

Prostate Carcinoma Prostatitis

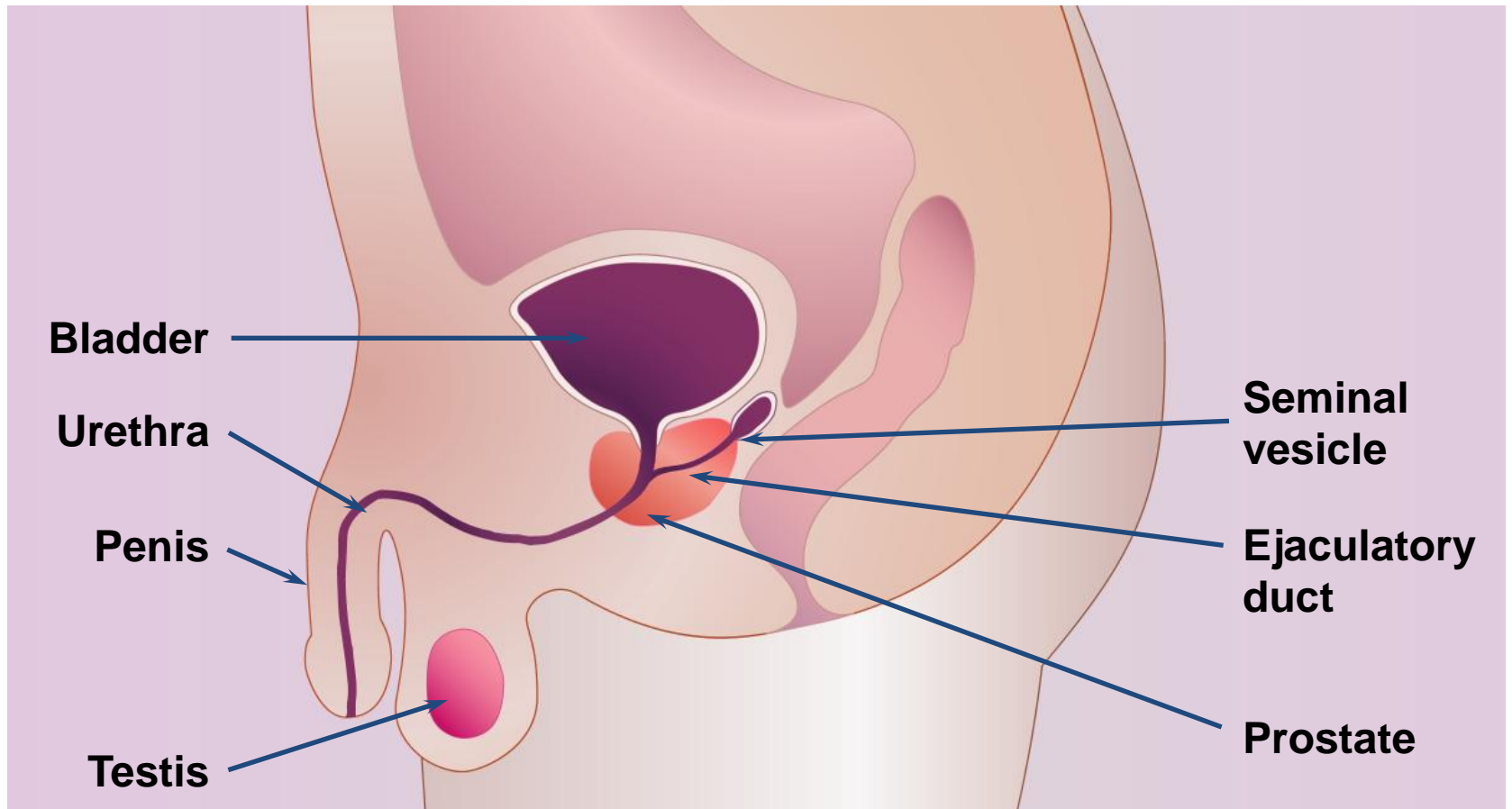
UROLOGY

TO BE OR NOT TO BE



Outcomes

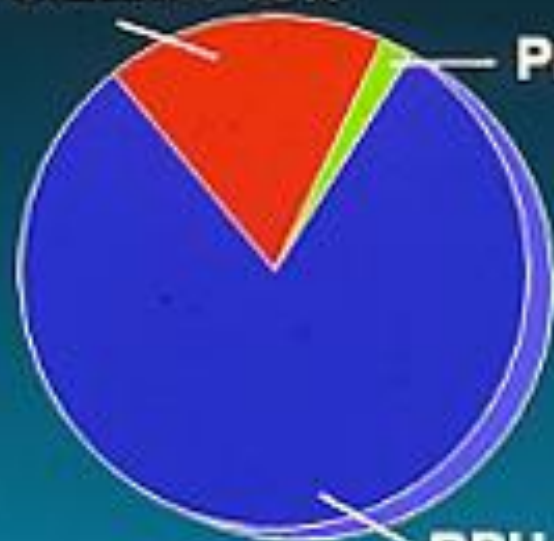
- Clinical presentation(LUTS)
- Proper history
- Investigations
- Non- prostatic causes of LUTS
- Treatment Modalities
- When to refer?



BPH IS BY FAR THE MOST COMMON CONDITION IN MEN PRESENTING WITH PROSTATE PROBLEMS

Prostate Cancer: 18%

Prostatitis: 2%



BPH: 80%

Prostate Symptoms

- Screening
 - Age : 40, 50
 - 10 years life expectancy
- Rectal examination
 - Nodule
 - Consistency

Screening

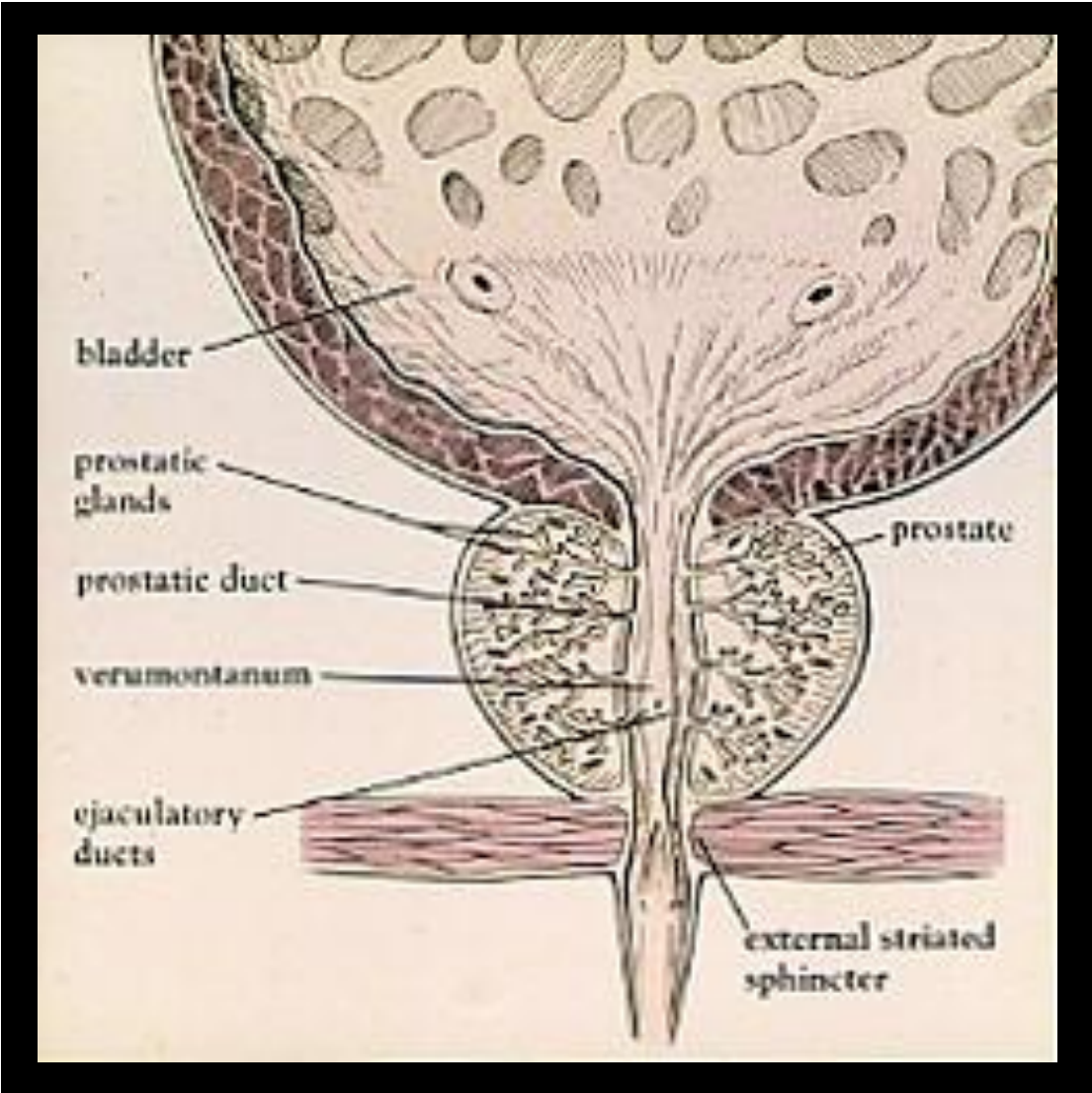
- Prostate Specific Antigen
 - Age related PSA
 - PSA >4
 - PSA velocity
- Life expectancy
 - > 10 years
 - Co morbid conditions

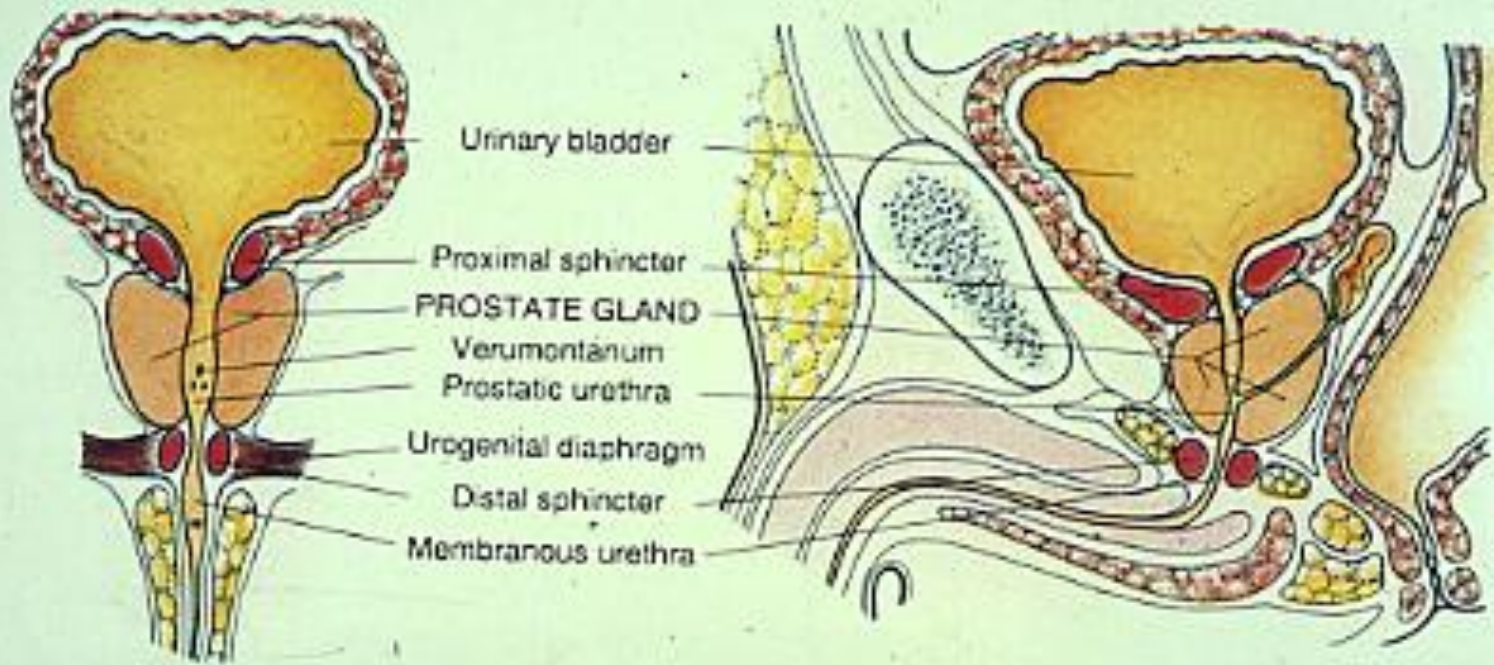
- Prostate cancer
 - Epidemiology
 - Developing vs developed countries
 - Stage migration

Day after day
nature is painting
pictures of infinite
beauty if we have
the eyes to see them.



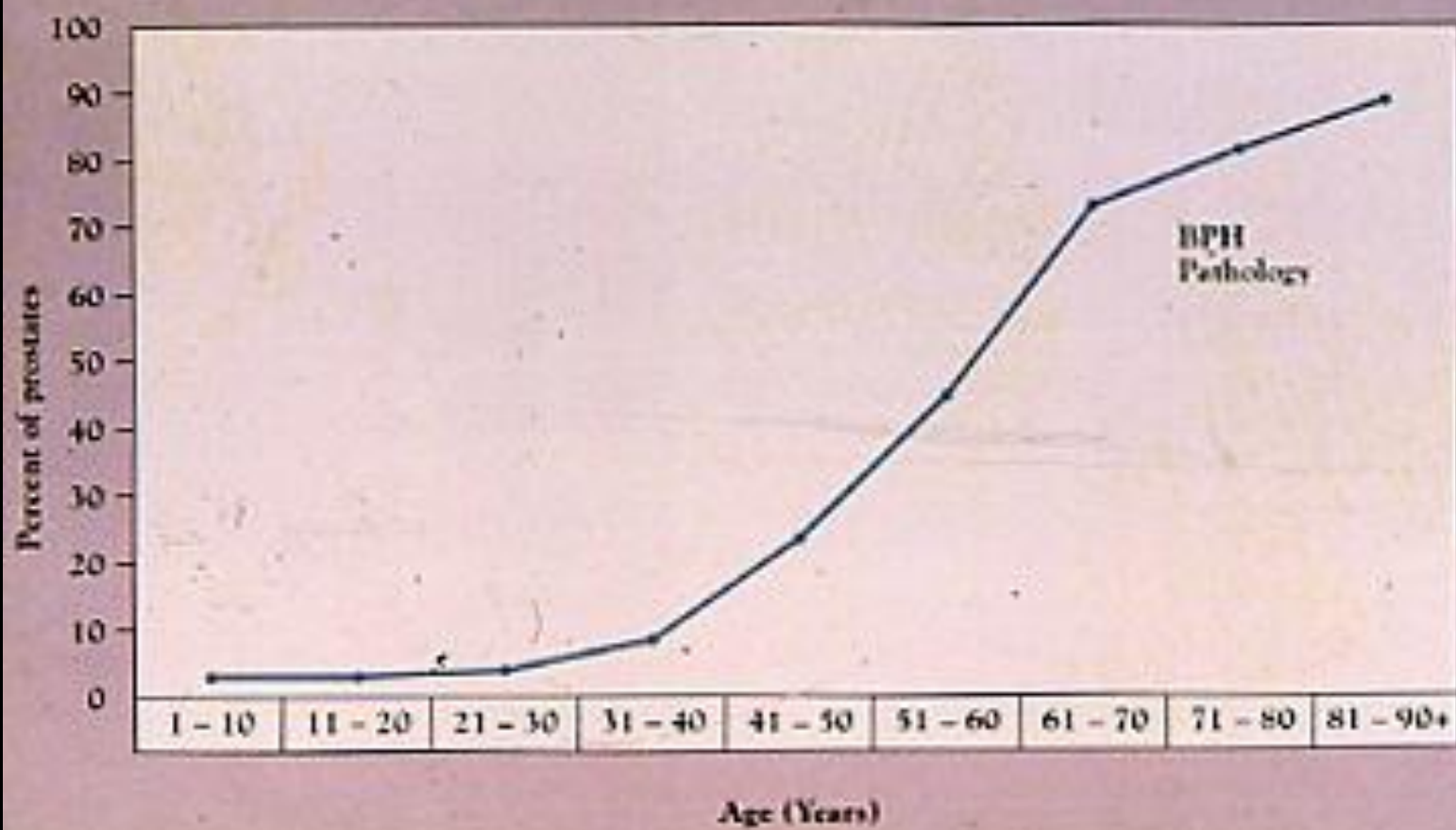
John Ruskin
1819.

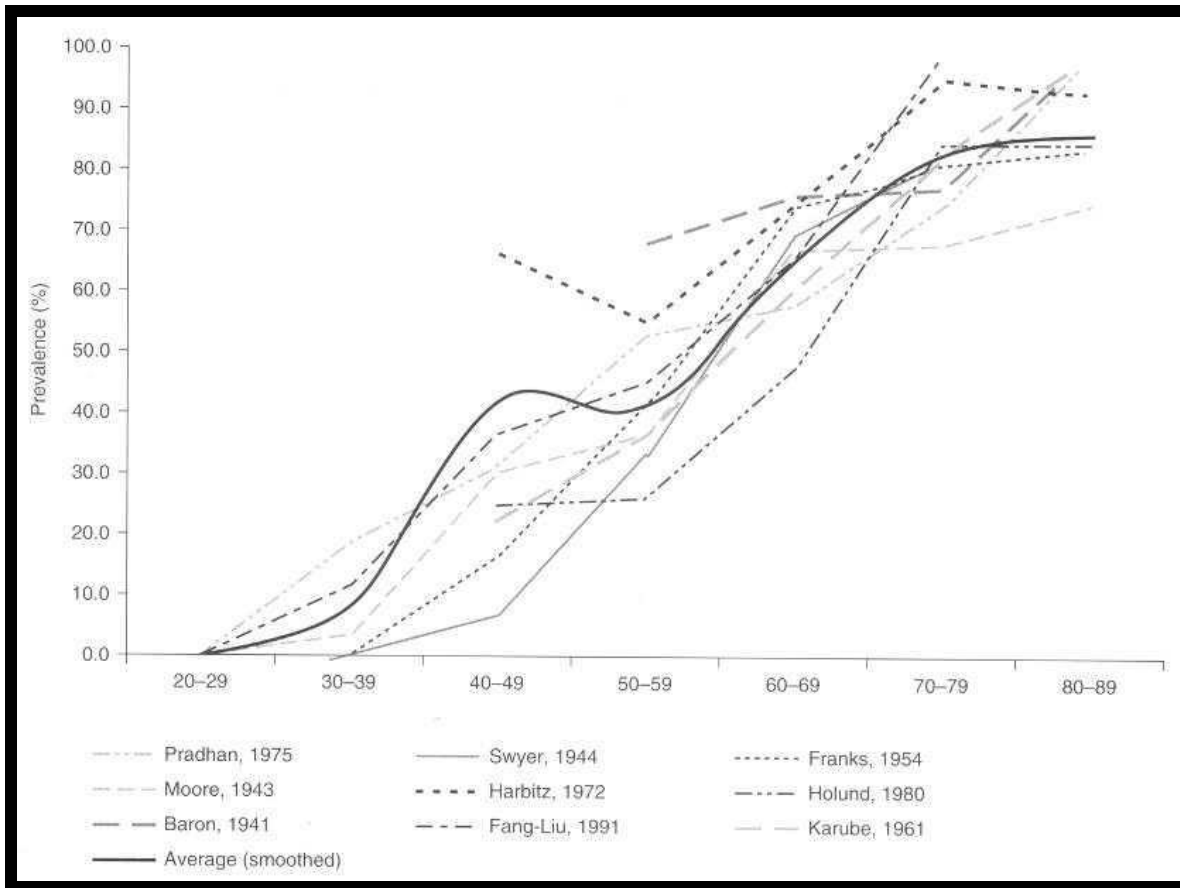




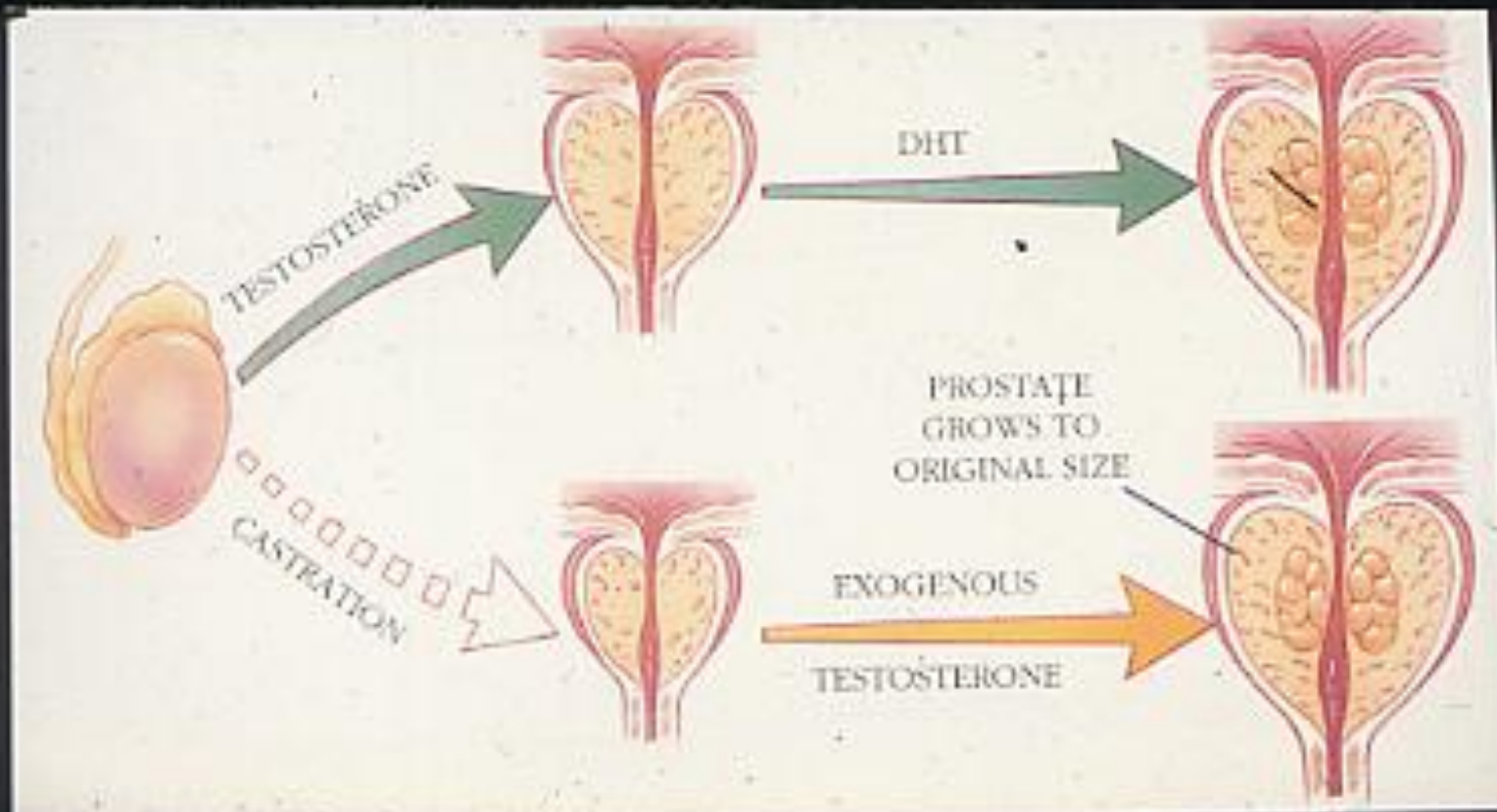
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Prevalence of BPH Pathology with Age



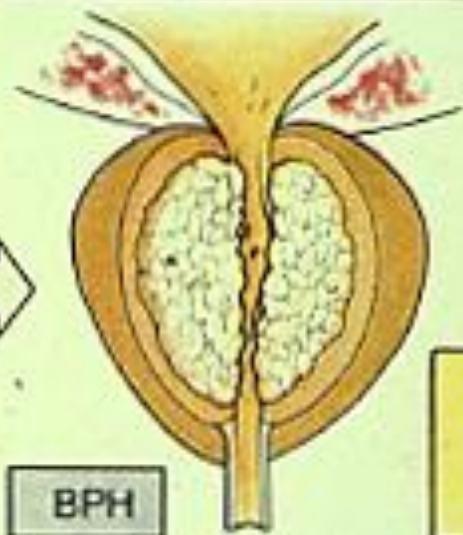
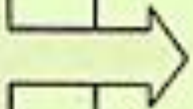


THE DEVELOPMENT OF BPH IS AN ANDROGEN-DEPENDENT PROCESS





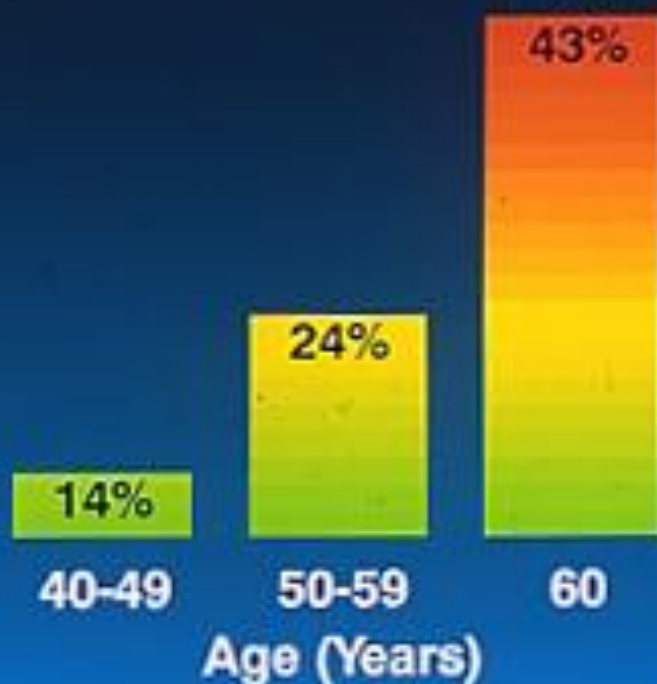
Normal



BPH

Obstruction to urinary flow

**THE PREVALENCE OF SYMPTOMATIC BPH
INCREASES WITH AGE; ALMOST HALF THE
MEN OVER 60 YEARS OF AGE ARE AFFECTED**



BLADDER FUNCTION

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graph TD; A[BLADDER FUNCTION] --> B[Voiding]; A --> C[Storage];
```

Voiding

Storage

BLADDER OUTFLOW OBSTRUCTION

DUE TO BPH

Dynamic factors

(Tone of the smooth muscle of bladder neck and prostate)

Static factors

(eg. median lobe or anatomic obstruction due to an enlarging adenoma)

PROSTATISM: THE CLASSICAL SYMPTOMS OF BPH

Obstructive Symptoms

- Hesitancy
- Weak stream*
- Straining
- Prolonged micturition
- Feeling of incomplete emptying*
- Urinary retention
- Overflow incontinence

Irritative Symptoms

- Urgency
- Frequency
- Nocturia
- Urge incontinence

* Correlated most strongly with subsequent need for prostatectomy

ABNORMAL FUNCTION

LUTS

Voiding symptoms

Hesitancy

Straining

Weak stream

Intermittency

Terminal dribbling

Prolonged voiding

Retention

Overflow incontinence

Storage symptoms

Frequency

Urgency

Nocturia

Urge incontinence

Nocturnal incontinence

Small voided volume

Pain

PROSTATISM VS LUTS

Non BPH Causes

Prostatitis

Prostate Cancer

UTI'S

Urethral stricture

Bladder cancers

Calculi

Instability of bladder

Neurogenic bladder

D.M.

Parkinson's

M.S.

CVA

Spinal disc lesions

Normal ageing

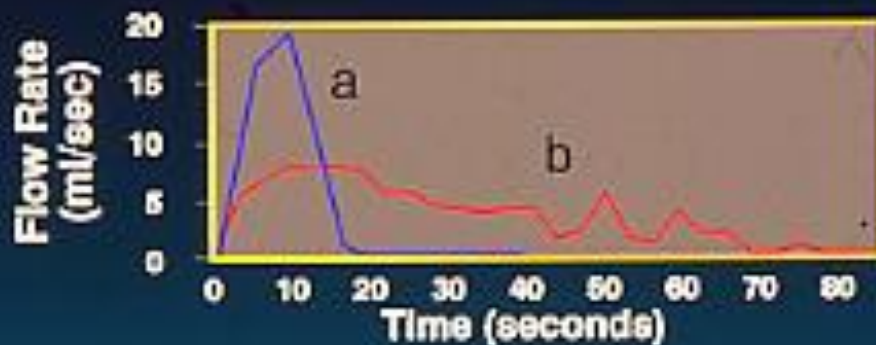
THE THREE QUESTIONS FOR DETECTING PROSTATIC DISEASE

- **Do you get up at night to pass urine?**
- **Is your urine flow slow?**
- **Are you bothered by your bladder function?**

Investigations

- Side room
 - Urine dipstix
- Special investigations
 - PSA
 - U- MCS
 - S- Creatinine
 - Sonar Bladder & kidneys

FLOW RATE



Parameters Measured

Voiding time

Flow time

Time to max. flow

Max. flow rate

Average flow rate

Voided volume

(a) Normal

17 seconds

17 seconds

7 seconds

19.6 ml/s

12.1 ml/s

206 ml

(b) BPH

62 seconds

60 seconds

15 seconds

6.1 ml/s

3.1 ml/s

190 ml

INTERPRETATION OF MAXIMUM URINARY FLOW RATE VALUES

Flow Rate

>15 ml/second

10-15 ml/second

<10 ml/second

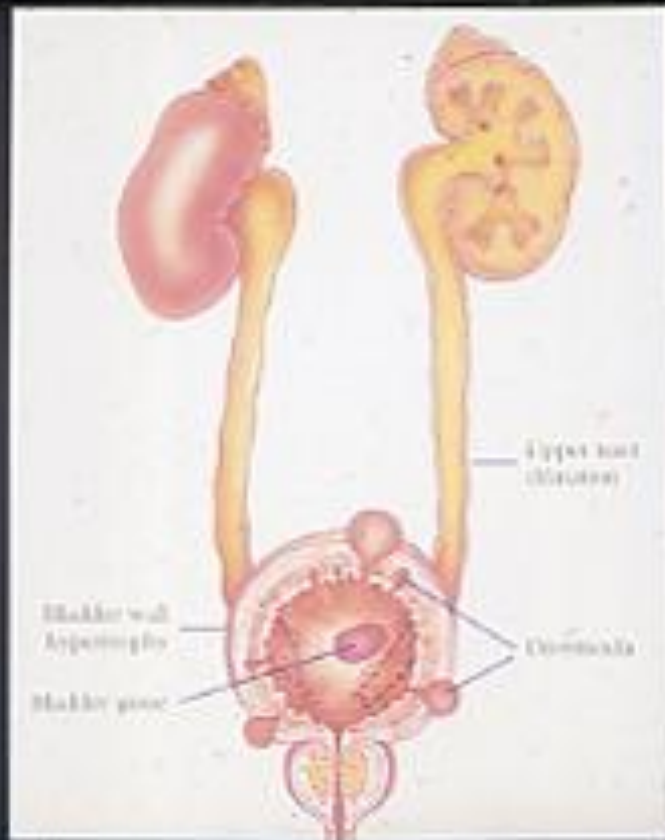
Interpretation

Normal

Equivocal

Obstructed

SECONDARY EFFECTS OF BLADDER OUTFLOW OBSTRUCTION DUE TO BPH

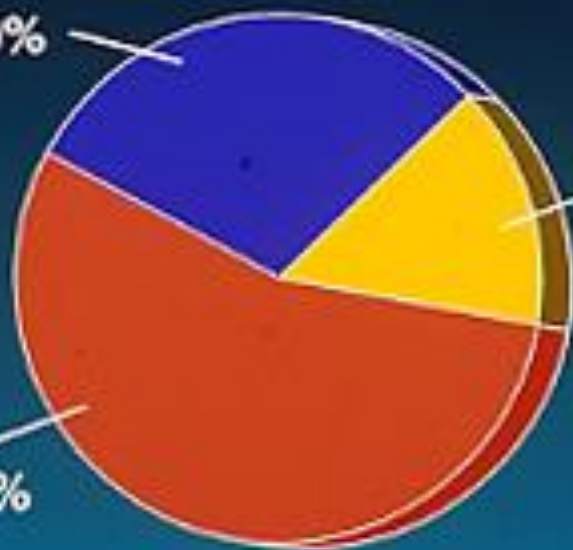


NATURAL HISTORY OF SYMPTOMS OF BPH

Remain stable: 30%

Improved with time: 15%

Worsening symptoms: 55%



TREATMENT OF SYMPTOMATIC BPH

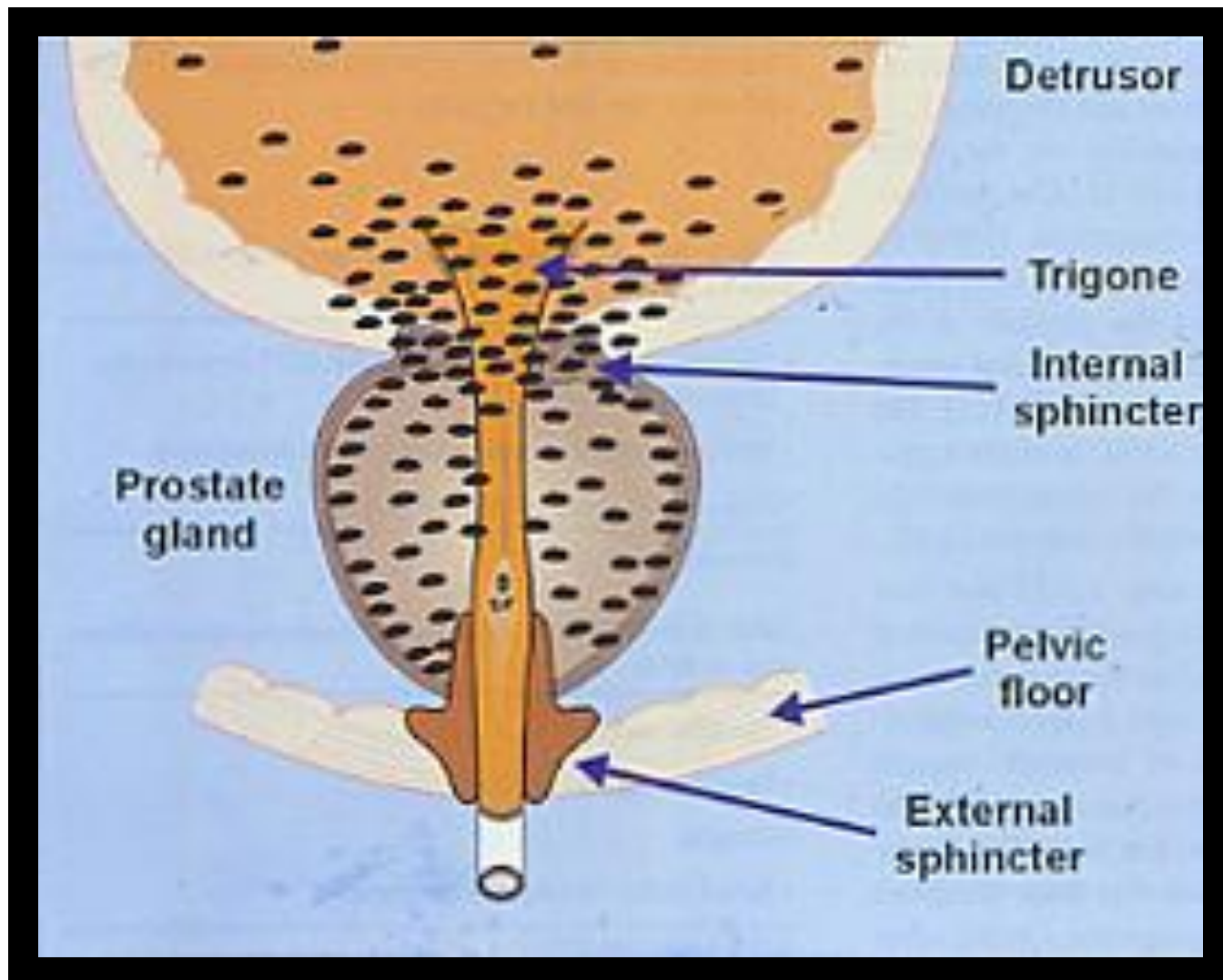
- i. “Wait and watch”
- ii. Medical
- iii. Surgery e.g. TURP

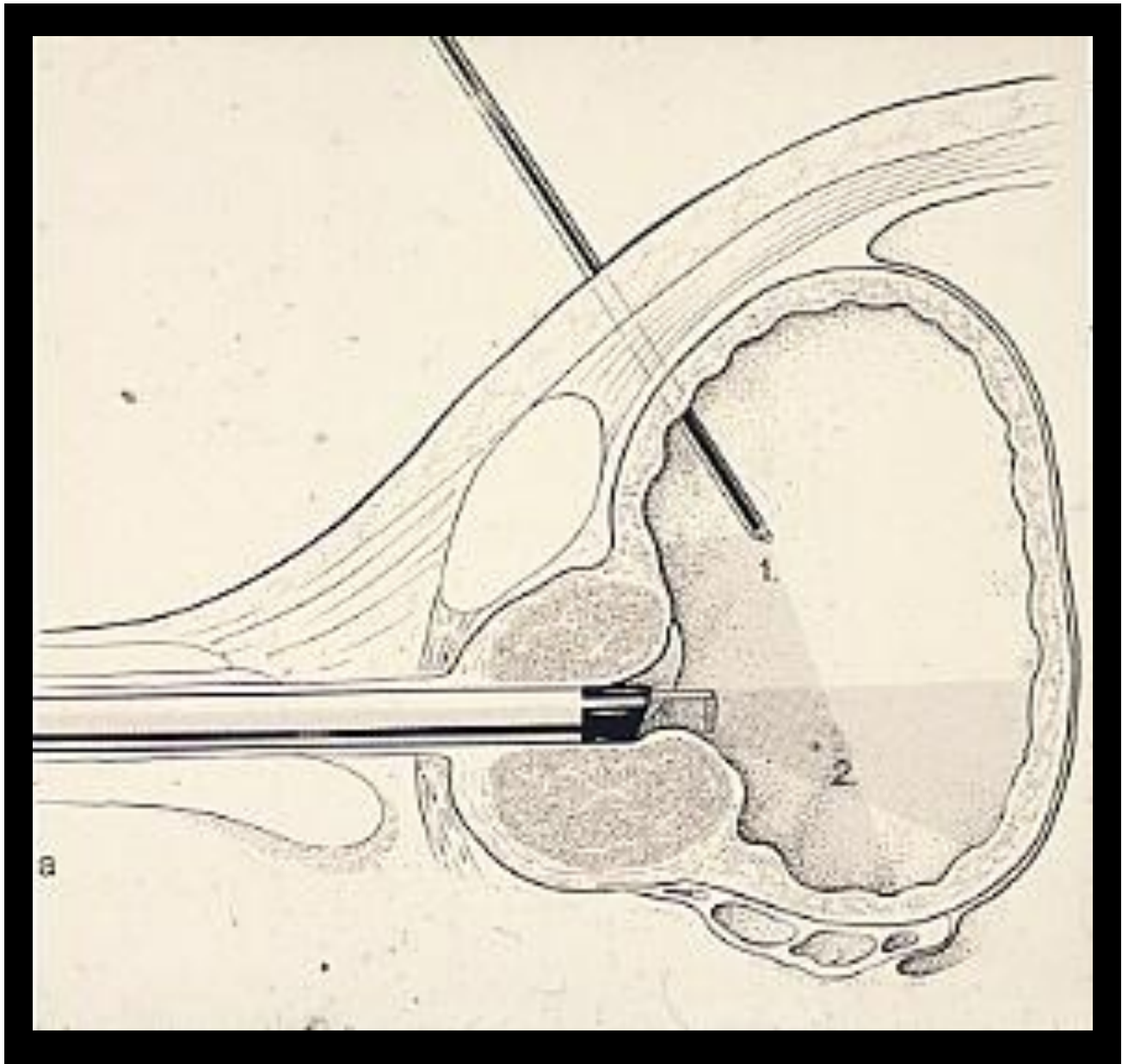
G.P. AND SYMPTOMATIC B.P.H

**(PATIENTS WHO DO NOT HAVE A
DEFINITE INDICATION FOR SURGERY)**

**(WATCHFUL WAITING AND
PHARMACOLOGICAL MANIPULATION)**

- (a) Nitrites and leucocytes**
- (b) Hematuria (microscopic or macroscopic)**
- (c) No palpable bladder**
- (d) Rectal examination (no suspicion of CA)**
- (e) P.S.A.**
- (f) Normal creatinine (& urea)**





- Treatment
 - Low symptom score – < 7
 - Watchful waiting
 - Moderate symptoms – IPSS 7 – 19
 - Low bother score – Watchful waiting
 - Severe LUTS – IPSS >19
 - Watchful waiting
 - Medical therapy
 - Surgery

Management

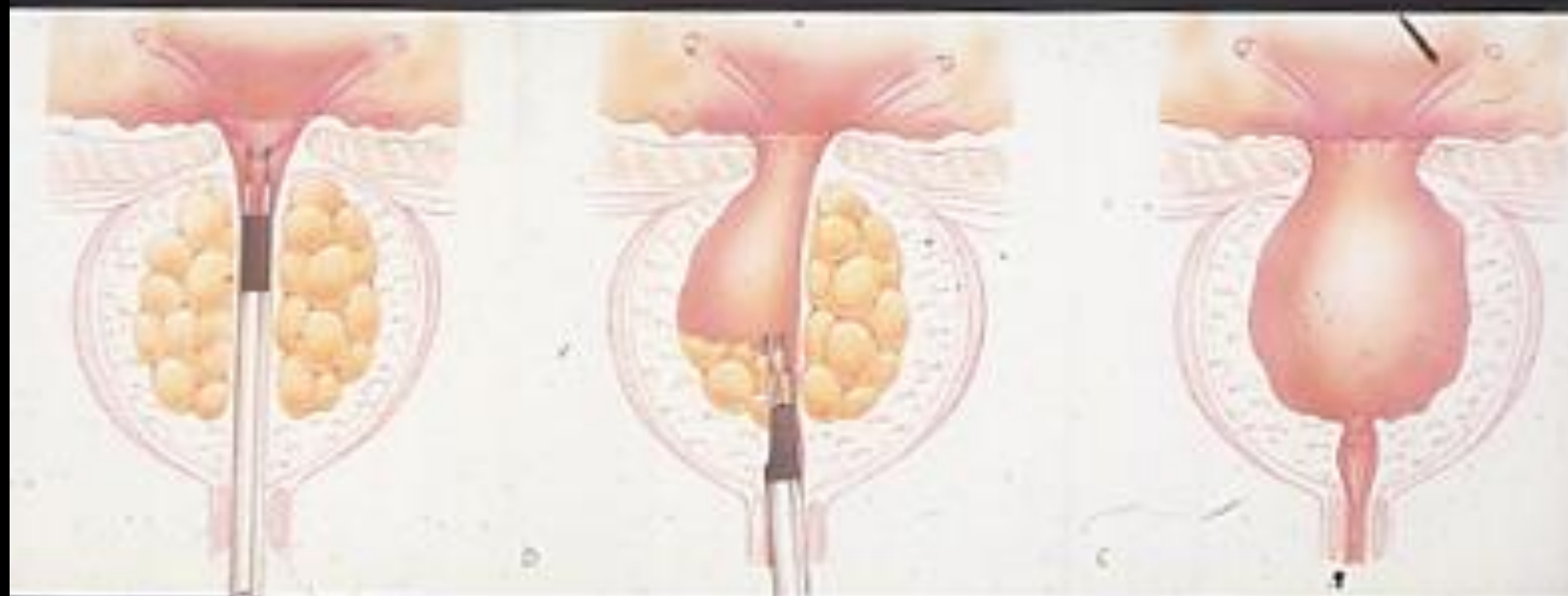
- Watchful waiting
 - Restrict fluid nocturnally
 - Double voiding
 - Urethral milking
 - Caution with alpha adrenergic meds
- Medical therapy
 - Alpha blockers – Side effects
 - 5 – alpha – reductase inhibitors – PSA/2

- History – LUTS symptoms
- Other diseases : DM, CVI, Parkinsons, Neurological diseases
- IPPS score
- Examination
 - Palpable kidneys
 - Palpable bladder
 - Urogenital/rectal examination
 - Focused neurological examination

Treatment options;BPE

- Treatment – surgery
 - Minimally invasive treatment
 - Trans urethral resection of the prostate- TURP
 - Retropubic prostatectomy

TRANSURETHRAL RESECTION OF THE PROSTATE (TURP)



HISTOLOGICAL EXAMINATION OF CHIPS FROM TURP MAY REVEAL MALIGNANCY



PROSTATISM

Incontinence

Impotence

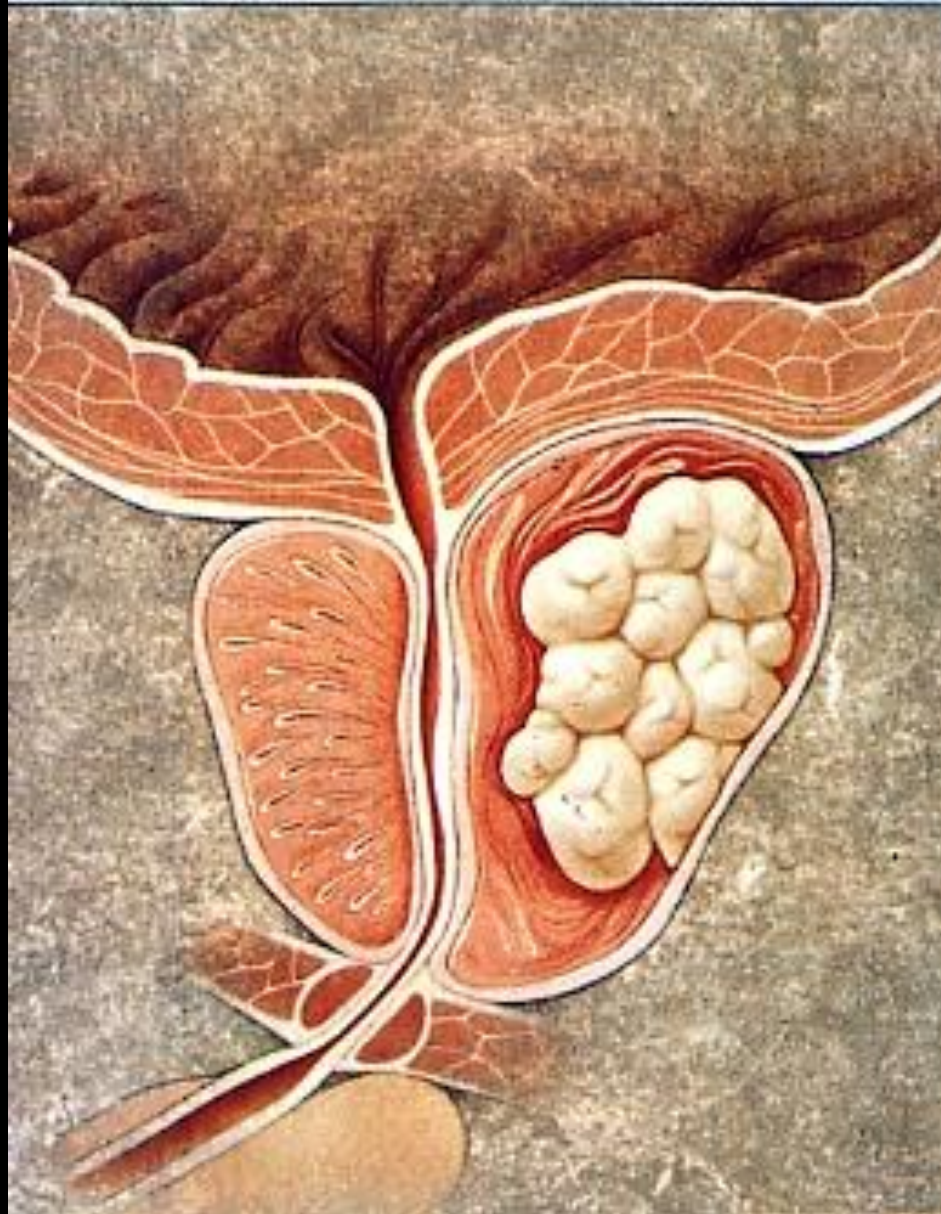
**Complications
Post-operative**

Carcinoma

Prostatism



Prostate cancer



Management

- Treatment
 - Absolute indications for Surgery
 - Repetitive episodes of acute urinary retention
 - Chronic urinary retention
 - Recurrent UTI
 - Macroscopic haematuria
 - Upper tract dilatation
 - Bladder stones
 - Failed medical therapy

**Enzyme
(glycoprotein)**

PSA

**Prostate
epithelial
cells**

**Hydrolysis
coagulum of
ejaculate**



FEATURES OF PROSTATE-SPECIFIC ANTIGEN

- Glycoprotein whose function is to liquify semen
- Produced exclusively by prostatic epithelium
- Normal serum value < 4.0 ng/ml
- Elevated in 25% of patients with BPH
- Increased in most cases of prostate cancer
- Tends to rise progressively with age and prostatic volume

RECOMMENDED AGE-ADJUSTED PROSTATE-SPECIFIC ANTIGEN (PSA) CUT-OFF VALUES

Age (Years)	PSA Cut-off Value (ng/ml)
40 - 49	2.5
50 - 59	3.5
60 - 69	4.5
70 - 79	6.5

INTERPRETATION OF PROSTATE-SPECIFIC ANTIGEN (PSA)

PSA Value

Interpretation

0.5 - 4 ng/ml

Normal

4 -10 ng/ml

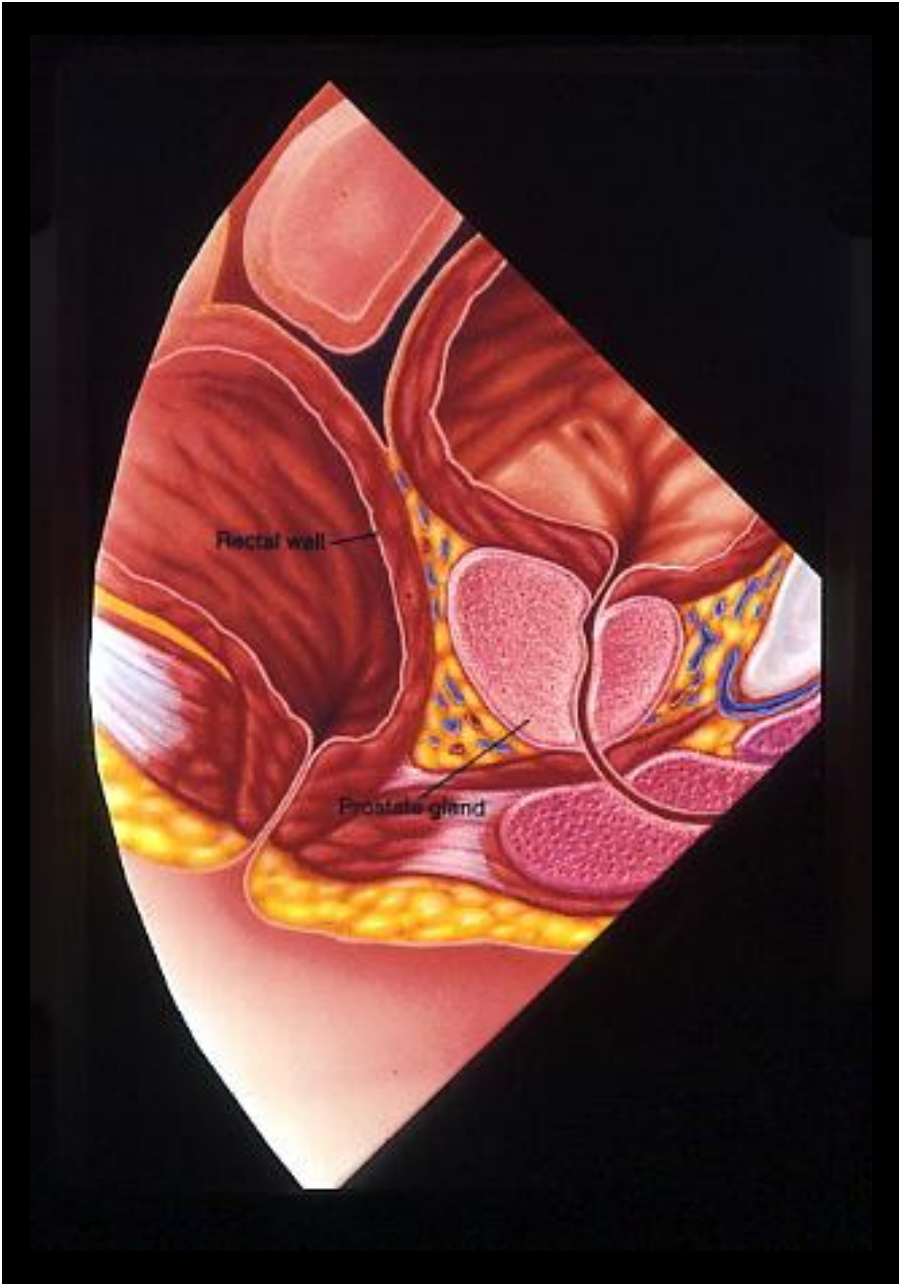
20% chance of cancer

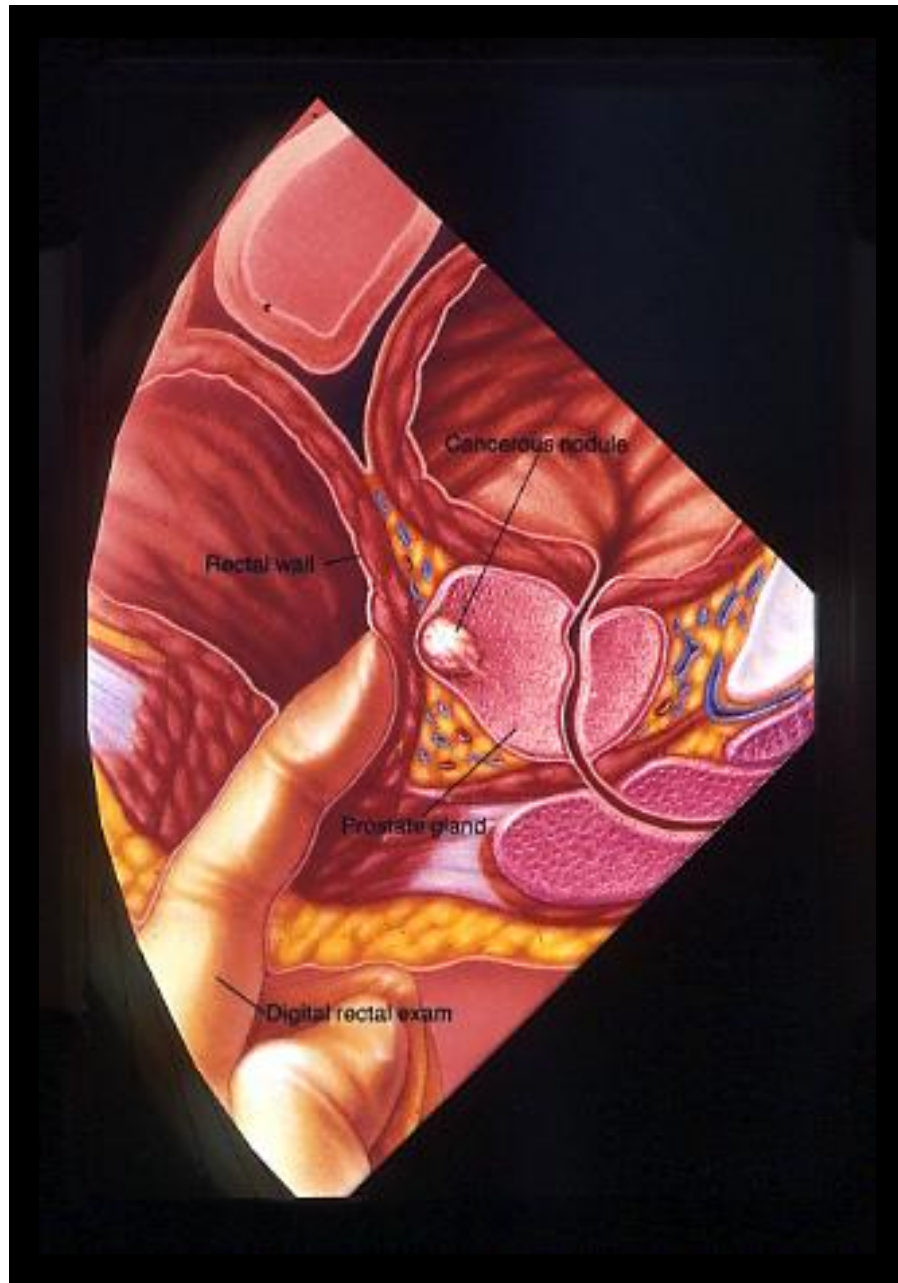
> 10 ng/ml

50%+ chance of cancer

Rise of > 20% / year

Refer immediately for biopsy





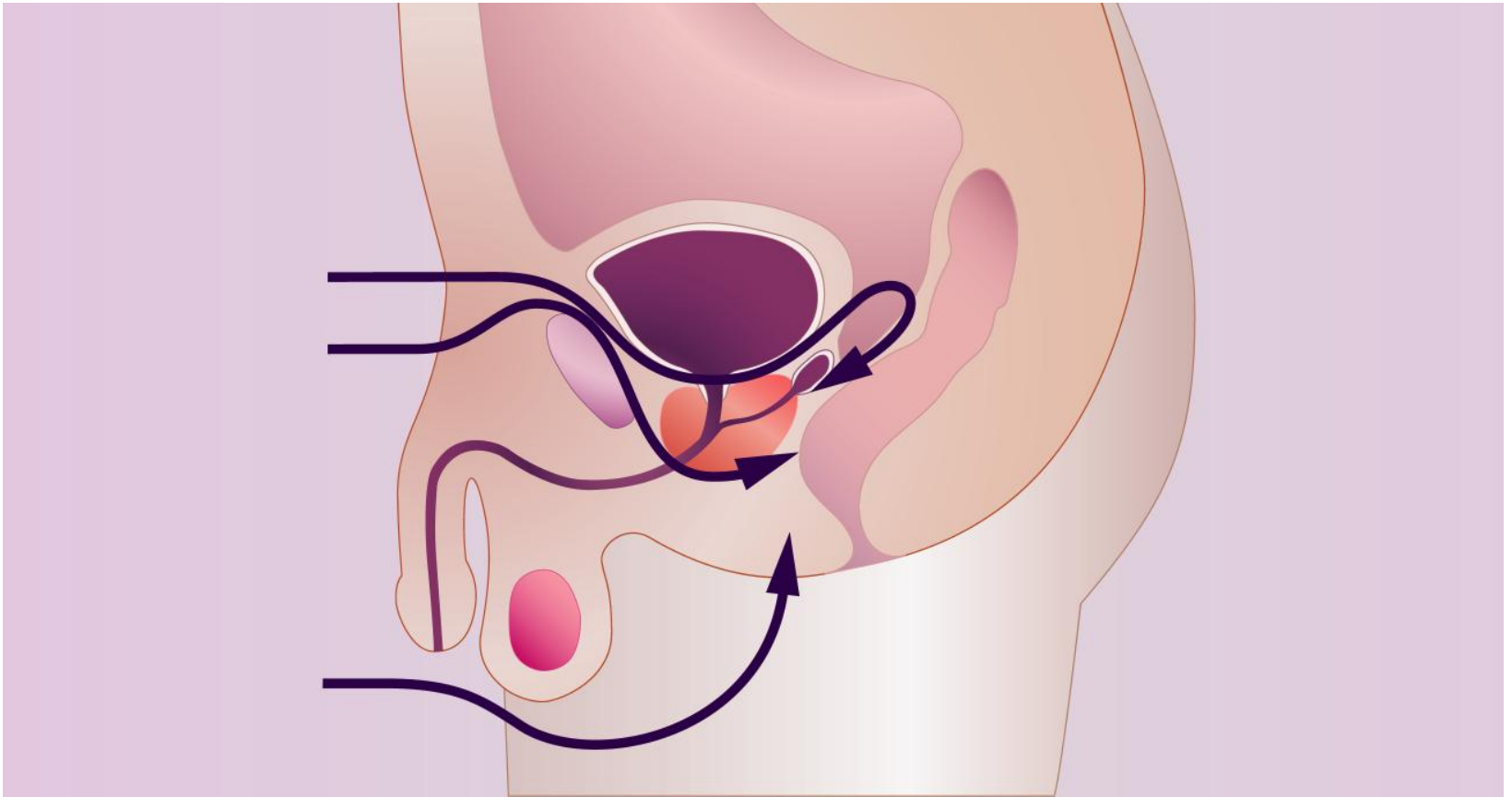
Carcinoma Prostate

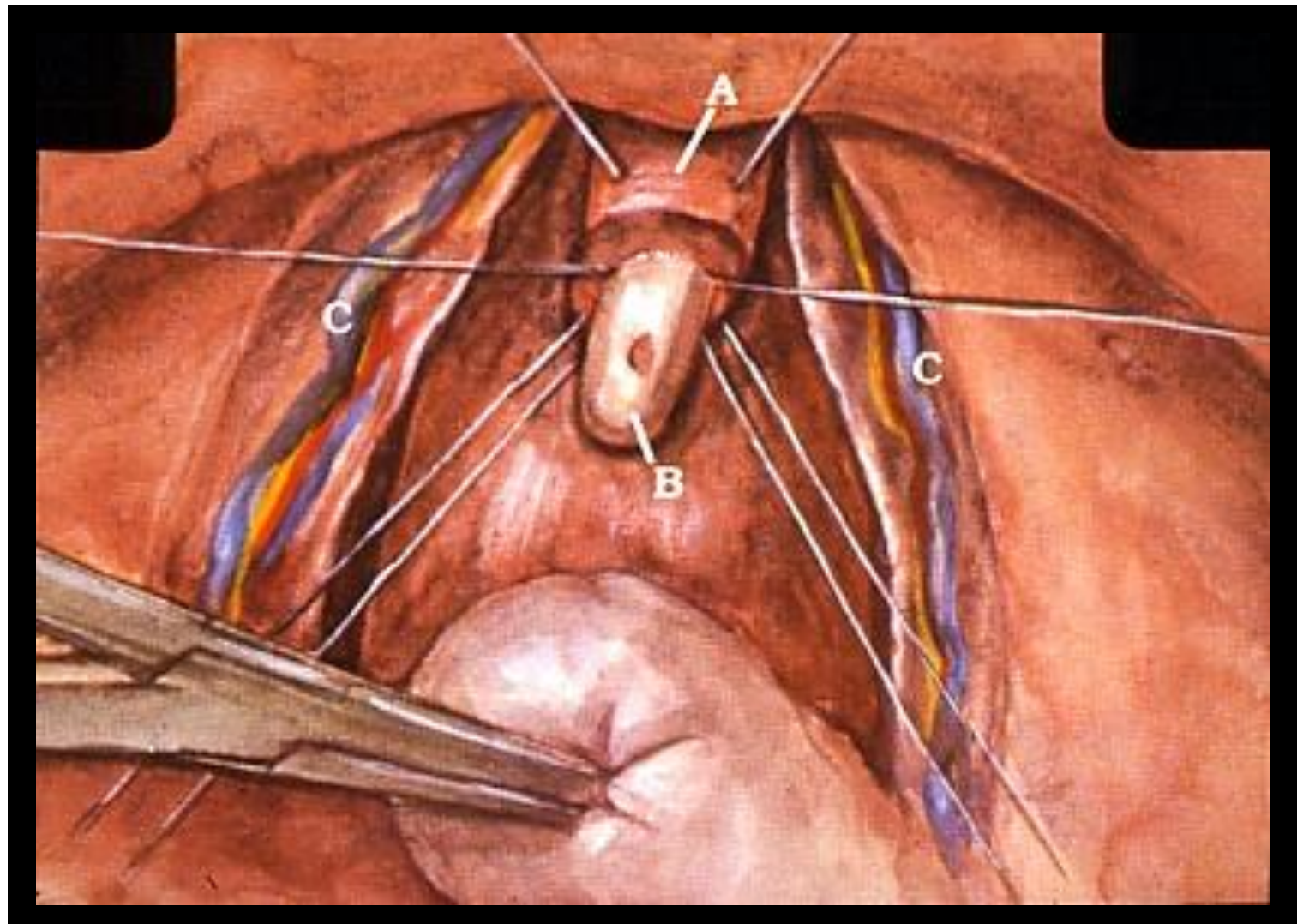
- Stage A
 - Diagnosed due to increased PSA / TURP
- Stage B
 - Localized to prostate
- Stage C
 - Locally advanced
- Stage D
 - Metastatic disease

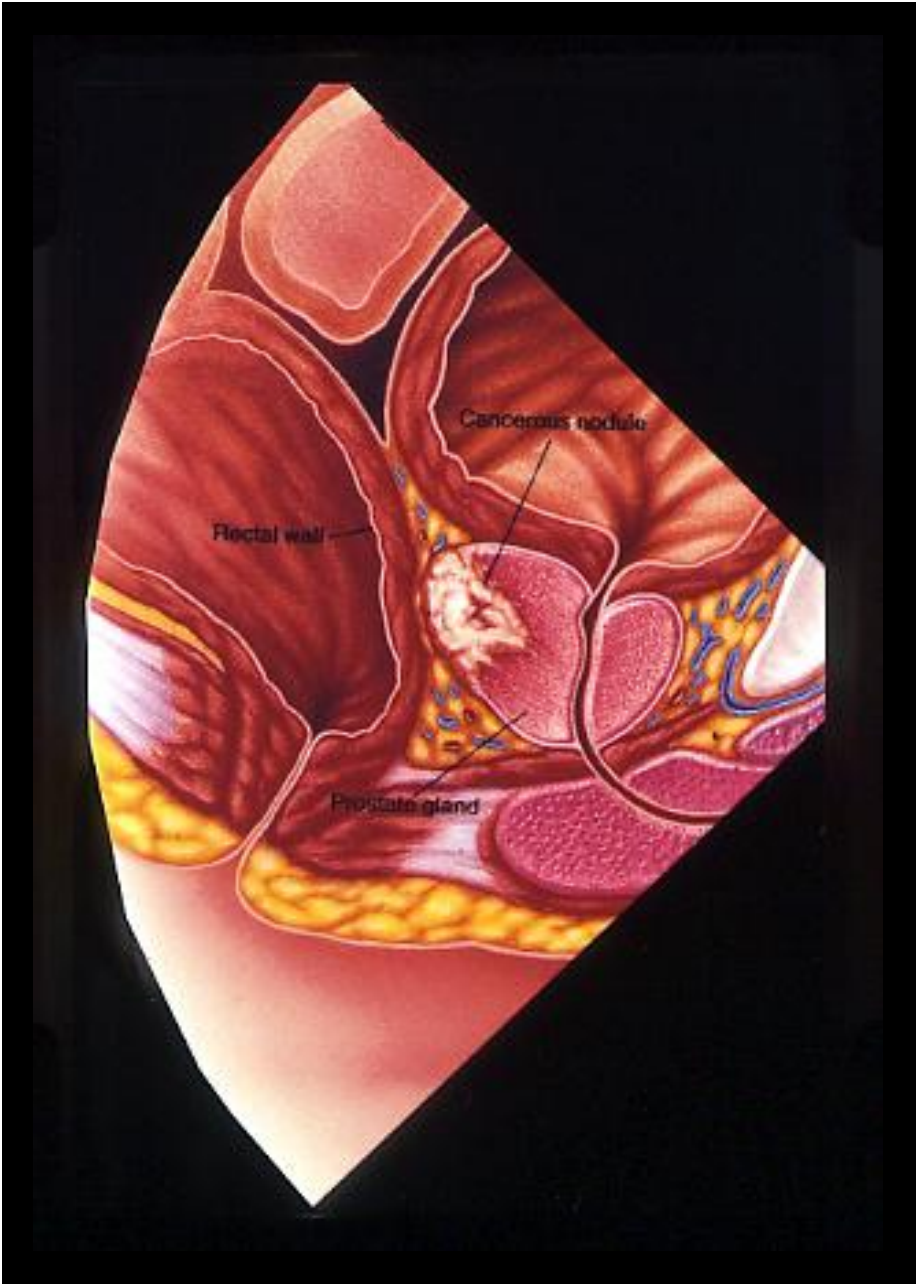
Carcinoma Prostate

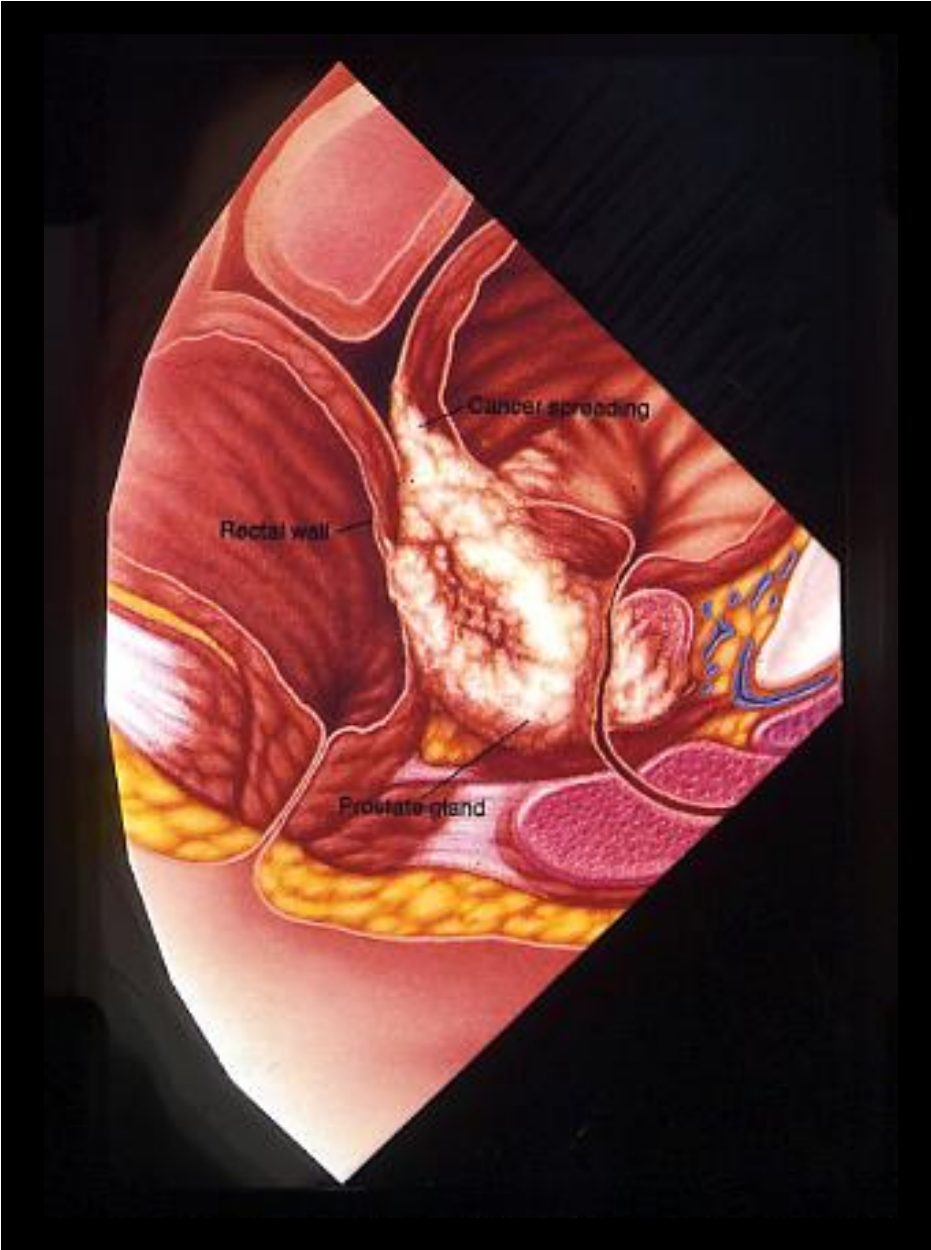
- Treatment
 - Stage C
 - Radiotherapy
 - ?Surgery
 - ?Brachytherapy

Prostatectomy





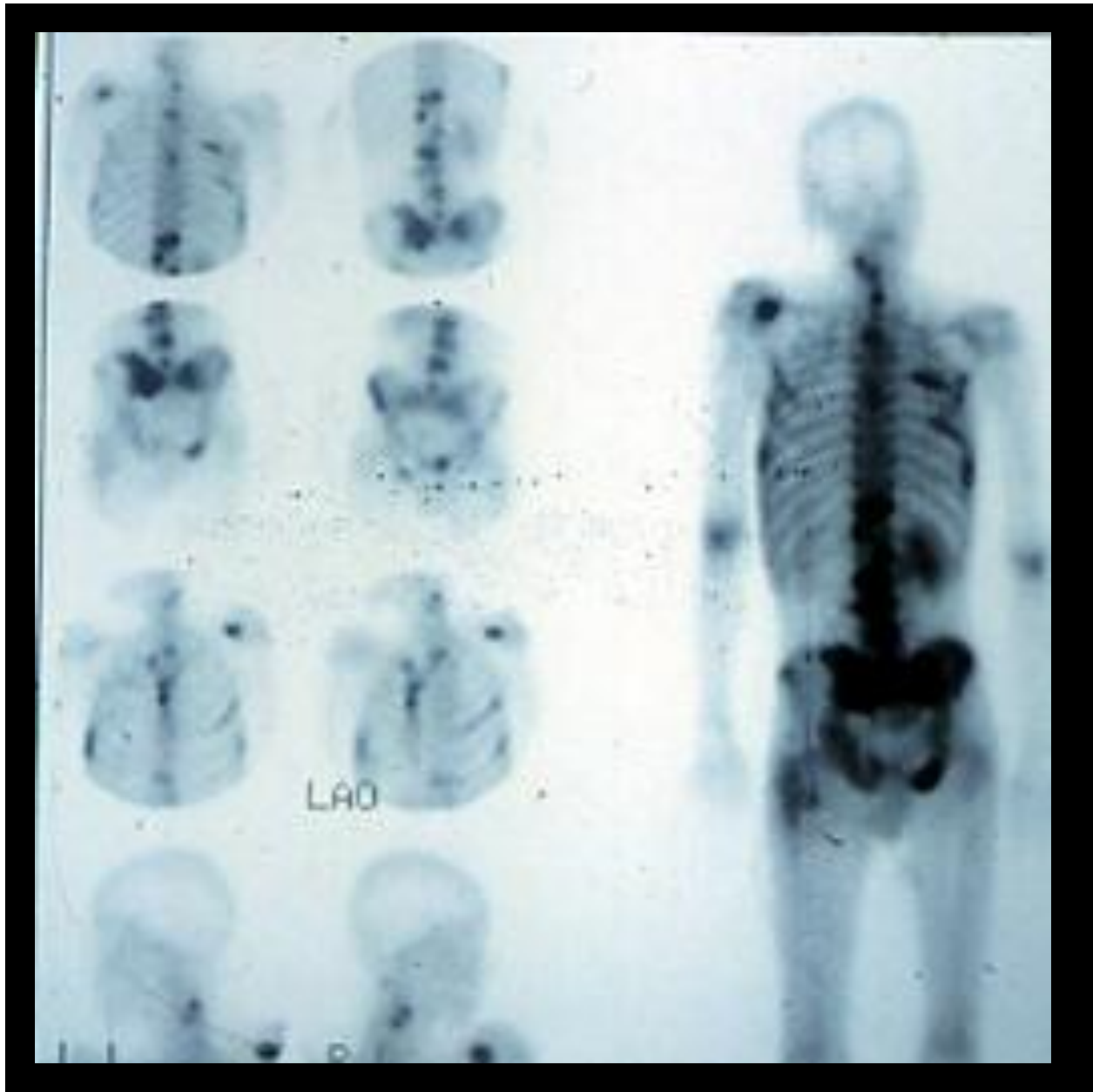






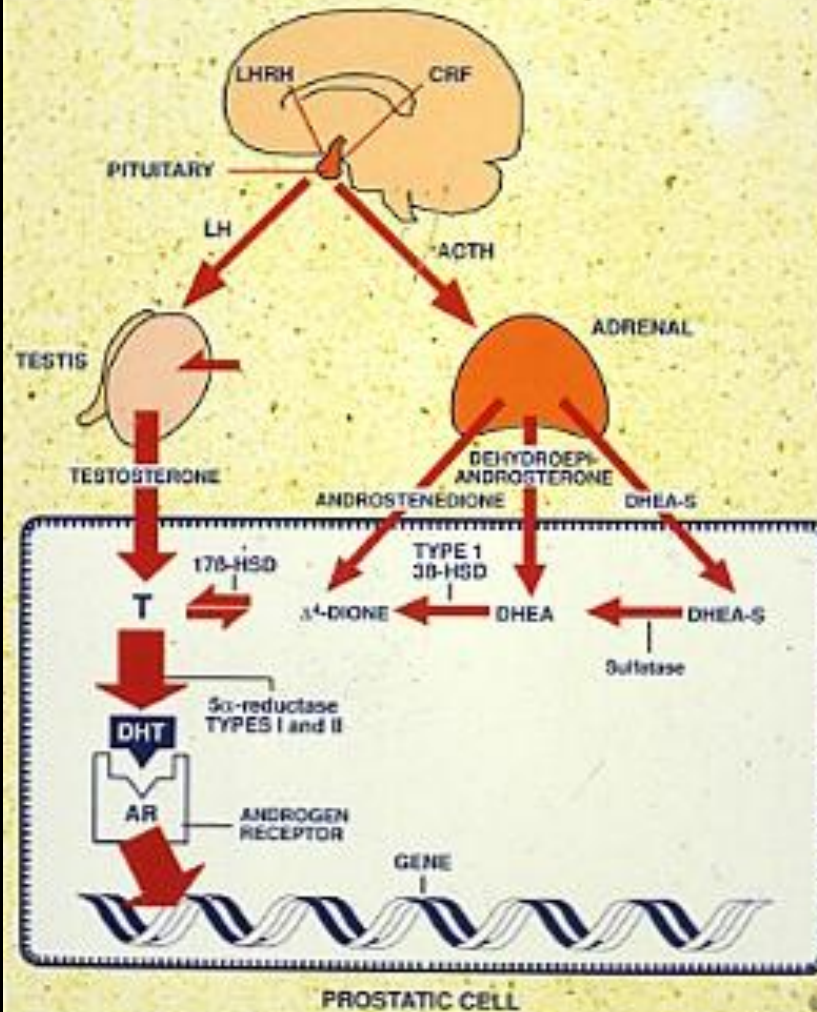






Normal physiology diagram

Clin Invest Med Vol. 16, 1993



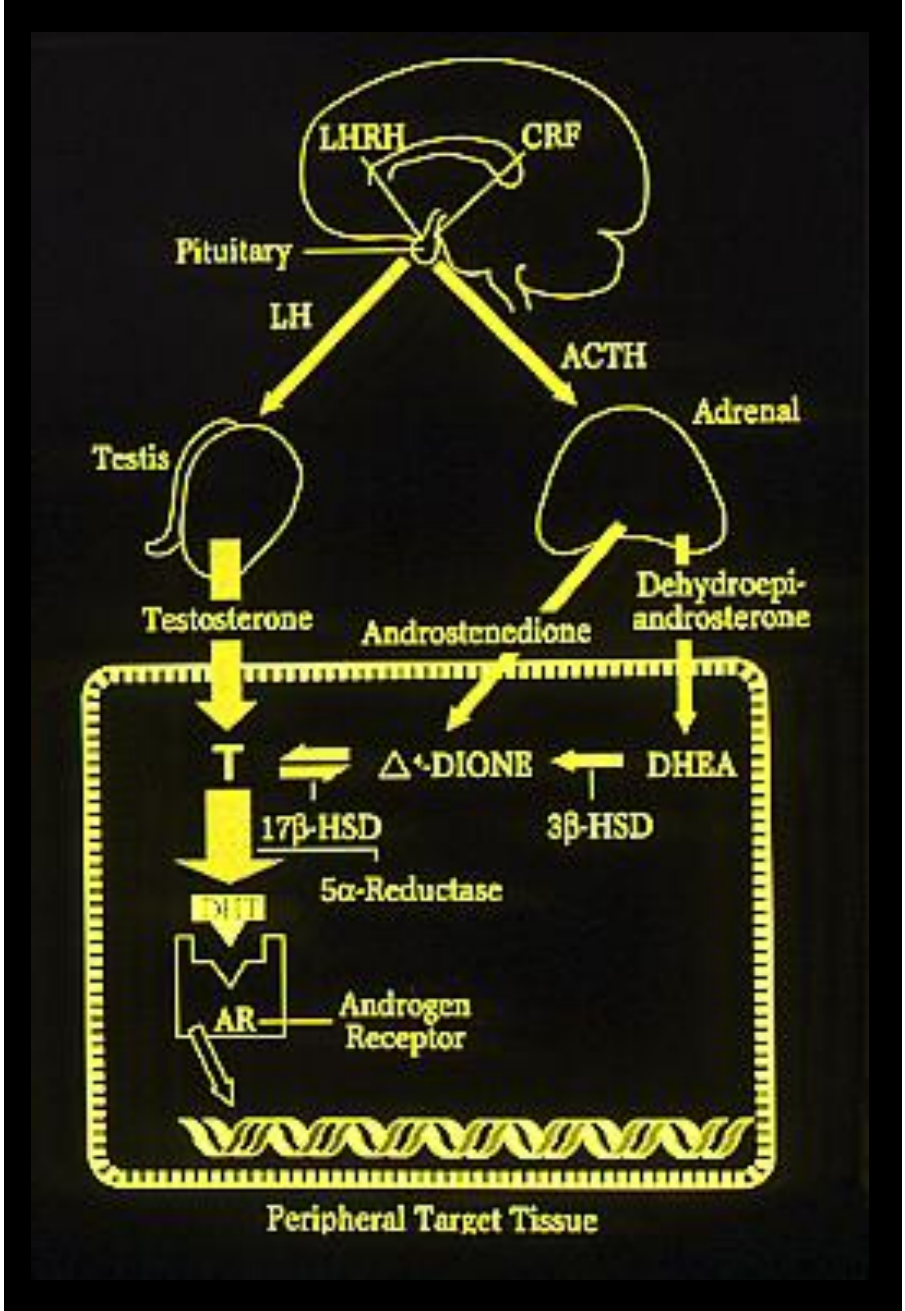
Management CaP

- Stage D
 - Medical
 - GnRh analogues
 - Anti androgens
 - estrogens
 - Surgical
 - Bilateral orchidectomy\seminectomy

Complications – hormonal manipulation

- Hot flushes
- Weight gain
- Depression
- Gynecomastia
- Osteoporosis

- Palliative care
 - Pain – morphine
 - Localised bone pain – Radiation(70%)
 - Neurological symptoms – lower extremities
 - Bisphosphonates





Chemoprevention

- Dietary
 - Soy products
 - Tomato products
 - omega fatty acids
 - Polyunsaturated fat
 - Green tea
- Medical/supplements
 - Vit E
 - Selenium
 - Zinc
 - 5 alpha reductase inhibitors?

PROSTATITIS



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graph TD; A[PROSTATITIS] --> B[Acute bacterial]; A --> C[Chronic bacterial]; A --> D[Abacterial]; A --> E[Prostatodynia]; C --- F[Painful male urethral syndrome]; D --- F; E --- F;
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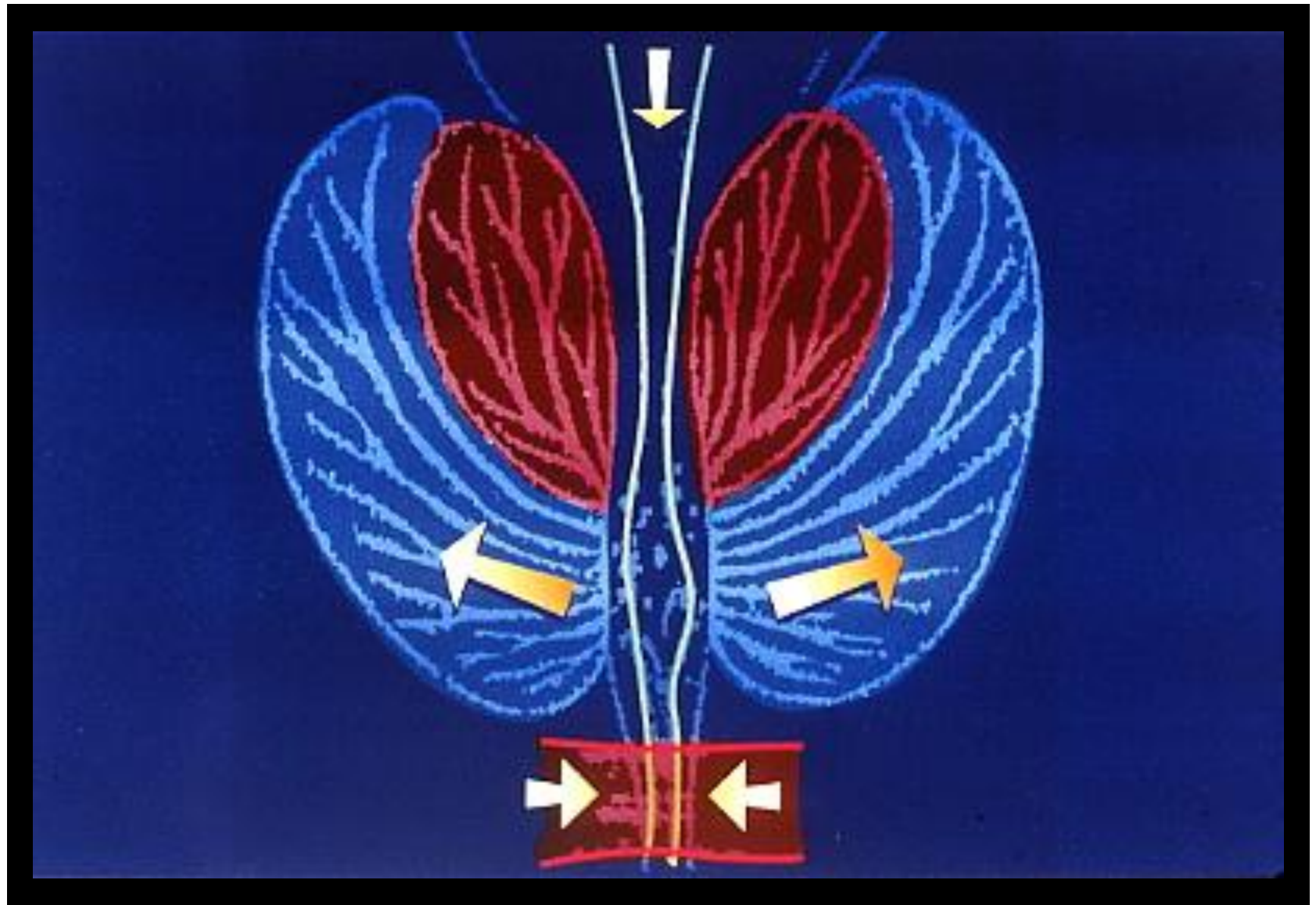
Acute bacterial

Chronic bacterial

Abacterial

Prostatodynia

Painful male urethral syndrome





YOU HAVE A CHOICE!



- Thank you