MSH2, MSH6, PMS2, HOXB13

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# Screening Guidelines - Prostate

**US Preventive Services Task Force (USPSTF), the American Cancer Society, the American Academy of Family Physicians (AAFP), and the American College of Chest Physicians.**

**USPSTF Recommend Prostate Cancer Screening**

| Population | Recommendation | Grade |
|---|---|---|
| Men aged 55 to 69 years | For men aged 55 to 69 years, the decision to undergo periodic prostate-specific antigen (PSA)-based screening for prostate cancer should be an individual one. Before deciding whether to be screened, men should have an opportunity to discuss the potential benefits and harms of screening with their clinician and to incorporate their values and preferences in the decision. Screening offers a small potential benefit of reducing the chance of death from prostate cancer in some men. However, many men will experience potential harms of screening, including false-positive results that require additional testing and possible prostate biopsy; overdiagnosis and overtreatment; and treatment complications, such as incontinence and erectile dysfunction. In determining whether this service is appropriate in individual cases, patients and clinicians should consider the balance of benefits and harms on the basis of family history, race/ethnicity, comorbid medical conditions, patient values about the benefits and harms of screening and treatment-specific outcomes, and other health needs. Clinicians should not screen men who do not express a preference for screening. | C |
| Men 70 years and older | The USPSTF recommends against PSA-based screening for prostate cancer in men 70 years and older. | D |

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# Screening Guidelines - Prostate

**US Preventive Services Task Force (USPSTF), the American Cancer Society, the American Academy of Family Physicians (AAFP), and the American College of Chest Physicians.**

**ACS Recommend Prostate Cancer Screening**

The American Cancer Society (ACS) recommends that men have a chance to make an informed decision with their health care provider about whether to be screened for prostate cancer. The decision should be made after getting information about the uncertainties, risks, and potential benefits of prostate cancer screening. **Men should not be screened unless they have received this information.** The discussion about screening should take place at:

- **Age 50 for men who are at average risk** of prostate cancer and are expected to live at least 10 more years.
- **Age 45 for men at high risk** of developing prostate cancer. This includes African Americans and men who have a first-degree relative (father or brother) diagnosed with prostate cancer at an early age (younger than age 65).
- **Age 40 for men at even higher risk** (those with more than one first-degree relative who had prostate cancer at an early age).

After this discussion, men who want to be screened should get the prostate-specific antigen (PSA) blood test. The digital rectal exam (DRE) may also be done as a part of screening. (See Screening Tests for Prostate Cancer.)

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# Incidental Finding versus Diagnostic/Staging Procedure

An Incidental Finding of Prostate Cancer is an 'unexpected' finding during a TURP procedure to treat BPH. The patient is being seen for BPH not Prostate Cancer – There is no suspicion the patient even has prostate cancer. His PSA is normal, the DRE is normal, and there is nothing on prostate ultrasound to indicate tumor.

Before the PSA test – many patients with BPH acquired a diagnosis of prostate cancer when they had their TURP to treat BPH – incidental finding of cancer. Today because of PSA test – we see few incidental cancers

If a man has a TURP to treat his BPH without any suspicion of prostate cancer – but, a prostate cancer is found – this is an incidental finding of prostate cancer – the TURP was not intended to confirm a diagnosis of cancer.

A Diagnostic/Staging TURP is performed following some indication/suspicion that the patient has cancer; an elevated PSA, an abnormal DRE, and/or a prostate ultrasound shows what is suspected to be a cancer.

If a man has a TURP with suspicion of prostate cancer – the TURP is diagnostic and is intended to gather information to confirm the presence of cancer and characterize the cancer – Confirmation of Cancer, Gleason Pattern and Score, Assess Tumor Volume. It is confusing that TURP is coded as 'treatment' for prostate cancer

Most of the TURP procedures we see are classified as 'treatment' though they are not curative in nature

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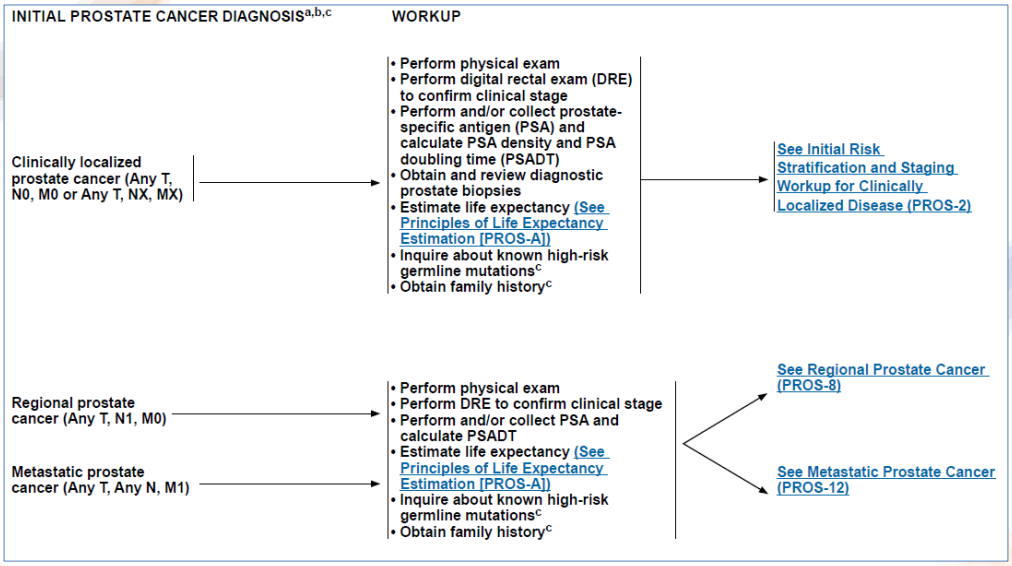
# Diagnostic Workup and Lab Tests

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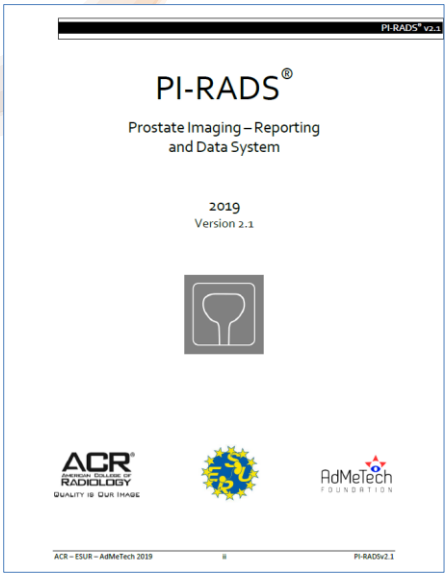
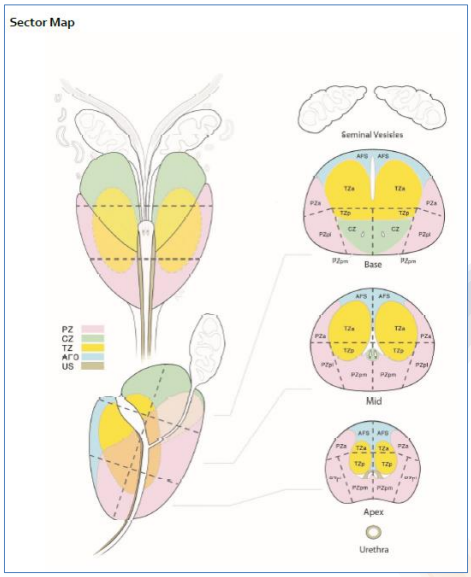
# Diagnostic Workup and Lab Tests - PIRADS v2-1

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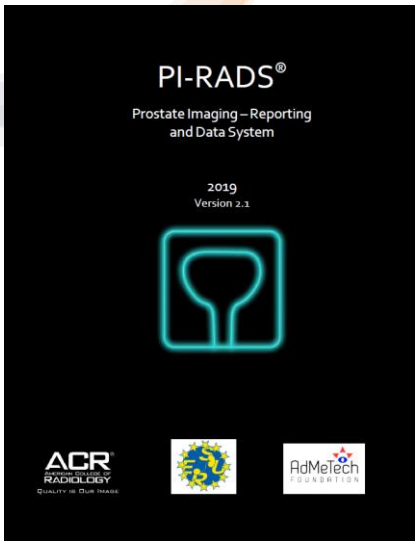
# Diagnostic Workup and Lab Tests - PIRADS v2-1




PI-RADS™ v2.1 assessment uses a 5-point scale based on the likelihood (probability) that a combination of mpMRI findings on T2W, DWI, and DCE correlates with the presence of a clinically significant cancer for each lesion in the prostate gland.

PI-RADS™ v2.1 Assessment Categories

PIRADS 1 – Very low (clinically significant cancer is highly unlikely to be present)

PIRADS 2 – Low (clinically significant cancer is unlikely to be present)

PIRADS 3 – Intermediate (the presence of clinically significant cancer is equivocal)

PIRADS 4 – High (clinically significant cancer is likely to be present)

PIRADS 5 – Very high (clinically significant cancer is highly likely to be present)

**Appendix E1 - 2021 SEER Program Coding and Staging Manual**
Prostate cancer cases with an PI-RADS category 4 or 5 Report based on the American College of Radiology Prostate Imaging Reporting and Data System (PI-RADS) definitions are reportable as malignant cancers.

NOTE: PI-RADS categories 4 (high-clinically significant cancer is likely to be present) and 5 (very high-clinically significant cancer is highly likely to be present) are reportable, unless there is information to the contrary.

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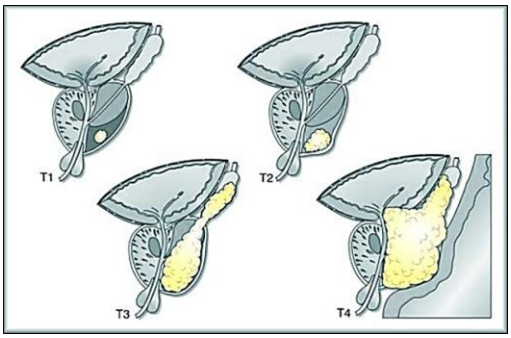
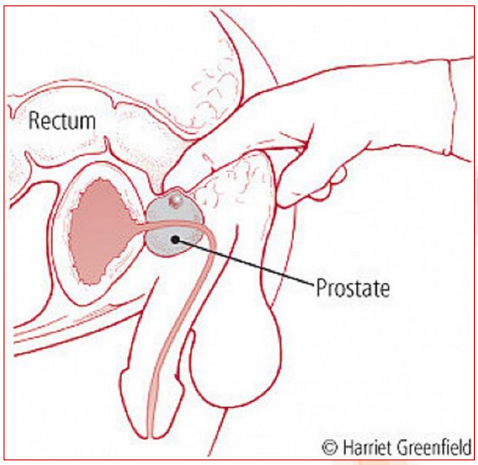
# Diagnostic Workup and Lab Tests – DRE

DRE – Digital Rectal Exam
It is ALWAYS done!!

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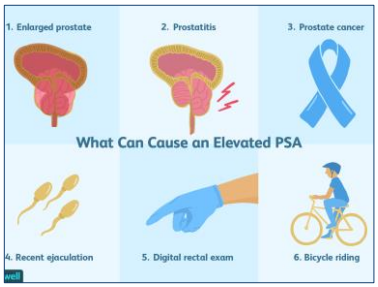
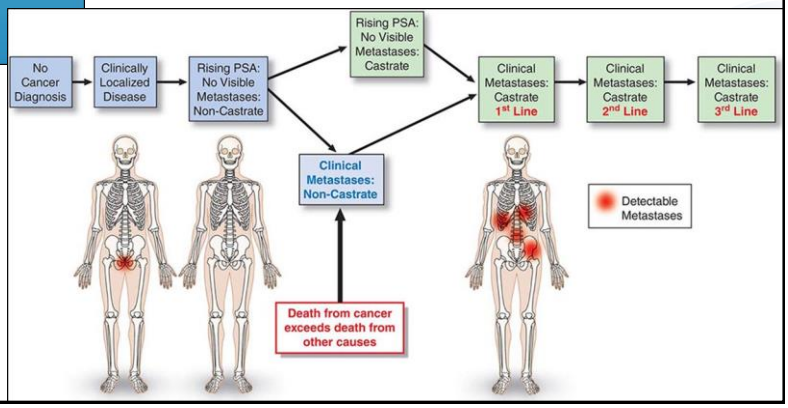
# Diagnostic Workup and Lab Tests – PSA

- Rapid change in PSA over 1 year[1]
  - 0.75 ng/mL/year when PSA is 4-10 ng/mL
- High PSA value for age[1,2]
  - 4.0 ng/mL was originally used to differentiate normal PSA level from pathologic elevation
- Age-specific references have been used to improve sensitivity

| Parameter[3] | Age Group | | | |
|---|---|---|---|---|
| | 40-49 | 50-59 | 60-69 | 70-79 |
| Serum PSA Concentration (ng/mL) | 0-2.5 | 0-3.5 | 0-4.5 | 0-6.5 |

PSA – It is ALWAYS done!!

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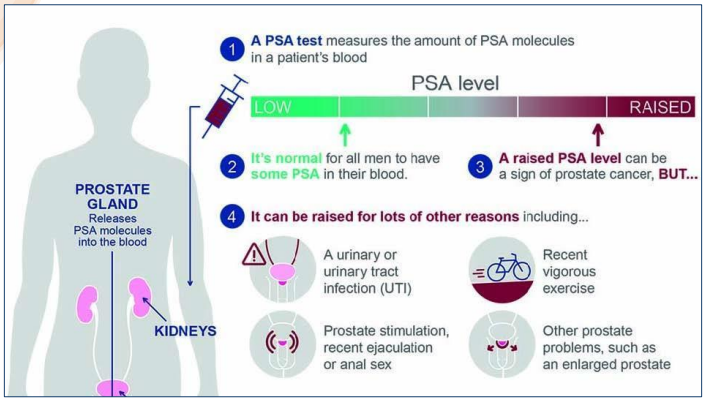
# Diagnostic Workup and Lab Tests – PSA




**Most men *without* prostate cancer have PSA levels under 4 ng/mL of blood.**
A PSA below 4 is not a guarantee that a man doesn't have cancer.
About 15% of men with a PSA below 4 will have prostate cancer if a biopsy is done.

**Men with a PSA between 4 and 10 (borderline) have about a 1 in 4 chance of having prostate cancer.**

**If the PSA is more than 10, the chance of having prostate cancer is over 50%.**

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# Diagnostic Workup and Lab Tests – NEW Tests

## New Screening and Evaluation Tests & Markers

- The **Prostate Health Index (PHI)**, which combines the results of total PSA, free PSA, and proPSA to help determine how likely it is that a man has prostate cancer that might need treatment
- The **4Kscore test**, which combines the results of total PSA, free PSA, intact PSA, and human kallikrein 2 (hK2), along with some other factors, to help determine how likely a man is to have prostate cancer that might need treatment
- Tests (such as **Progensa**) that look at the level of **prostate cancer antigen 3 (PCA3)** in the urine after a digital rectal exam (DRE). The DRE pushes some of the prostate cells into the urine. The higher the level, the more likely that prostate cancer is present.
- Tests that look for an abnormal gene change called ***TMPRSS2:ERG*** in prostate cells in urine collected after a DRE. This gene change is found in some prostate cancers, but it is rarely found in the cells of men without prostate cancer.
- **ExoDx Prostate (IntelliScore)**, or **EPI**, a test that looks at levels of 3 biomarkers in a urine sample to help determine a man's risk of having aggressive (high-grade) prostate cancer.
- **ConfirmMDx**, which is a test that looks at certain genes in the cells from a prostate biopsy sample.

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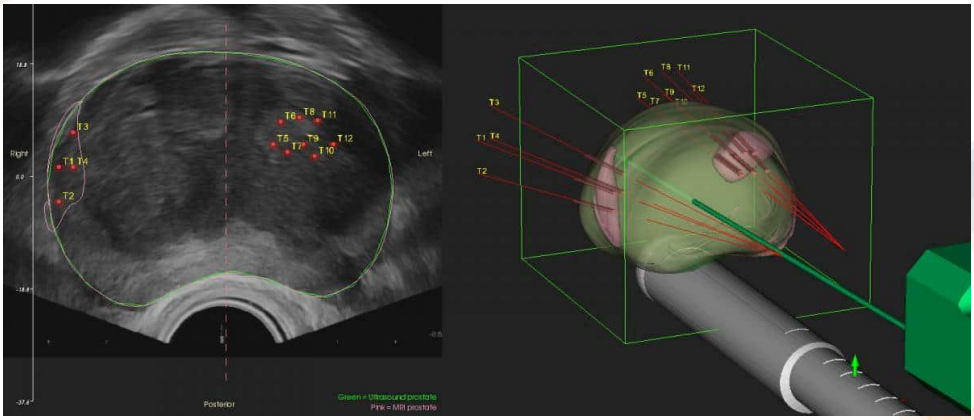
# Diagnostic Workup and Lab Tests – Imaging

- TRUS – Trans Rectal Ultrasound Guided Biopsy – black and white standard ultrasound image
- Color Doppler Ultrasound – color images examines blood vessels, normal tissue, solid tumor
- MRI/TRUS Fusion-Guided Biopsy – combines MRI & TRUS in color images to target the biopsy

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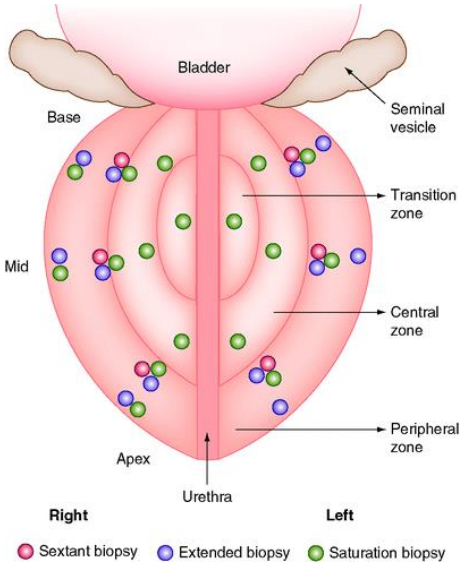
# Diagnostic Workup and Lab Tests – Needle Biopsy

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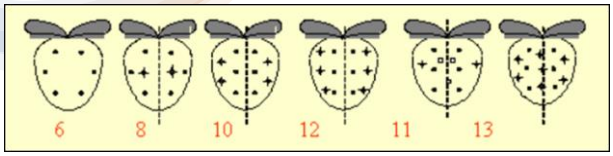
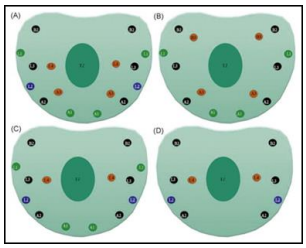
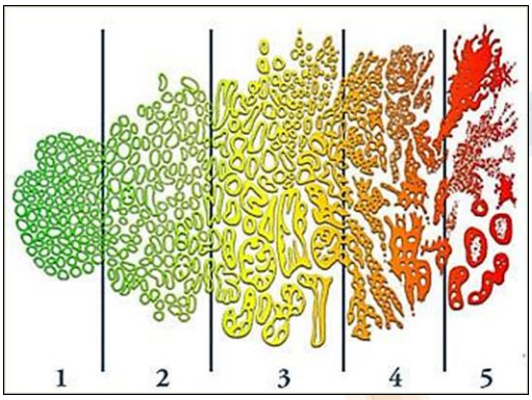
# Diagnostic Workup and Lab Tests – FNA/Gleason



Gleason
Pattern & Score
It ALWAYS Done

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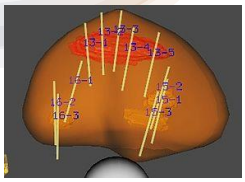
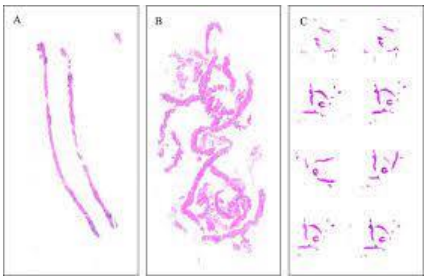
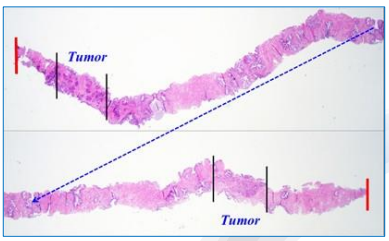
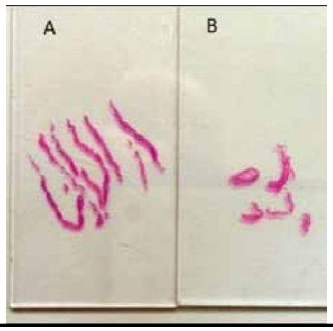
# Diagnostic Workup and Lab Tests – Tumor Volume

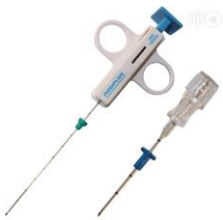
Number of Cores Positive/Examined





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# Diagnostic Workup and Lab Tests – Risk Group

## Gleason Pattern/Score & Risk Group

| Gleason Score | Grade Group | Characteristics |
|---|---|---|
| 6 | Grade Group 1 | • Less aggressive<br>• Very slow growing<br>• Low risk |
| 3 + 4 = 7 | Grade Group 2 | • Slightly aggressive<br>• Slow growing<br>• Low to Intermediate risk |
| 4 + 3 = 7 | Grade Group 3 | • Moderately aggressive<br>• Fast growing<br>• Intermediate to High risk |
| 8 | Grade Group 4 | • Aggressive<br>• Rapidly growing<br>• High risk |
| 9-10 | Grade Group 5 | • Highly aggressive<br>• Rapidly growing<br>• High risk |

| Risk Group* | Grade Group | Gleason Score |
|---|---|---|
| Low/Very Low | Grade Group 1 | Gleason Score ≤ 6 |
| Intermediate (Favorable/Unfavorable) | Grade Group 2 | Gleason Score 7 (3 + 4) |
| | Grade Group 3 | Gleason Score 7 (4 + 3) |
| High/Very High | Grade Group 4 | Gleason Score 8 |
| | Grade Group 5 | Gleason Score 9-10 |

**Table 1: Risk of PSA Relapse 5 Years Following Radical Prostatectomy, Based on Various Biopsy Gleason Scores.**

| | | |
|---|---|---|
| Group 1 | Gleason Score 6 | 5% |
| Group 2 | Gleason Score 3+4=7 | 17% |
| Group 3 | Gleason Score 4+3=7 | 35% |
| Group 4 | Gleason Score 4+4=8 | 37% |
| Group 5 | Gleason Score 9-10 | 76% |

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# Diagnostic Workup and Lab Tests – Risk Group

## Risk Stratification & Treatment Planning

PRINCIPLES OF RISK STRATIFICATION

Table 1. Initial Risk Stratification for Clinically Localized Disease

| Category | Tool | Predictive | Prognostic | Endpoint Trained For |
|---|---|---|---|---|
| Clinical | NCCN | No | Yes | BCR* |
| | STAR-CAP[1] | No | Yes | PCSM |
| | CAPRA[3] | No | Yes | BCR |
| | MSKCC[4] | No | Yes | BCR and PCSM |
| Imaging | MRI | No | Yes | - |
| | PET | No | Yes | - |
| Gene Expression Testing | Decipher | No | Yes | Metastasis |
| | Prolaris | No | Yes | Time to BCR and time to death from prostate cancer |
| | Oncotype DX Prostate | No | Yes | Adverse pathology |
| Germline Testing | BRCA2 | No | Yes | - |

*Very-low, low, favorable-intermediate, unfavorable-intermediate, high, very-high, and regional prostate cancer.

Table 2. Tumor-Based Molecular Assays Can be Considered in Patients with Life Expectancy ≥10y as follows:

| | Very low risk | Low risk | Favorable intermediate risk | Unfavorable intermediate risk | High risk | Very high risk |
|---|---|---|---|---|---|---|
| Decipher | No | Yes | Yes | Yes | Yes | No |
| Prolaris | No | Yes | Yes | Yes | Yes | No |
| Oncotype DX Prostate | No | Yes | Yes | No | No | No |

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# Diagnostic Workup and Lab Tests – Risk Group

## Risk Stratification & Treatment Planning

INITIAL RISK STRATIFICATION AND STAGING WORKUP FOR CLINICALLY LOCALIZED DISEASE[d]

| Risk Group | Clinical/Pathologic Features (See Staging (ST-1)) | | | Additional Evaluation[g,h] | Initial Therapy |
|---|---|---|---|---|---|
| Very low[e] | Has all of the following:<br>• cT1c<br>• Grade Group 1<br>• PSA <10 ng/mL<br>• Fewer than 3 prostate biopsy fragments/cores positive, ≤50% cancer in each fragment/core[f]<br>• PSA density <0.15 ng/mL/g | | | • Consider confirmatory prostate biopsy ± mpMRI if not performed prior to biopsy to establish candidacy for active surveillance | See PROS-3 |
| Low[e] | Has all of the following but does not qualify for very low risk:<br>• cT1–cT2a<br>• Grade Group 1<br>• PSA <10 ng/mL | | | • Consider confirmatory prostate biopsy ± mpMRI if not performed prior to biopsy to establish candidacy for active surveillance | See PROS-4 |
| Intermediate[e] | Has all of the following:<br>• No high-risk group features<br>• No very-high-risk group features<br>• Has one or more intermediate risk factors (IRFs):<br>▸ cT2b–cT2c<br>▸ Grade Group 2 or 3<br>▸ PSA 10–20 ng/mL | Favorable intermediate | Has all of the following:<br>• 1 IRF<br>• Grade Group 1 or 2<br>• <50% biopsy cores positive (eg, <6 of 12 cores)[f] | • Consider confirmatory prostate biopsy ± mpMRI if not performed prior to biopsy for those considering active surveillance | See PROS-5 |
| | | Unfavorable intermediate | Has one or more of the following:<br>• 2 or 3 IRFs<br>• Grade Group 3<br>• ≥ 50% biopsy cores positive (eg, ≥ 6 of 12 cores)[f] | Bone and soft tissue imaging[i,j]<br>• If regional or distant metastases are found, see PROS-8 or PROS-12 | See PROS-6 |
| High | Has no very-high-risk features and has exactly one high-risk feature:<br>• cT3a OR<br>• Grade Group 4 or Grade Group 5 OR<br>• PSA >20 ng/mL | | | Bone and soft tissue imaging[i,j]<br>• If regional or distant metastases are found, see PROS-8 or PROS-12 | See PROS-7 |
| Very high | Has at least one of the following:<br>• cT3b–cT4<br>• Primary Gleason pattern 5<br>• 2 or 3 high-risk features<br>• >4 cores with Grade Group 4 or 5 | | | Bone and soft tissue imaging[i,j]<br>• If regional or distant metastases are found, see PROS-8 or PROS-12 | See PROS-7 |

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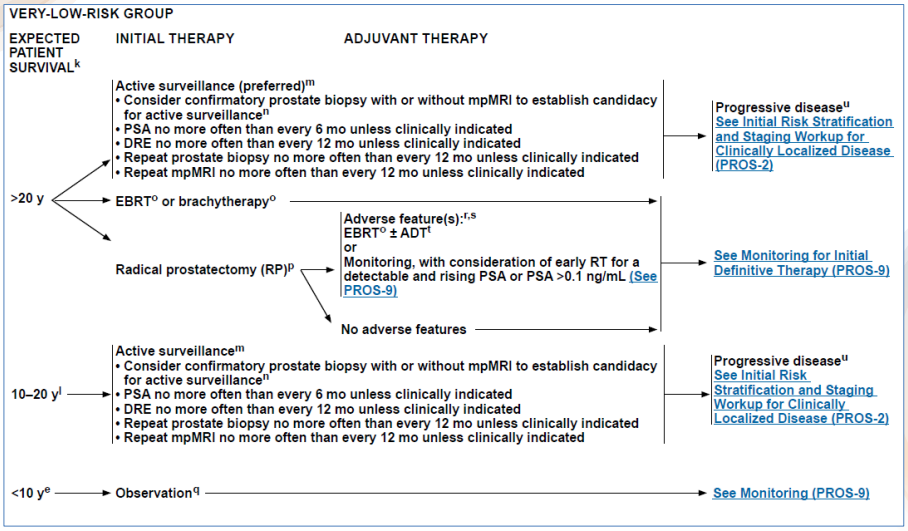
# Diagnostic Workup and Lab Tests – Risk Group

## Risk Stratification & Treatment Planning

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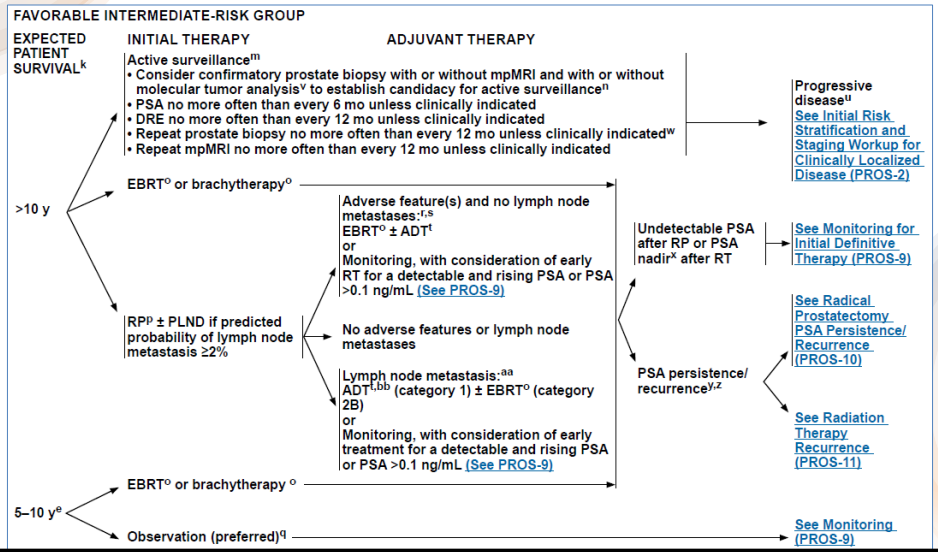
# Diagnostic Workup and Lab Tests – Risk Group

## Risk Stratification & Treatment Planning

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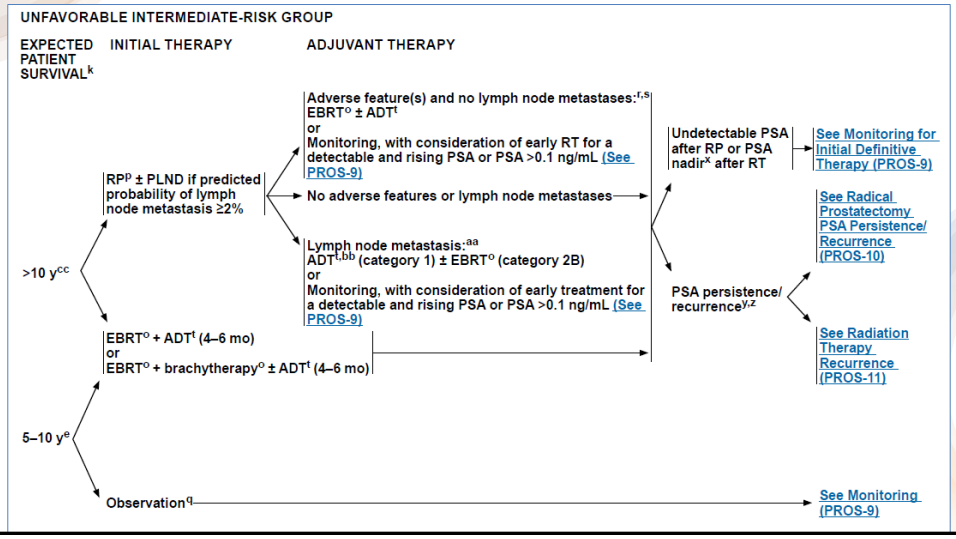
# Diagnostic Workup and Lab Tests – Risk Group

## Risk Stratification & Treatment Planning

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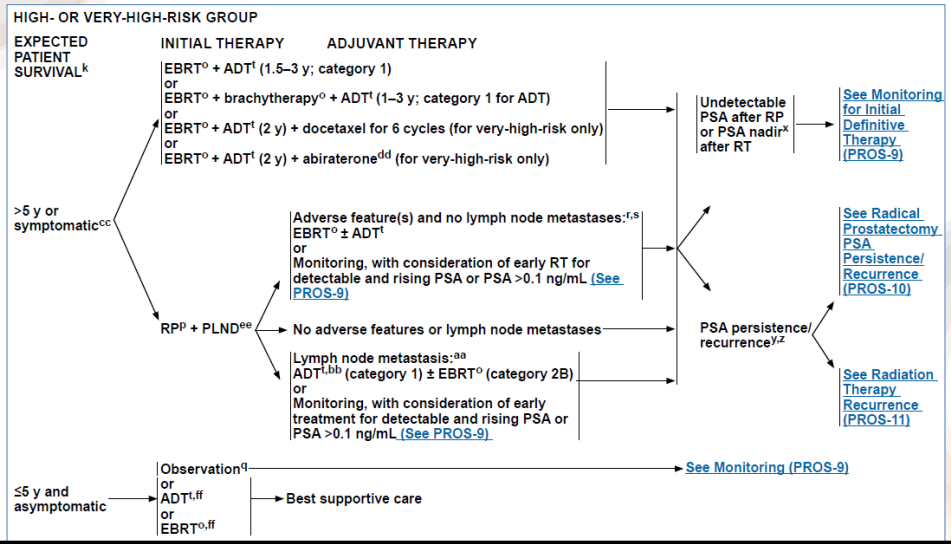
# Diagnostic Workup and Lab Tests – Risk Group

## Risk Stratification & Treatment Planning

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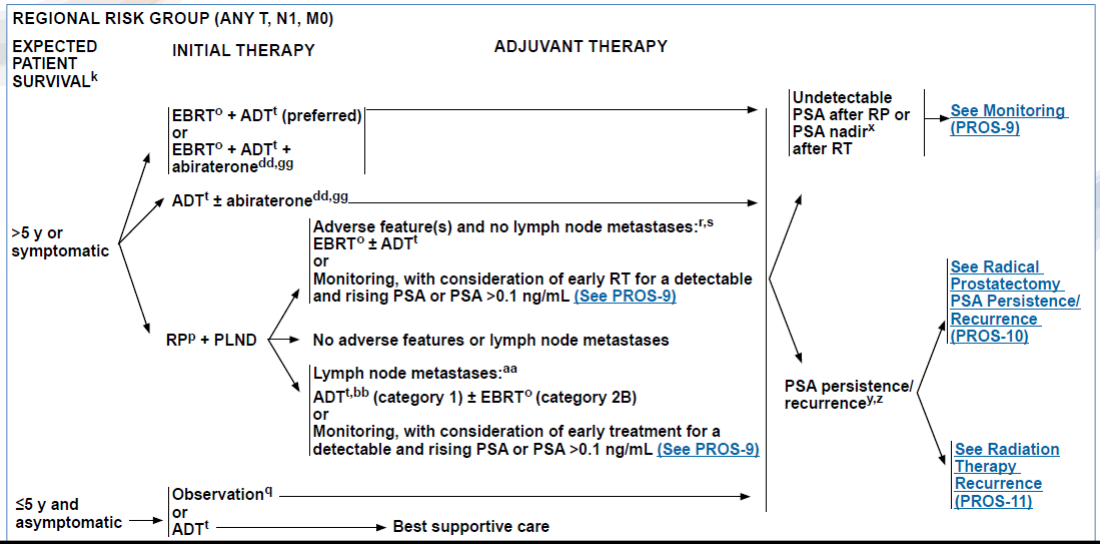
# Diagnostic Workup and Lab Tests – Risk Group

## Risk Stratification & Treatment Planning

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# Histologic Tumor Classification

## Prostate

- Almost all prostate (gland) cancers are adenocarcinomas (cancers that develop from glandular cells).
- The glandular cells may be described as 'ductal' or 'glandular' or 'acinar' – all are glandular cancers.
  - Acinar Adenocarcinoma accounts for about 90% of all adenocarcinomas of the prostate.
  - Ductal Adenocarcinoma accounts for about 10% of all adenocarcinomas of the prostate.
  - Both Acinar and Ductal Adenocarcinoma are coded 'Adenocarcinoma, NOS – 8140/3'
- Non-invasive prostate cancers (PIN III, DCIS, and adenocarcinoma in-situ) are 'not reportable' cancers.

- Other types of prostate cancer are rare. Tumors of other types must be 100% the 'other' type.
- If a pathology report reads 'adenocarcinoma with *xyz* features' – code 8140/3 (adenocarcinoma)

- Other types of prostate include:
  - Small cell carcinoma
  - Neuroendocrine tumors (other than small cell carcinomas)
  - Transitional cell carcinoma (usually of the prostatic urethra)
  - Sarcoma

- Autopsy Studies have shown that most older men who died of a cause other than prostate cancer actually have some evidence of prostate cancer when they died. These are "incidental finding of cancer at time of autopsy". We used to see these a lot more before annual PSA screening began in the mid-1990s.

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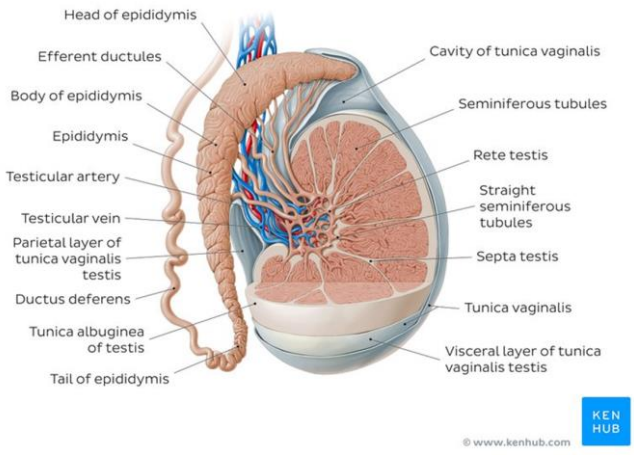
# Screening Guidelines, Diagnostic Workup, and Lab Tests

## Testis

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# Diagnostic Workup

- What To Look For & Document When Reviewing Testicular Cancer Cases
  - Patient Age
  - Testicular Self Examination
  - Physical Exam – Size of Tumor
  - Testicular Ultrasound to Assess Primary Tumor
  - Lab Tests/Tumor Markers – AFP, Beta hCG, LDH
  - PET/CT – retroperitoneal, pelvic, abdominal, other nodes
  - Tumor Burden/Tumor Volume
  - Pathology Report(s) – Resection of Primary and Nodal Status
  - Pathology Report(s) – Tumor Classification (Seminoma/Non-Seminoma/Germ Cell Subtypes)
  - Genetic Abnormalities – PLAP, NANOG, SOX2, REX1

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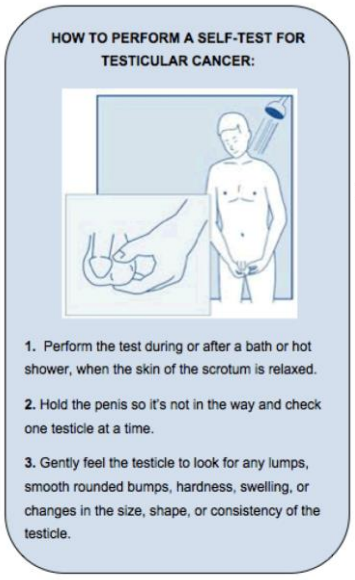
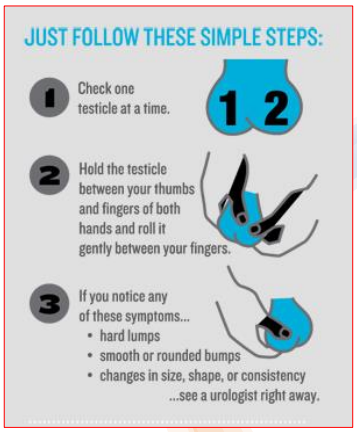
# Monthly Testicular Self-Examination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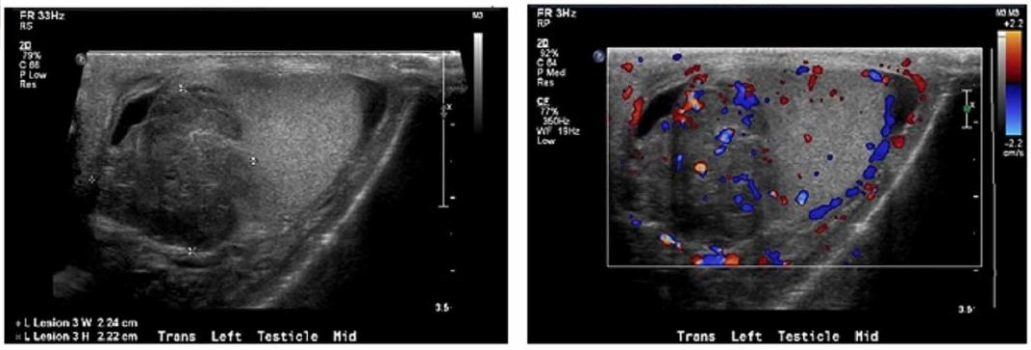
# Diagnostic Workup – Testicular Ultrasound

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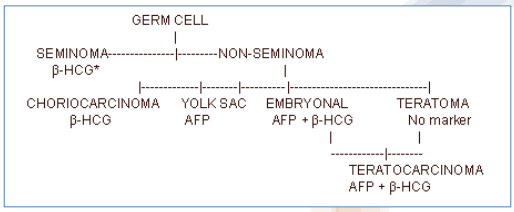
# Lab Tests – Tumor Markers - Genetics

- **Tumor Markers – Pre-Orchiectomy Only**
  - **Beta-hCG (HCG) – human chorionic gonadotropin – a serum protein**
  - **AFP – alpha-fetoprotein –a serum protein**
  - **LDH – lactate dehydrogenase – an enzyme – assess tumor burden & metastasis**

- **HCG/AFP/LDH as Markers to Monitor and Evaluate Treatment & Recurrence/Progression**
  - **Seminoma – HCG**
  - **Non-Seminoma - AFP**
  - **Embryonal Carcinoma – HCG and AFP**
  - **Choriocarcinoma – HCG**
  - **Teratoma – neither HCG or AFP**
  - **Yolk Sac Carcinoma/Tumor – AFP**
  - **Miscellaneous Germ Cell Tumors - LDH**




- **Genetic Markers**
  - **PLAP**
  - **NANOG**
  - **SOX2**
  - **REX1**

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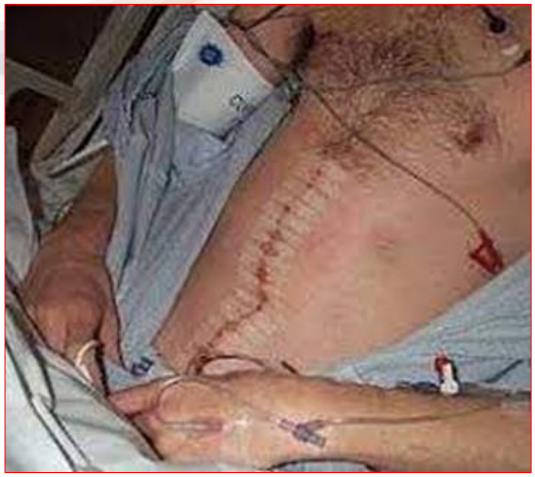
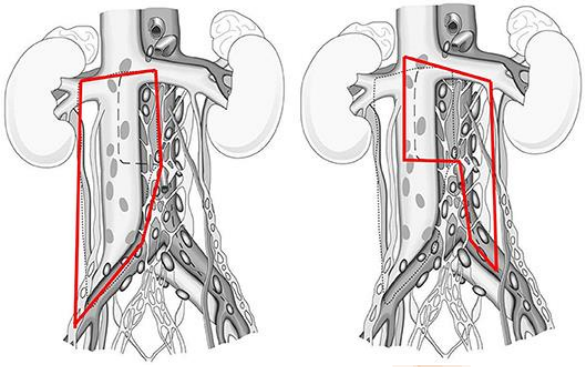
# Diagnostic Workup – Retroperitoneal Nodes





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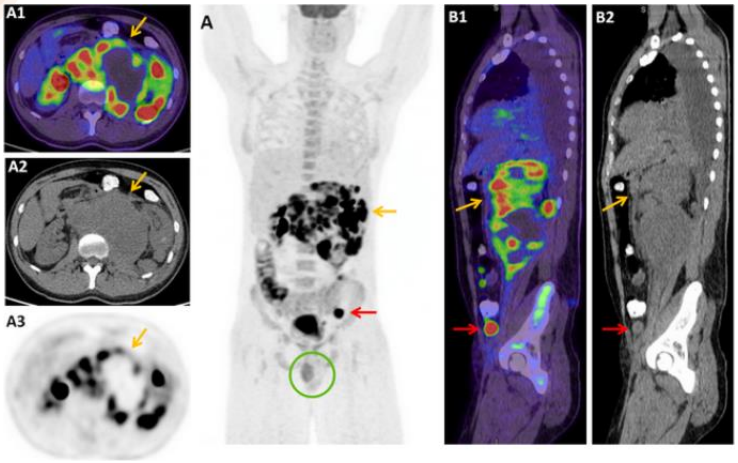
# DX & Staging – Retroperitoneal Nodes
# Risk Stratification by IGCCCG




https://cancerimagingjournal.biomedcentral.com/articles/10.1186/s40644-019-0217-5

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# IGCCG Prognostic Groups for Testicular Cancer

https://eortc.shinyapps.io/IGCCCG-Update/

**Good Prognosis**

***Nonseminoma:***

- Testis/retroperitoneal primary, and
- No nonpulmonary visceral metastases, and
- Good markers–all of:
  - Alpha-fetoprotein (AFP) less than 1,000 ng/mL, and
  - Human chorionic gonadotropin (hCG) less than 5,000 IU/mL (1,000 ng/mL), and
  - Lactate dehydrogenase (LDH) less than 1.5 × the upper limit of normal

56%–61% of nonseminomas
5-year progression-free survival (PFS) is 89%; 5-year survival is 92%–94%.

***Seminoma:***

- Any primary site, and
- No nonpulmonary visceral metastases, and
- Normal AFP, any hCG, any LDH

90% of seminomas
5-year PFS is 82%; 5-year survival is 86%.

**Poor Prognosis**

***Nonseminoma:***

- Mediastinal primary, or
- Nonpulmonary visceral metastases, or
- For markers–any of:
  - AFP more than 10,000 ng/mL, or
  - hCG more than 50,000 IU/mL (10,000 ng/mL), or
  - LDH more than 10 × the upper limit of normal

16%–26% of nonseminomas
5-year PFS is 41%; 5-year survival is 71%.

***Seminoma:***

- No patients are classified as poor prognosis

**Intermediate Prognosis**

***Nonseminoma:***

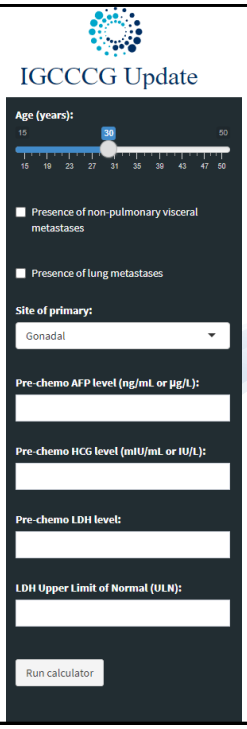
- Testis/retroperitoneal primary, and
- No nonpulmonary visceral metastases, and
- Intermediate markers–any of:
  - AFP 1,000 ng/mL or more and 10,000 ng/mL or less, or
  - hCG 5,000 IU/L or more and 50,000 IU/L or less, or
  - LDH 1.5 or more × N* and less than 10 × N

13%–28% of nonseminomas
5-year PFS is 75%; 5-year survival is 80%–83%.

***Seminoma:***

- Any primary site, and
- Nonpulmonary visceral metastases, and
- Normal AFP, any hCG, any LDH

10% of seminomas
5-year PFS is 67%; 5-year survival is 72%.

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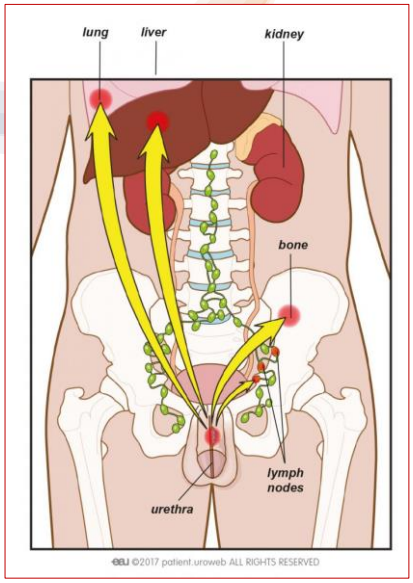
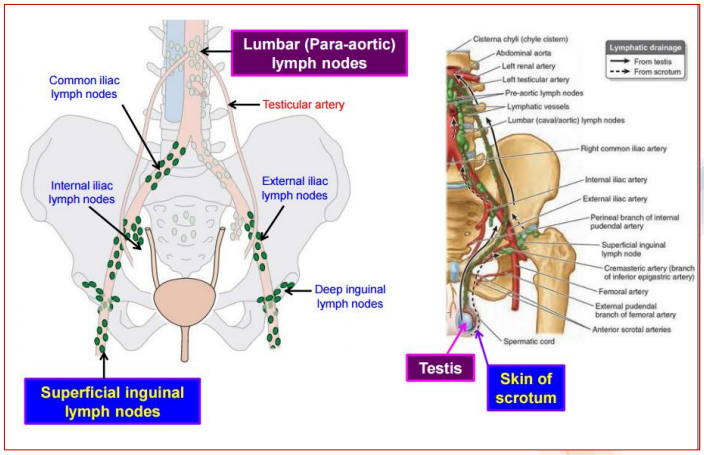
# Diagnostic Workup – Node & Distant Spread

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# Histologic Tumor Classification - Testis

- Germ Cell Tumors – 90%
  - Pure Seminoma (50% of Germ Cell Tumors)
  - Non-Seminoma (more aggressive – many subtypes/often mixed – rarely a 'pure' single subtype)
  - Mixed Germ Cell Tumors (has both seminoma and non-seminoma elements)
- Stromal Tumors – 5%
  - Leydig Cell Tumor & Sertoli Cell Tumor – Sertoli/Leydig Tumor
- Mesothelioma – 1%
- Lymphoma/Leukemia – 4%
- Seminoma
  - Classical Seminoma (85% of seminoma cases in young men – age 25-45)
  - Anaplastic Seminoma (10% of seminoma cases)
  - Spermatocytic Seminoma (5% of seminoma cases in older men – age 65 years)
- Non-Seminoma & Mixed Non-Seminoma Germ Cell Tumors
  - Embryonal Carcinoma – 40% but only 3%-4% are pure embryonal cell carcinoma
  - Yolk Sac Carcinoma/Yolk Sac Tumor/Endodermal Sinus Tumor, Infantile Embryonal Carcinoma – pediatric
  - Choriocarcinoma – rare and more aggressive
  - Teratoma – usually part of a mixed non-seminoma germ cell tumor – chemo & radiation resistant
    - Mature Teratoma
    - Immature Teratoma
    - Teratoma with Somatic Type Malignancy
  - Intratubular Germ Cell Neoplasia – Carcinoma In Situ
- Mixed Germ Cell Tumors – Seminoma and Non-Seminoma

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# 2022 Updates to Manuals

- NAACCR 2022 Implementation Guidelines
- V22 NAACCR Data Standards and Data Dictionary
- NAACCR XML Dictionaries
- NAACCR V22 Edits Metafile (including Changes Spreadsheet)
- SEER Program Coding and Staging Manual (includes Summary of Changes)
- Commission on Cancer STORE Manual
- Site Specific Data Items (SSDI) and Grade Manual v2.1 (includes change log)
- AJCC Cancer Staging System
- SEER RSA (EOD, Summary Stage, SSDI's, Grade) v2.1 (includes summary of changes)
- Summary Stage 2018 (includes revision history)
- Extent of Disease (EOD) 2018 (includes change log)
- Solid Tumor Rules (includes summary and changes)
- ICD O 3.2 (includes new codes, coding guidelines, and changes)
- SEER Site/Histology Validation List
- Hematopoietic Manual and Database (see revision history on the left)

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# 2022 Prostate Solid Tumor Rules

- One Primary per Lifetime – Unless a New Pure Histology is Identified
  - Adenocarcinoma
  - Sarcoma
  - Small Cell Neuroendocrine Carcinoma
- Almost All are Adenocarcinoma
- Any Other Histology Must Be 100% of Tissue – not 'features'

*

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# 2022 Testis Solid Tumor Rules

- Usually Only One Primary per Lifetime – Exception - New Histology
  - Seminoma
  - Non-Seminoma
  - Sertoli/Leydig Cell Tumor
- Recurrence/Progression can be Mixed Germ Cell Tumor
- Predominant or % of primary/lesser components of Mixed Germ Cell Tumors
  - Teratoma
  - Seminoma
  - Yolk Sac Tumor
  - Embryonal Carcinoma
  - Choriocarcinoma

*

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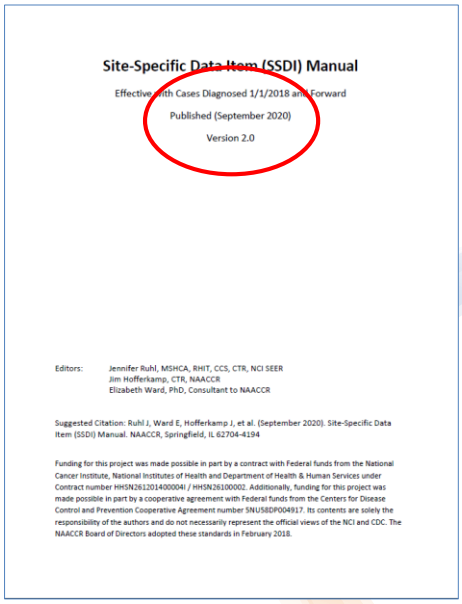
# Site-Specific Data Items - Prostate

- Prostate
  - PSA Lab Value – pre-diagnosis/pre-biopsy
  - Gleason Patterns and Score
    - Gleason Patterns Clinical – biopsy/TURP
    - Gleason Score Clinical – biopsy/TURP
    - Gleason Patterns Pathological – radical prostatectomy
    - Gleason Score Pathological – radical prostatectomy
    - Gleason Tertiary Pattern – radical prostatectomy
  - Number of Cores Positive
  - Number of Cores Examined



Site-Specific Data Item (SSDI) Manual

Effective with Cases Diagnosed 1/1/2018 and Forward

Published (September 2020)

Version 2.0

Editors: Jennifer Ruhl, MSHCA, RHIT, CCS, CTR, NCI SEER
Jim Hofferkamp, CTR, NAACCR
Elizabeth Ward, PhD, Consultant to NAACCR

Suggested Citation: Ruhl J, Ward E, Hofferkamp J, et al. (September 2020). Site-Specific Data Item (SSDI) Manual. NAACCR, Springfield, IL 62704-4194

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# Site-Specific Data Items - Testis

- Testis - Clinical
  - AFP Pre-Orchiectomy Lab Value
  - AFP Pre-Orchiectomy Range
  - hCG Pre-Orchiectomy Lab Value
  - hCG Pre-Orchiectomy Range
  - LDH Pre-Orchiectomy Range
  - S Category Clinical
- Testis – Pathological
  - AFP Post-Orchiectomy Lab Value
  - AFP Post-Orchiectomy Range
  - hCG Post-Orchiectomy Lab Value
  - hCG Post-Orchiectomy Range
  - S Category Pathological

**S Category – combines results of AFP, hCG and LDH Into a Summary Value S1, S2, S3, SX**

| Code | Description |
|---|---|
| 0 | S0: Marker study levels within normal levels |
| 1 | S1: At least one of these values is elevated AND<br>LDH less than 1.5 x N* AND<br>hCG (mIU/L) less than 5,000 AND<br>AFP (ng/mL) less than 1,000 |
| 2 | S2<br>LDH 1.5 x N* to 10 x N* OR<br>hCG (mIU/L) 5,000 to 50,000 OR<br>AFP (ng/mL) 1,000 to 10,000 |
| 3 | S3: Only one elevated test is needed<br>LDH greater than 10 x N* OR<br>hcG (mIU/mL) greater than 50,000 OR<br>AFP (ng/mL) greater than 10,000 |
| 5 | Post-orchiectomy serum tumor markers unknown or not done but pre-orchiectomy serum tumor markers were normal |
| 9 | SX: Not documented in medical record<br>S Category Pathological not assessed or unknown if assessed |

*N indicates the upper limit of normal for the LDH assay.

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# 2022 Stage Prostate & Testicular Cancer – Summary Stage

**STAGE AT DIAGNOSIS – NOT STAGE AFTER TREATMENT – NEOADJUVANT OR ANY OTHER**

- There are three components to AJCC Cancer Stage and to assign Summary Stage 2018:
  - *Where and how big the original mass or primary tumor is = T*
  - *Which nodes the cancer has spread to including how many positive = N*
  - *Whether the cancer has spread to 1 or more distant site(s) = M*

- The T, N, and M information is joined to assign a Summary Stage and an AJCC "Stage Group" (now called **Anatomic Stage/Prognostic Group** with addition of genetic and bio-molecular tumor markers and other prognostic factors in the AJCC 8th edition)

  - **All cancers must be assigned a Summary Stage – SS2018**
  - **All cancers are assigned clinical stage – verify histology inclusion for TNM Chapter**
  - **Surgically resected cancers are assigned pathological stage – verify histology inclusion list**
  - **Patients completing pre-surgical chemo, radiation, or other therapy are assigned post-treatment stage**

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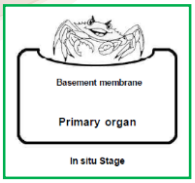
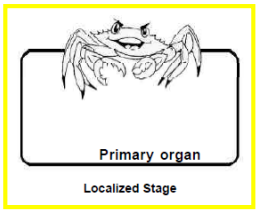
# 2021 Staging for Prostate Cancer – Summary Stage

**STAGE AT DIAGNOSIS – NOT STAGE AFTER TREATMENT – NEOADJUVANT OR ANY OTHER**




**NOT REPORTABLE – PIN III, CIS**

**0 In situ, intraepithelial, noninvasive**

**1 Localized only (localized, NOS)**

- Clinically apparent or inapparent tumor
- Confined to prostate, NOS
- Intracapsular involvement only
- Invasion into (but not beyond) prostatic capsule
- No extracapsular extension
- One or more lobes involved

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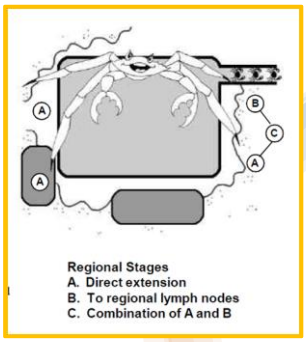
# 2021 Staging for Prostate Cancer – Summary Stage

**STAGE AT DIAGNOSIS – NOT STAGE AFTER TREATMENT – NEOADJUVANT OR ANY OTHER**

**2 Regional by direct extension only**

- Bladder neck
- Bladder, NOS
- External sphincter
- Extraprostatic/extracapsular extension (beyond prostate capsule), unilateral, bilateral, NOS
- Extraprostatic urethra (membranous urethra)
- Fixation, NOS
- Levator muscles
- Periprostatic tissue
- Rectovesical (Denonvillier's) fascia
- Rectum
- Seminal vesicles
- Skeletal muscle
- Through capsule, NOS
- Ureter(s)

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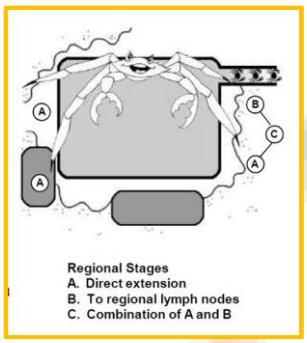
# 2021 Staging for Prostate Cancer – Summary Stage

**STAGE AT DIAGNOSIS – NOT STAGE AFTER TREATMENT – NEOADJUVANT OR ANY OTHER**

**3 Regional lymph node(s) involved only**

- Hypogastric
- Iliac, NOS
  - External
  - Internal (hypogastric) (obturator), NOS
- Pelvic, NOS
- Periprostatic
- Sacral, NOS
  - Lateral (laterosacral)
  - Middle (promontory) (Gerota's node)
  - Presacral
- Regional lymph node(s), NOS
  - Lymph node(s), NOS

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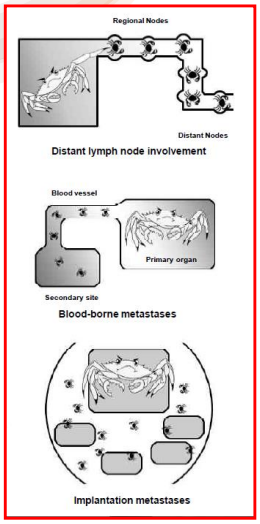
# 2022 Staging for Prostate Cancer – Summary Stage

**STAGE AT DIAGNOSIS – NOT STAGE AFTER TREATMENT – NEOADJUVANT OR ANY OTHER**




**7 Distant site(s)/lymph node(s) involved**

- Distant site(s) (including further contiguous extension)
  - Bone
  - Extension to or fixation to pelvic wall or pelvic bone
  - "Frozen pelvis", NOS
  - Other organs
  - Penis
  - Sigmoid colon
  - Soft tissue other than periprostatic
- Distant lymph node(s), NOS
  - Aortic (lateral [lumbar], para-aortic, periaortic, NOS)
  - Cervical
  - Common iliac
  - Inguinal (deep, NOS)
    - Node of Cloquet or Rosenmuller (highest deep inguinal)
    - Superficial (femoral)
  - Retroperitoneal, NOS
  - Scalene (inferior deep cervical)
  - Supraclavicular (transverse cervical)
- Distant metastasis, NOS
  - Carcinomatosis
  - Distant metastasis WITH or WITHOUT distant lymph node(s)

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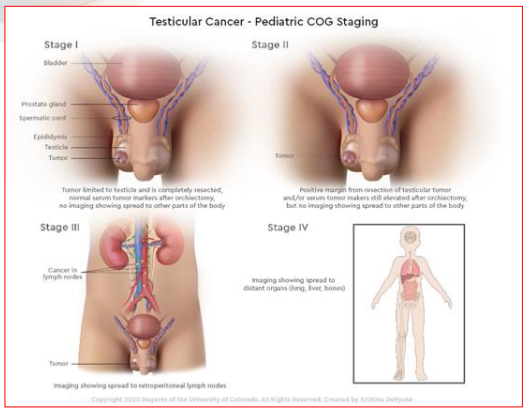
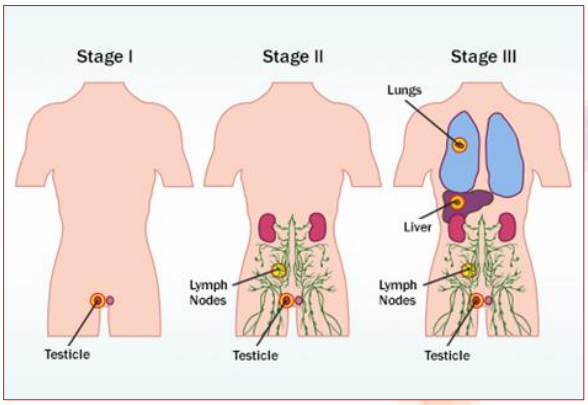
# 2022 Staging for Testicular Cancer – Summary Stage

**STAGE AT DIAGNOSIS – NOT STAGE AFTER TREATMENT – NEOADJUVANT OR ANY OTHER**

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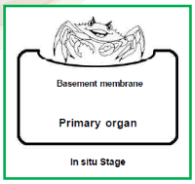
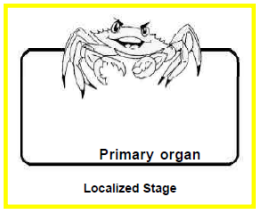
# 2021 Staging for Testicular Cancer – Summary Stage

**STAGE AT DIAGNOSIS – NOT STAGE AFTER TREATMENT – NEOADJUVANT OR ANY OTHER**




**0 In situ, intraepithelial, noninvasive**

- Germ cell neoplasia in situ
- Intratubular germ cell neoplasia




**1 Localized only (localized, NOS)**

- WITHOUT lymphovascular invasion or UNKNOWN if lymphovascular invasion
  - Body of testis
  - Rete testis
  - Surface implants (surface of tunica vaginalis)
  - Tunica albuginea
  - Tunica vaginalis involved
  - Tunica, NOS

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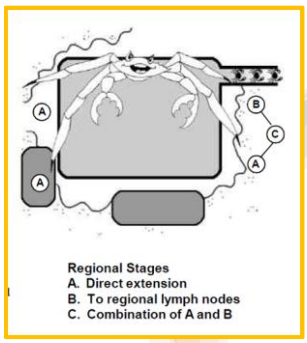
# 2021 Staging for Testicular Cancer – Summary Stage

**STAGE AT DIAGNOSIS – NOT STAGE AFTER TREATMENT – NEOADJUVANT OR ANY OTHER**

**2 Regional by direct extension only**

- WITH lymphovascular invasion
  - Tumor limited to testis (including rete testis invasion)
- Any of the following sites WITH or WITHOUT lymphovascular invasion
  - Dartos muscle, ipsilateral
  - Epididymis
  - Hilar soft tissue
  - Mediastinum (of testis)
  - Scrotum, ipsilateral
  - Spermatic cord, ipsilateral
  - Vas deferens
  - Visceral mesothelial layer

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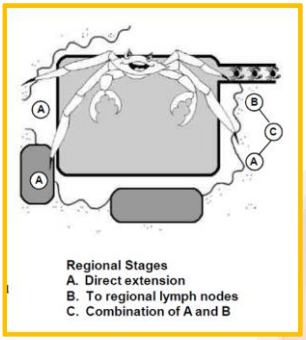
# 2021 Staging for Testicular Cancer – Summary Stage

**STAGE AT DIAGNOSIS – NOT STAGE AFTER TREATMENT – NEOADJUVANT OR ANY OTHER**

**3 Regional lymph node(s) involved only**

- Lymph nodes WITH or WITHOUT previous scrotal or inguinal surgery
  - Aortic, NOS
    - Lateral (lumbar)
    - Para-aortic
    - Periaortic
    - Preaortic
    - Retroaortic
  - Pericaval, NOS
    - Interaortocaval
    - Paracaval
    - Precaval
    - Retrocaval
  - Retroperitoneal, NOS
  - Spermatic vein
  - Regional lymph node(s), NOS
    - Lymph node(s), NOS
- Lymph nodes WITH previous scrotal or inguinal surgery
  - External iliac
  - Inguinal node(s), NOS
    - Deep, NOS
    - Node of Cloquet or Rosenmuller (highest deep inguinal)
    - Superficial (femoral)
  - Pelvic, NOS




Regional Stages
A. Direct extension
B. To regional lymph nodes
C. Combination of A and B

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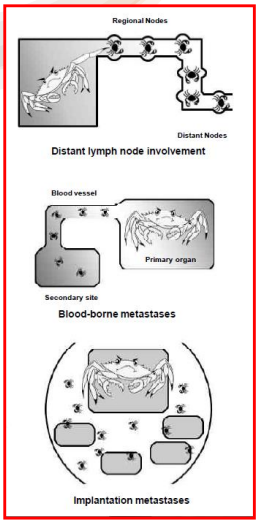
# 2022 Staging for Testicular Cancer – Summary Stage

**STAGE AT DIAGNOSIS – NOT STAGE AFTER TREATMENT – NEOADJUVANT OR ANY OTHER**




**7 Distant site(s)/lymph node(s) involved**

- Distant site(s) (including further contiguous extension)
  - Adrenal (suprarenal gland)
  - Kidney
  - Penis
  - Retroperitoneum
  - Scrotum, contralateral
  - Testis, bilateral
  - Ulceration of scrotum
- Distant lymph node(s), NOS
  - Deep, NOS
  - Node of Cloquet or Rosenmuller (highest deep inguinal)
  - Superficial (femoral)
    - Pelvic, NOS
  - Lymph nodes WITHOUT previous scrotal or inguinal surgery or UNKNOWN if previous scrotal or inguinal surgery
    - External iliac
    - Inguinal nodes, NOS
- Distant metastasis, NOS
  - Carcinomatosis
  - Distant metastasis WITH or WITHOUT distant lymph node(s)

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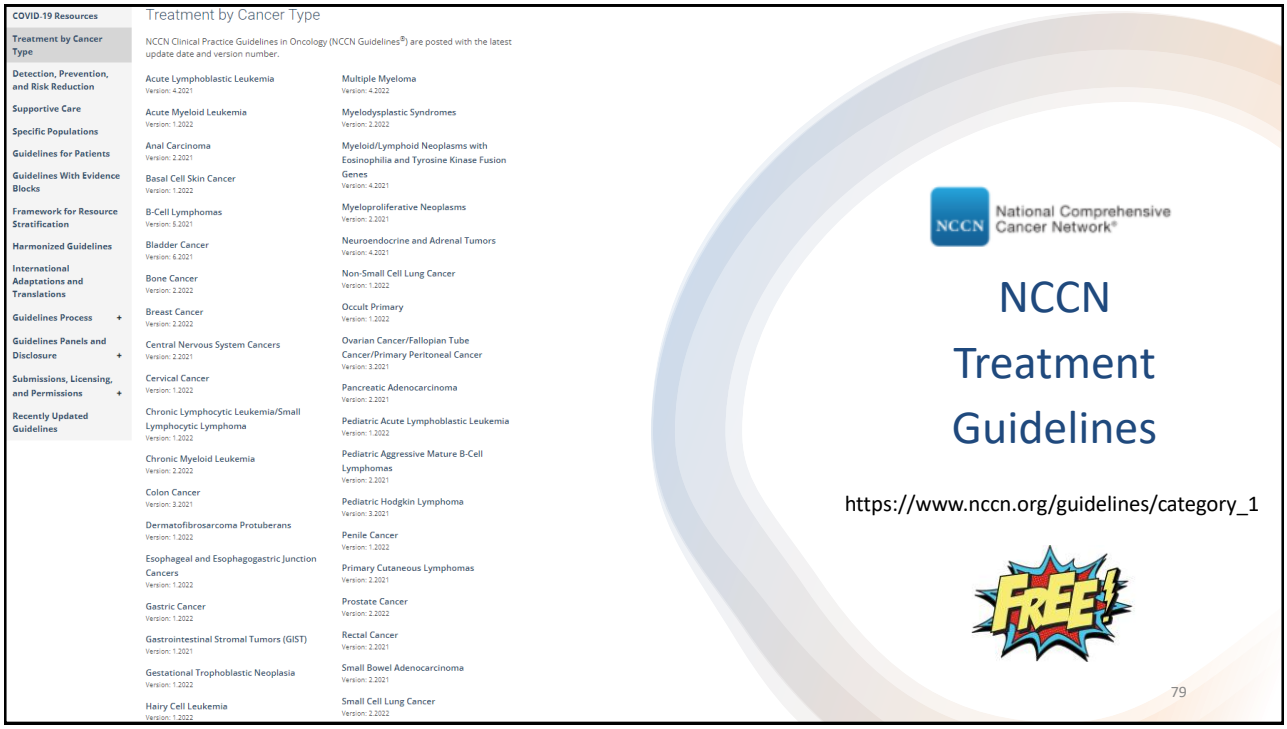
COVID-19 Resources
Treatment by Cancer Type
Detection, Prevention, and Risk Reduction
Supportive Care
Specific Populations
Guidelines for Patients
Guidelines With Evidence Blocks
Framework for Resource Stratification
Harmonized Guidelines
International Adaptations and Translations
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Guidelines Panels and Disclosure +
Submissions, Licensing, and Permissions +
Recently Updated Guidelines
Treatment by Cancer Type
NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®) are posted with the latest update date and version number.
Acute Lymphoblastic Leukemia Version: 4.2021
Acute Myeloid Leukemia Version: 1.2022
Anal Carcinoma Version: 2.2021
Basal Cell Skin Cancer Version: 1.2022
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Bladder Cancer Version: 6.2021
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Occult Primary Version: 1.2022
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Rectal Cancer Version: 2.2021
Small Bowel Adenocarcinoma Version: 2.2021
Small Cell Lung Cancer Version: 2.2022
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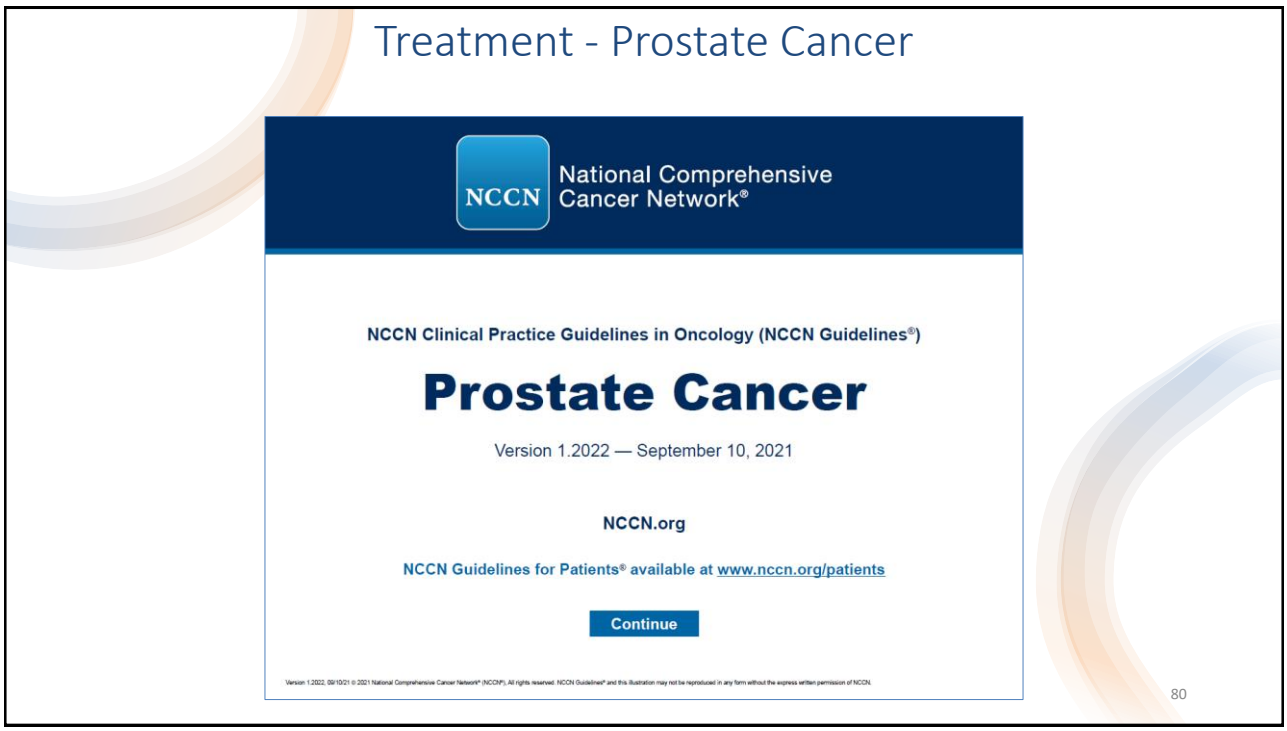
Treatment - Prostate Cancer
NCCN National Comprehensive Cancer Network®
NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®)
Prostate Cancer
Version 1.2022 — September 10, 2021
NCCN.org
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# Treatment - Prostate Cancer

- Vaccine Therapy for Prevention
- First Course of Therapy versus Subsequent Therapy
- Watchful Waiting – Active Surveillance
- High Intensity Focused Ultrasound (HIFU) – ultrasound ablation – early stage
- Surgery – radical prostatectomy with/out lymphadenectomy
- Hormone Therapy (ADT – Androgen Deprivation Therapy)
  - 5-alpha reductase inhibitors – supplement active surveillance or PSA rise
    - Finasteride (Proscar)
    - Dutasteride (Avodart)
  - Abiraterone (Zytiga)
  - Enzalutamide (Xtandi)
- Radiation Therapy
  - Brachytherapy
  - Conformal Radiation Therapy
  - Intensity Modulated Radiation Therapy
  - HYPORT Radiation Therapy
  - Proton Beam Radiation
- Neoadjuvant ADT/XRT or ADT/Surgery
- Chemotherapy – docetaxel and cabazitaxel – advanced disease
- Immune Checkpoint Inhibitors combined with Vaccine Therapy
- RFA (Radiofrequency ablation) to help control pain from bone mets

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# Treatment - Prostate Cancer

## Watchful Waiting – Active Surveillance

**PRINCIPLES OF ACTIVE SURVEILLANCE AND OBSERVATION**

- The NCCN Prostate Cancer Panel and the NCCN Prostate Cancer Early Detection Panel (See NCCN Guidelines for Prostate Cancer Early Detection) remain concerned about overdiagnosis and overtreatment of prostate cancer. The panel recommends that patients and their physicians (ie, urologist, radiation oncologist, medical oncologist, primary care physician) consider active surveillance based on careful consideration of the patient's prostate cancer risk profile, age, and health.
- The NCCN Guidelines for Prostate Cancer distinguish between active surveillance and observation. Both involve no more often than every-6-month monitoring but active surveillance may involve surveillance prostate biopsies. Evidence of progression will prompt conversion to potentially curative treatment in active surveillance patients, whereas monitoring continues until symptoms develop or are imminent (ie, PSA >100 ng/mL or change in exam) in observation patients, who will then begin palliative ADT.
- Active surveillance is preferred for patients with very-low-risk prostate cancer and life expectancy ≥20 years. Observation is preferred for patients with low-risk prostate cancer with life expectancy <10 years. See Risk Group Criteria (PROS-2).
- Patients with favorable intermediate-risk prostate cancer (See Risk Group Criteria [PROS-2]) may be considered for active surveillance. See Discussion.
- Active surveillance involves actively monitoring the course of disease with the expectation to intervene with curative intent if the cancer progresses.
- Cancer progression (risk group reclassification) may have occurred if:
  - Higher grade cancer is found upon repeat prostate biopsy.
  - Prostate cancer is found in a greater number of prostate biopsies or occupies a greater extent of prostate biopsy.
- Patients who choose active surveillance should have regular follow-up. Follow-up should be more rigorous in younger patients than in older patients. Follow-up should include:
  - Consider confirmatory prostate biopsy with or without mpMRI and with or without molecular tumor analysis to establish candidacy for active surveillance. Molecular tumor analysis also can be used to confirm candidacy in patients with low and favorable intermediate-risk prostate cancer.
  - Assess PSA no more often than every 6 months unless clinically indicated.
  - Perform DRE no more often than every 12 months unless clinically indicated.
  - Repeat prostate biopsy no more often than every 12 months unless clinically indicated.
  - Repeat mpMRI no more often than every 12 months unless clinically indicated.
  - Needle biopsy of the prostate should be repeated within 6 months of diagnosis if initial biopsy was <10 cores or assessment discordant (eg, palpable tumor contralateral to side of positive biopsy).
  - MRI-US fusion biopsy may improve the detection of higher grade (Grade Group ≥2) cancers.
  - A repeat prostate biopsy should be considered if there are prostate exam changes, MRI suggests more aggressive disease, or PSA increases, but no parameter is very reliable for detecting prostate cancer progression.
  - A repeat prostate biopsy is not generally recommended more often than annually to assess for disease progression unless clinically indicated.
  - Repeat prostate biopsies are not indicated when life expectancy is less than 10 years or appropriate when patients are on observation.
  - PSADT appears unreliable for identification of progressive disease that remains curable.

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# Treatment - Prostate Cancer

## Biochemical Progression/Biochemical Recurrence

- First Course Therapy/Subsequent Therapy – Which is it after 'Watch & Wait'?
- Very few references to increasing PSA as 'progression' after 'Watch & Wait'
- Biochemical Failure is defined as an increase in prostate-specific antigen (PSA) following primary treatment for prostate cancer. The impact of BCR on subsequent mortality is uncertain, however, especially given competing causes of death.
- Biochemical progression-free survival events were defined as PSA of ≥ 0.4 ng/mL following postoperative radiotherapy, PSA > 2.0 ng/mL at any time, clinical progression, initiation of non-protocol hormone therapy, and death from any cause.
- Biochemical Recurrence is defined as a rise in PSA to 0.2 ng/mL and a confirmatory value of 0.2 ng/mL or greater following radical prostatectomy, or a rise of 2 ng/mL or more above the nadir PSA after radiation therapy.

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# Treatment - Prostate Cancer

## Use of Androgen Deprivation Therapies
## And the Controversy Over 'Neoadjuvant' ADT/XRT & ADT/Surgery

Who Drives the Treatment Narrative – Cancer Registry Instructions, Physicians Treating the Patient or the Latest Research?

Many Urologists/Surgeons/Radiation Oncologists now tell us that ADT is 'neoadjuvant' starting at 2-6 months prior to definitive radical prostatectomy and/or radiation therapy (especially short-term/high-dose radiation)…
… and that the ADT/XRT or ADT/Surg (radical prostatectomy) is First Course Therapy after Active Surveillance.

- CAnswer Forum (4/21/21 @ 8:14am answer) has 'no' as answer to treating the ADT as neoadjuvant therapy
- SEER agrees ADT is not neoadjuvant and has instructions about progression with change in test results (rising PSA) – end of first course treatment after Active Surveillance
- NOBODY knows for sure how registrars should document & code these – especially when physicians disagree with cancer registry rules that disagree with their intent of treatment
- FCDS Recommendations:
  - Review Initial Treatment Plan when Available
  - Code the Active Surveillance is the First Course TX – even when ADT/XRT or ADT/Surg is planned following increase PSA/Gleason/Cores+
  - Risk Stratification MUST be discussed to Clarify TX Decision Tree – see today's webcast notes
  - If treatment does not start within 12 months after decision for 'active surveillance' – then ADT/XRT or ADT/Surg should not be included as first course.
  - Rising PSA is a 'chemical progression' – marks the end of first course TX - BUT, can the registrar call it 'progression' without a physician statement? YES – see criteria
  - Most agree that Active Surveillance ends at time of elevated PSA and was reason they started ADT. Do we include other factors/markers as 'progression'? YES – see criteria
  - ADT/XRT and ADT/Surg are not yet recognized as 'neoadjuvant therapy' in cancer registry – inconsistently – and duration is a factor
  - ADT/XRT and ADT/Surg – ADT can still be given with intent as 'neoadjuvant' therapy (duration?) – but the ADT/XRT or ADT/Surg is 'subsequent therapy' after Active Surveillance
  - Many Urologists/Surgeons/Radiation Onc want/expect that ADT/XRT or ADT/SURG be counted as the First Course Tx – not the period of Active Surveillance
  - Many physicians also want the ADT to be counted as 'neoadjuvant' because this is the intent – shrink tumor, lower PSA, lower Gleason Score
  - However, standards generally state that Neoadjuvant ADT is 'strongly discouraged' outside a clinical trial – recognizing that physicians are already doing this as standard therapy
  - Hard to explain registry coding rules to the MDs – who recognize other 'standards of care' and 'research' on this topic
  - We all need more clear guidelines as to what we should do in this situation – similar to many other 'neoadjuvant' situations for other cancers.

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# Types of Surgery for Prostate Cancer

Surgery is a common choice to try to cure prostate cancer if it is not thought to have spread outside the prostate gland.

The main type of surgery for prostate cancer is a radical prostatectomy. The procedure includes removal of the entire prostate gland plus some of the tissue around it, including the seminal vesicles. The surgeon may also include a pelvic lymph node dissection or pelvic node sampling to assess these nodes surgically – if they are questionably involved.

**Types of Radical Prostatectomy Include:**

- **Radical retropubic prostatectomy**
- **Radical perineal prostatectomy**
- **Laparoscopic radical prostatectomy**
- **Robotic-assisted laparoscopic radical prostatectomy**

**TURP is NOT A RADICAL PROSTATECTOMY** - You cannot assign Pathological Grade or Pathological Stage.

**Suprapubic prostatectomy is NOT A RADICAL PROSTATECTOMY** – No Path Stage/Grade

**Simple Prostatectomy is NOT A RADICAL PROSTATECTOMY** – No Path Stage/Grade

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# Types of Radiation Therapy for Prostate Cancer

**PRINCIPLES OF RADIATION THERAPY**

Table 1: Below are examples of regimens that have shown acceptable efficacy and toxicity. The optimal regimen for an individual patient warrants evaluation of comorbid conditions, voiding symptoms and toxicity of therapy. Additional fractionation schemes may be used as long as sound oncologic principles and appropriate estimate of BED are considered.
See PROS-3, PROS-4, PROS-5, PROS-6, PROS-7, PROS-8, PROS-12, and PROS-H for other recommendations, including recommendations for neoadjuvant/concomitant/adjuvant ADT.

| Regimen | Preferred Dose/Fractionation | NCCN Risk Group (✓ indicates an appropriate regimen option if radiation therapy is given) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Very Low and Low | Favorable Intermediate | Unfavorable Intermediate | High and Very High | Regional N1 | Low Volume M1[a] |
| **EBRT** | | | | | | | |
| Moderate Hypofractionation (Preferred) | 3 Gy x 20 fx<br>2.7 Gy x 26 fx<br>2.5 Gy x 28 fx | ✓ | ✓ | ✓ | ✓ | ✓ | |
| | 2.75 Gy x 20 fx | | | | | | ✓ |
| Conventional Fractionation | 1.8–2 Gy x 37–45 fx | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Ultra-Hypofractionation | 7.25–8 Gy x 5 fx<br>6.1 Gy x 7 fx | ✓ | ✓ | ✓ | ✓ | | |
| | 6 Gy x 6 fx | | | | | | ✓ |
| **Brachytherapy Monotherapy** | | | | | | | |
| LDR<br>Iodine 125<br>Palladium 103<br>Cesium 131 | 145 Gy<br>125 Gy<br>115 Gy | ✓ | ✓ | | | | |
| HDR<br>Iridium-192 | 13.5 Gy x 2 implants<br>9.5 Gy BID x 2 implants | ✓ | ✓ | | | | |
| **EBRT and Brachytherapy (combined with 45–50.4 Gy x 25–28 fx or 37.5 Gy x 15 fx)** | | | | | | | |
| LDR<br>Iodine 125<br>Palladium 103<br>Cesium 131 | 110–115 Gy<br>90–100 Gy<br>85 Gy | | | ✓ | ✓ | | |
| HDR<br>Iridium-192 | 15 Gy x 1 fx<br>10.75 Gy x 2 fx | | | ✓ | ✓ | | |

[a] High-volume disease is differentiated from low-volume disease by visceral metastases and/or 4 or more bone metastases, with at least one metastasis beyond the pelvis vertebral column. Patients with low-volume disease have less certain benefit from early treatment with docetaxel combined with ADT.

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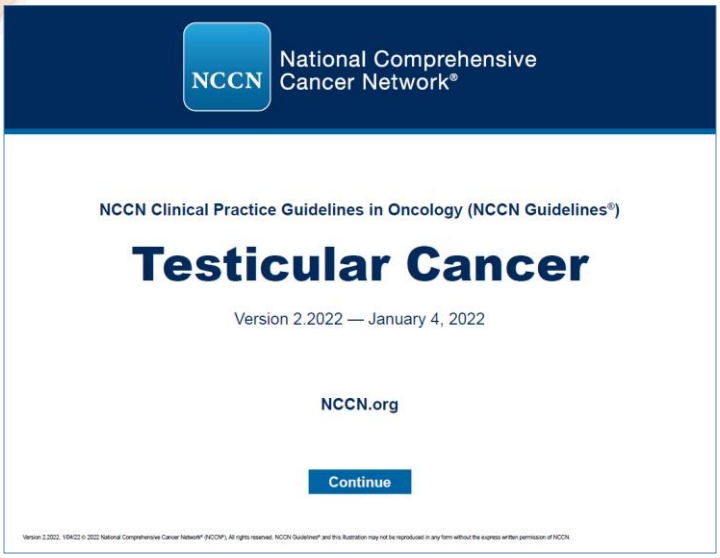
# Treatment - Testicular Cancer

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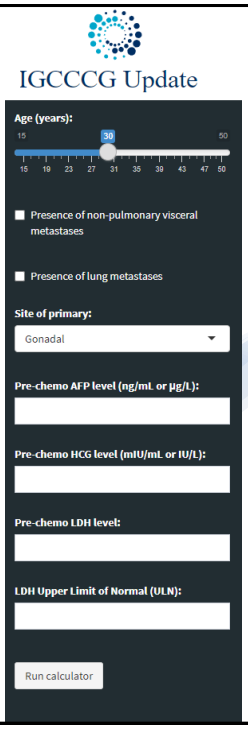
# Risk Stratification & Treatment - Testis

- ALL CANCERS SHOULD RECEIVE Radical Inguinal Orchiectomy (may include prosthesis)
- TX Depends on Histology – Pure Seminoma or Non-Seminoma or Mixed Germ Cell
- TX Depends on Stage of Disease – Local/Regional/Distant or AJCC TNM Stage Group

- Post-Orchiectomy - Stage 0, IS, IA, IB Seminoma – confined to testis
  - Active Surveillance (pT1-pT3)
  - Single Agent Carboplatin
  - XRT (20 Gy or 25.5 Gy)
- Post-Orchiectomy - Stage 0, IS, IA, IB Germ Cell Tumor – confined to testis
  - Active Surveillance
  - Nerve-Sparing RPLND (retroperitoneal lymph node dissection)
  - Primary Chemotherapy with BEP (Bleomycin, Etoposide, Cisplatin)
- Post-Orchiectomy Metastatic Germ Cell Tumor – ANY Stage II (A,B,C) or III (A,B,C)
  - Conventional Dose Chemotherapy – TIP or VeIP
  - High-Dose Chemotherapy – Carboplatin/Etoposide (plus Paclitaxel/Ifosfamide)
  - RESTAGE after Chemotherapy for Residual Disease
  - Post-Chemo RPLND when residual retroperitoneal mass after chemo + markers
  - Third-Line Chemotherapy for Metastatic Disease

https://eortc.shinyapps.io/IGCCCG-Update/

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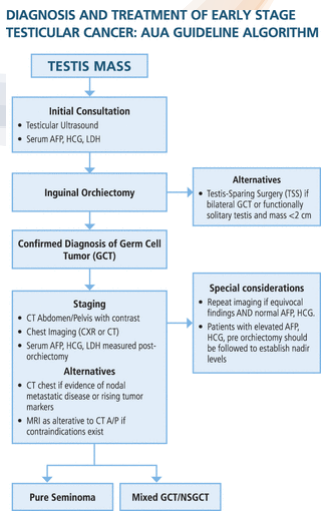
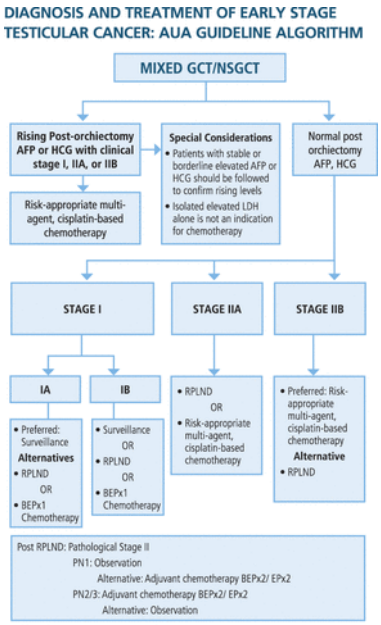
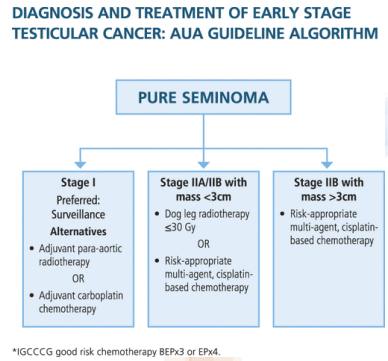
# AUA Treatment Guidelines - Testicular Cancer

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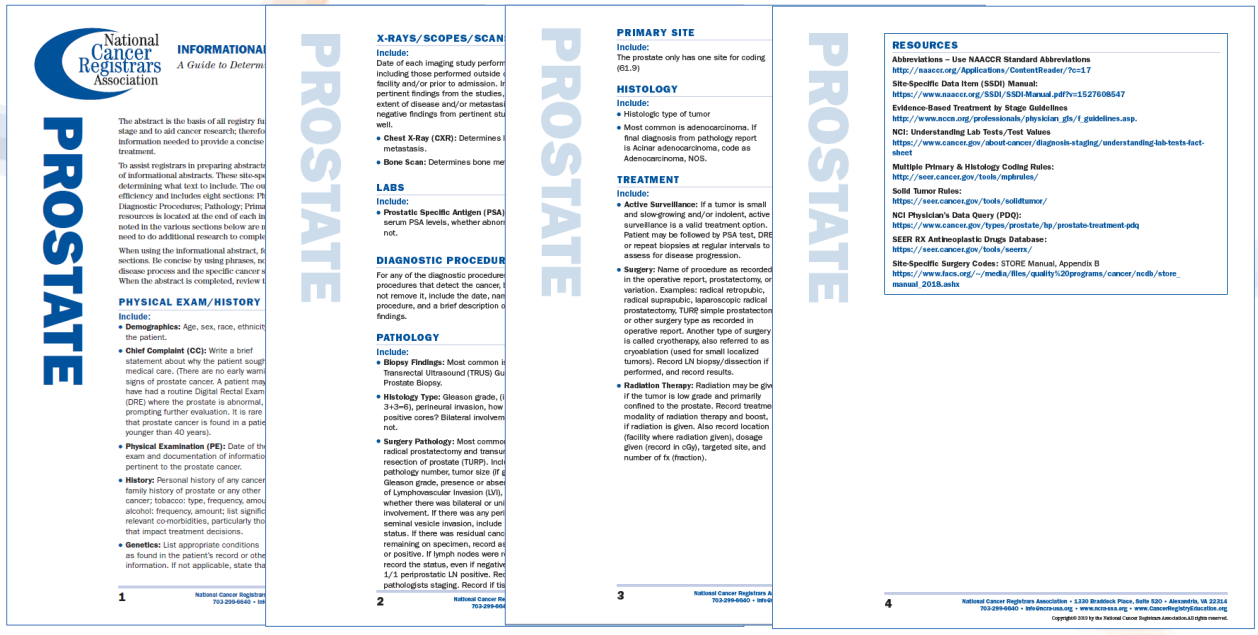
# TEXT DOCUMENTATION - PROSTATE

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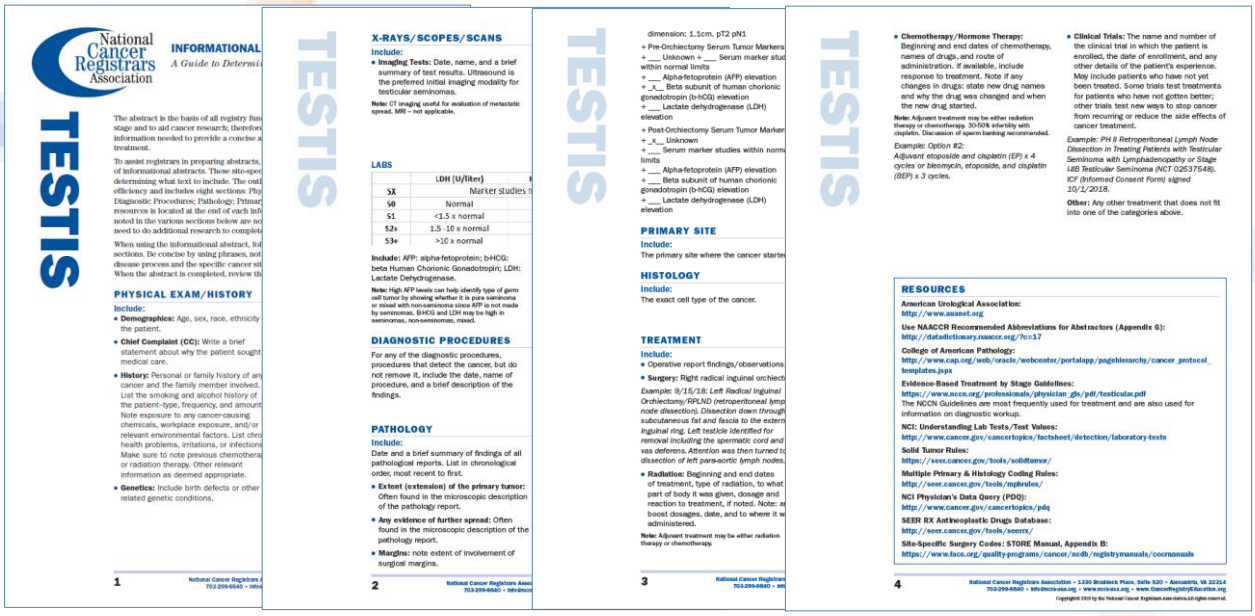
# TEXT DOCUMENTATION - TESTIS

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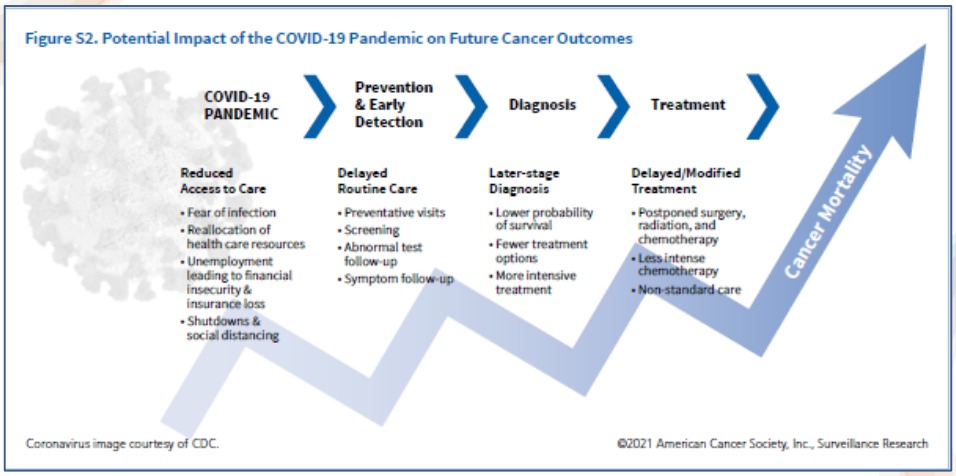
# Miscellaneous Notes

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# Questions




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