



Male Reproductive System

Kristine Krafts, M.D.

Male Reproductive System Outline

- Testis
- Prostate

Testicular Cancer

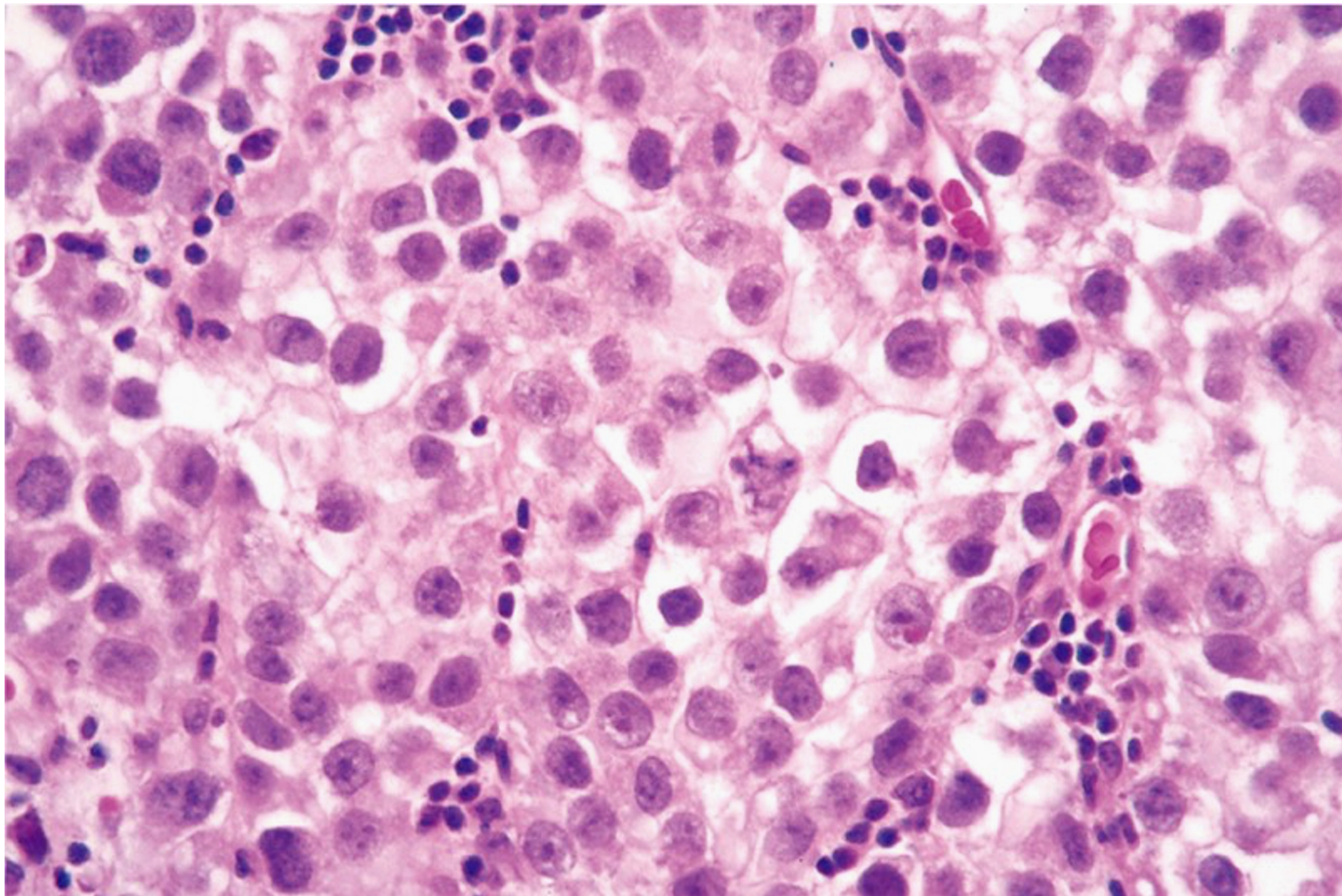
- Peak incidence: 15-35
- Firm, painless enlargement of the testis
- Some present with metastases
- Treatable – curable! – if detected early

Testicular Cancer Classification

- Seminoma
- Non-seminoma
 - Embryonal carcinoma
 - Yolk sac tumor
 - Choriocarcinoma
 - Teratoma

Seminoma

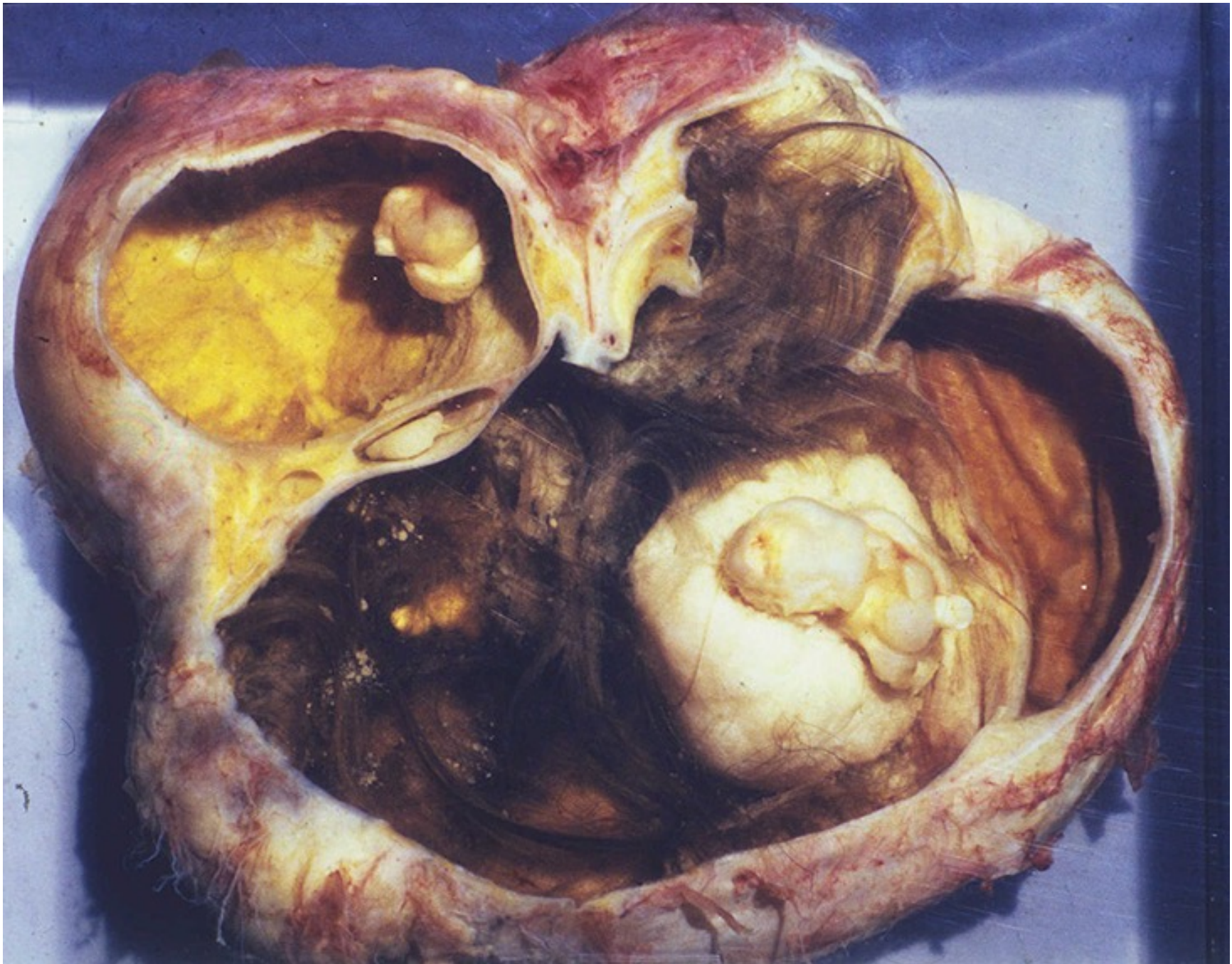
- Half of all testicular cancers
- Arise from germinal epithelium of seminiferous tubules
- “Spermatocytic” variant occurs in older patients; better prognosis



Seminoma

Nonseminomas

- Embryonal tumor (undifferentiated stem cells)
- Yolk sac tumor (yolk sac cells)
- Choriocarcinoma (immature placental cells)
- Teratoma (somatic tissue cells)



Teratoma

Tumor markers

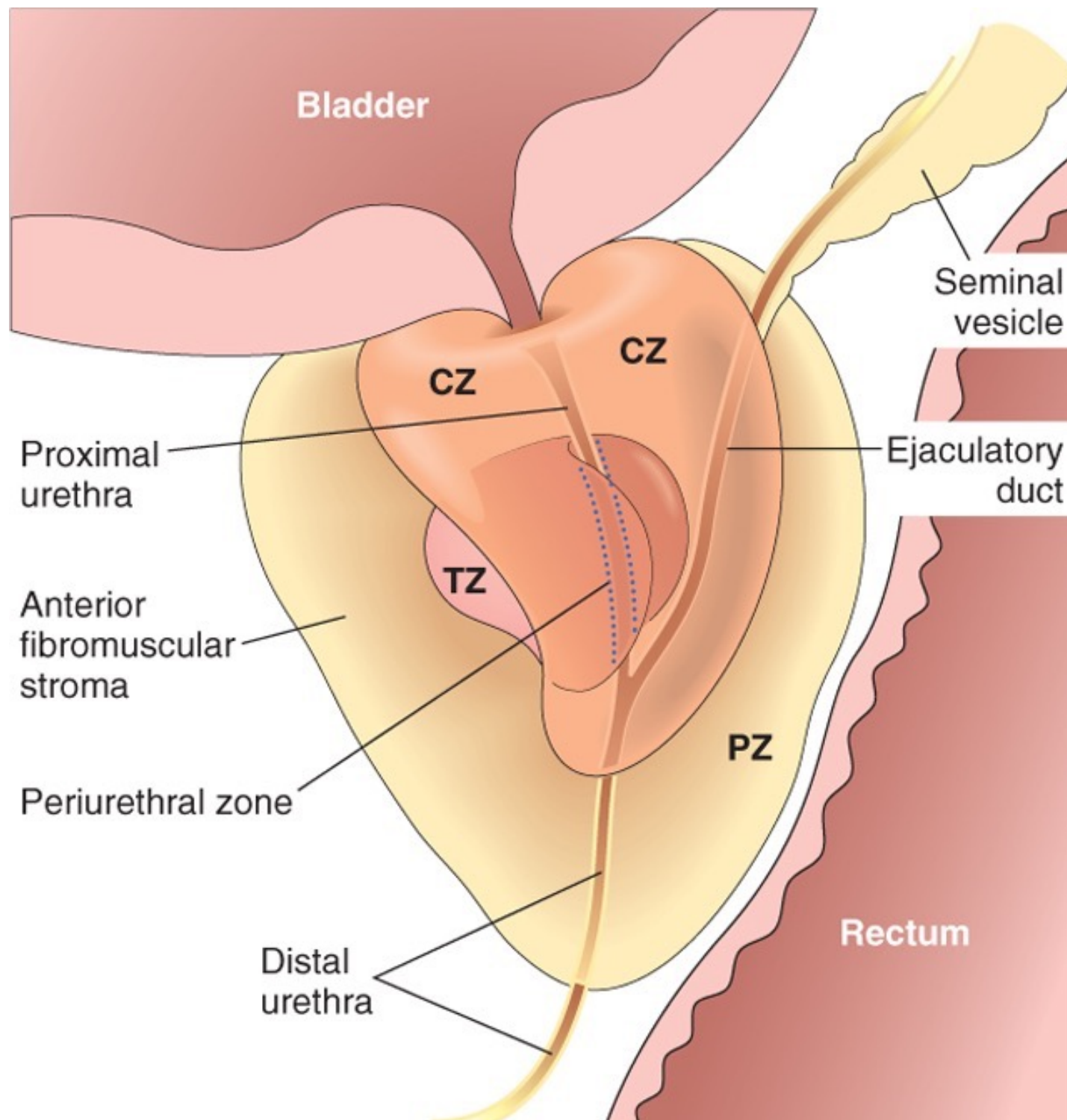
- Used mostly for following patients over time
- Human chorionic gonadotropin (hCG)
 - Normally made by placental cells
 - ↑ in choriocarcinoma
- Alpha-fetoprotein (AFP)
 - Normally made by fetal yolk sac cells
 - ↑ in yolk sac and embryonal tumors

Treatment of Testicular Cancer

- Overall, prognosis is good
 - If detected early, 90% cure rate
 - 8000 new cases a year, only 400 deaths.
- Seminomas
 - Often remain localized until large
 - Metastasize locally first, then later, distantly
 - VERY sensitive to radiation and chemotherapy
- Nonseminomas
 - Metastasize earlier, farther
 - Worse prognosis

Male Reproductive System Outline

- Testis
- Prostate
 - Benign hyperplasia
 - Carcinoma

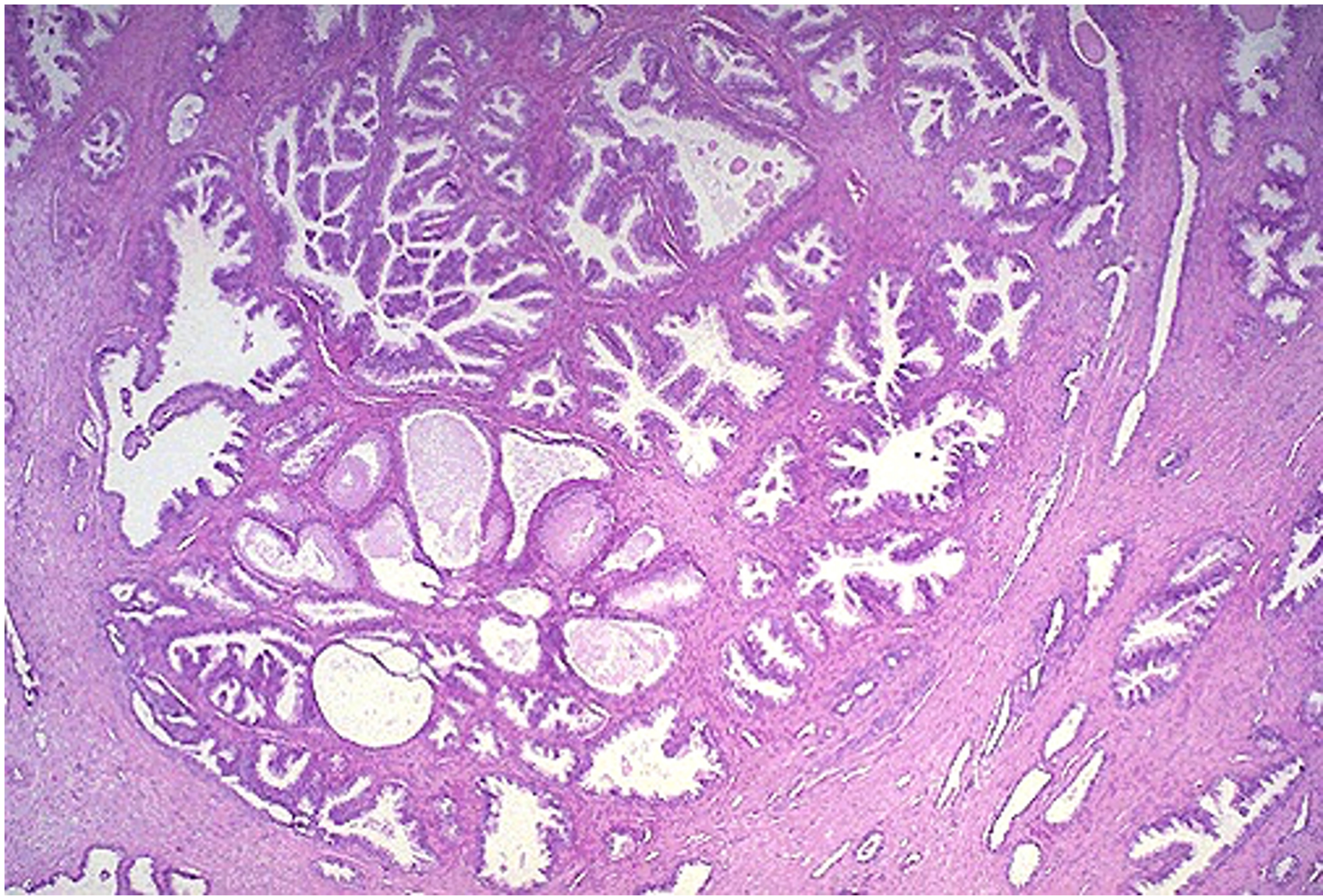


Benign Prostatic Hyperplasia

- Very common! Present in 20% of 40 year-olds, 90% of 80 year-olds
- Usually arises in near urethra
- Half of cases have signs/symptoms:
 - Enlarged prostate
 - Urinary obstruction (hesitancy, nocturia, etc.)
- Probably due to excessive androgen stimulation



Benign hyperplasia

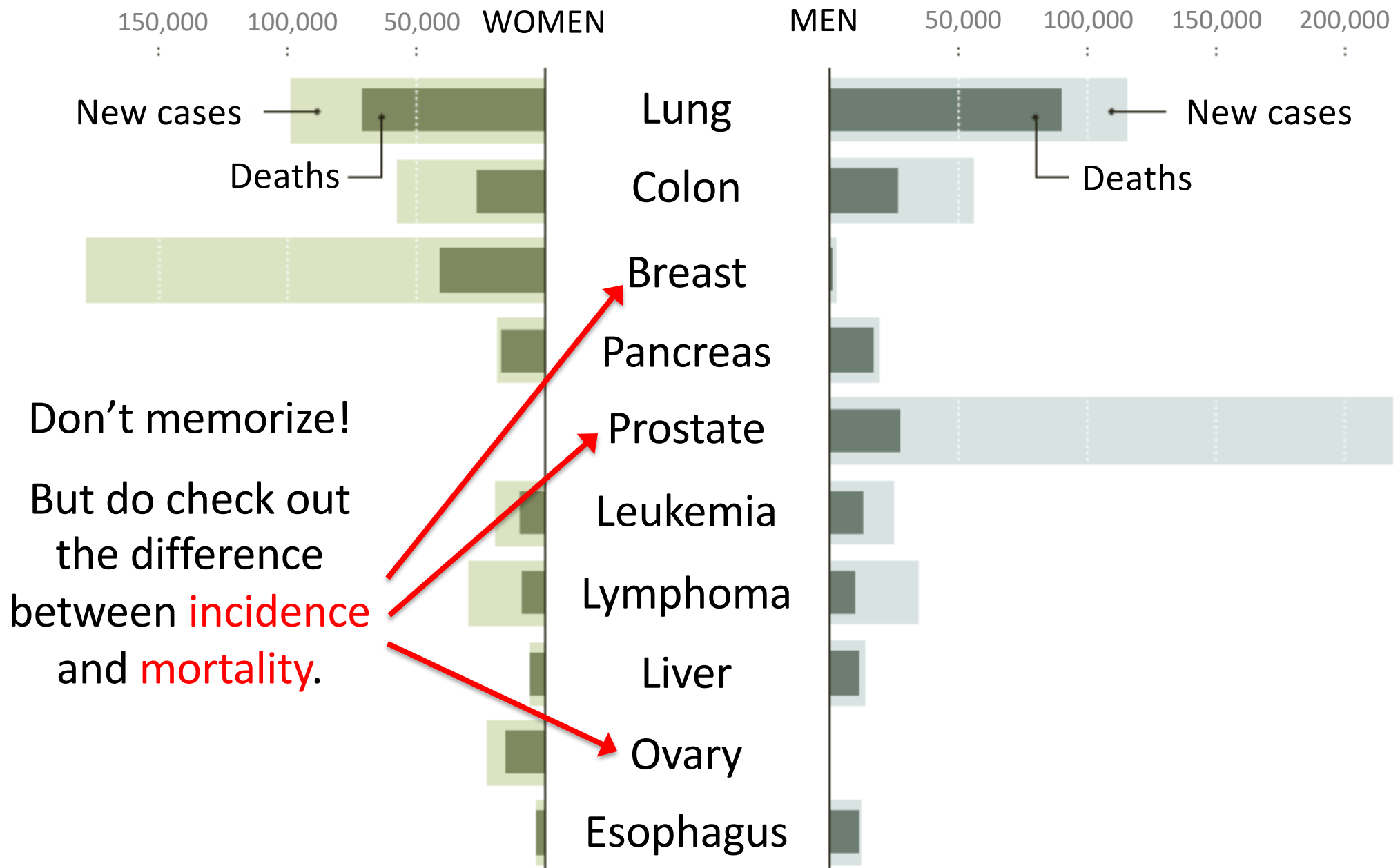


Benign hyperplasia

Prostate Cancer

- Most common cancer in men; causes as many deaths as colon cancer
- Peak incidence: age 65-75
- Cause: androgens + genetics + environment
- Early disease: no symptoms, but palpable nodule
- Later: local pain/obstruction

Top 10 Cancers in US

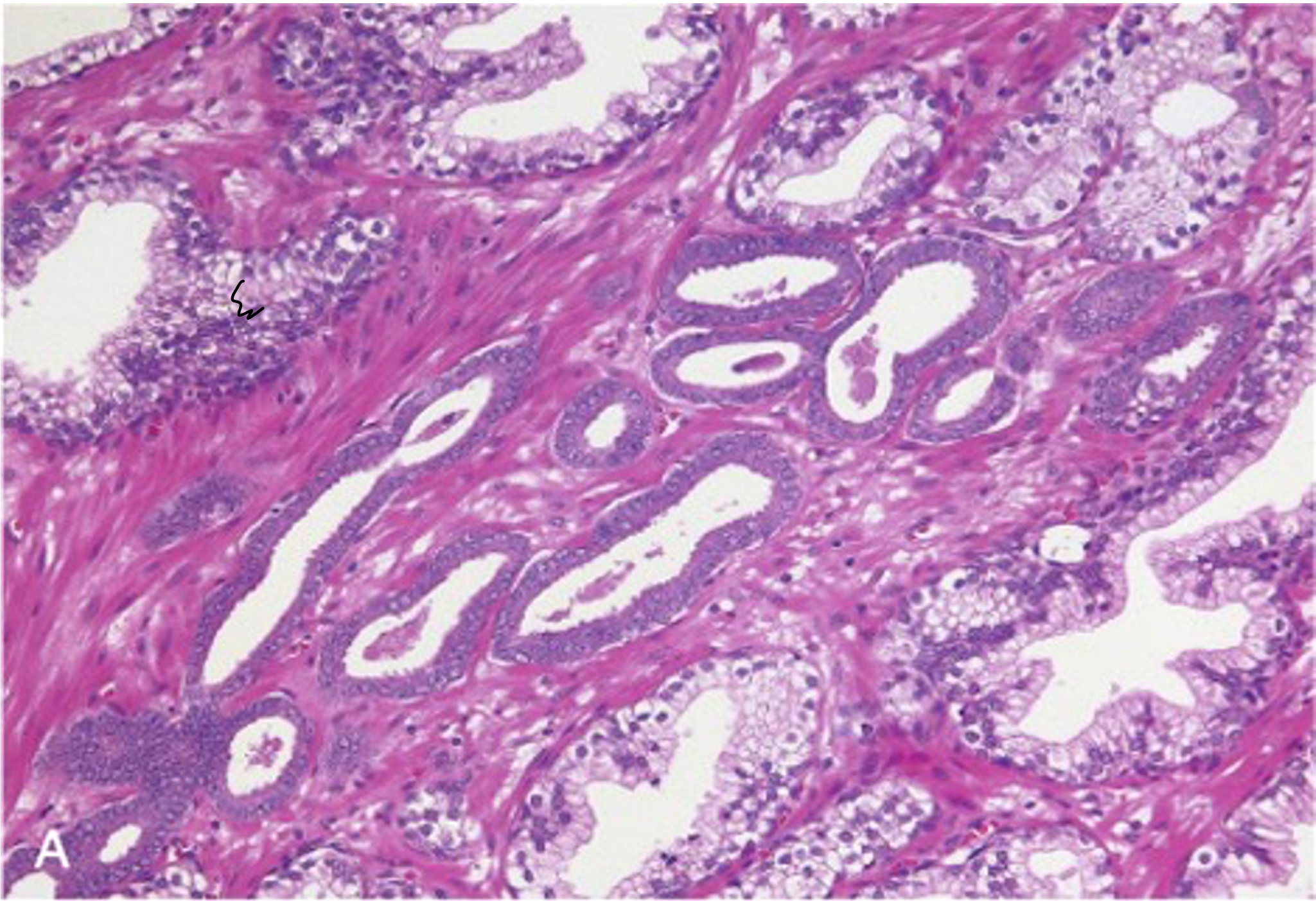


Morphology of Prostate Cancer

- Most develop in peripheral zones of prostate
- Nice, because you can often detect them by physical examination (lumpy on palpation)
- Most prostate cancers are adenocarcinomas
- Better differentiated = better prognosis



Prostatic carcinoma



Prostatic carcinoma

Prostate-Specific Antigen (PSA)

- Enzyme made by prostatic epithelial cells
- PSA <4 is normal; PSA >10 *suggests* cancer
- But PSA can go up in benign disorders too
- Questionable usefulness as screening test

Prognosis of Prostate Cancer

- Treatment: surgery, radiation, hormonal therapy
- Overall 5 year survival = 98%
- Long-term survival depends on stage