The Aging Reproductive System

fertility and sexual function decline with age
✓ due to declining levels of sex hormones

~ age 50 both men and women go through a period of physical and psychological change = **climacteric**

women also experience **menopause** at about the same time

**Female Climacteric & Menopause**

female climacteric is brought about by declining ovarian function

generally begins when ovaries are down to their last 1000 eggs or so

the follicles and ova that are left are less responsive to gonadotropins

follicles therefore secrete less estrogen and progesterone

the uterus, vagina and breasts atrophy, bone mass declines

vagina becomes thinner and drier:
intercourse may become uncomfortable
vaginal infections are more common
blood vessels constrict and dilate in response to shifting hormone balances
‡ sudden dilation of cutaneous arteries may cause hot flashes

may occur several times a day
may be accompanied by headache

hormonal changes may also cause mood changes

female climacteric is accompanied by menopause
= the cessation of menstruation and end of fertility

menopause usually occurs between ages 45 and 50 (ave=52)

**Male Climacteric**

in males, testosterone secretion peaks at 20 then declines steadily to only ~20% of peak level by age 80

corresponding decline sperm count and libido

by age 65 sperm count is typically ~1/3rd of 20’s

as testosterone and inhibin levels decline pituitary produces more FSH & LH
‡ can cause mood changes, hot flashes and less often illusion of suffocation

most men pass through this stage with little or no
lasting effects
Disorders of Reproductive System

Males:

**Hypogonadism**
- is present in 0.13% of males due to pituitary malfunction
- symptoms:
  - retains juvenile physique
  - no secondary sex characteristics
  - voice remains high pitched
  - some feminizing traits
    - eg. arrangement of fat deposits characteristic of women
- malfunction usually occurs before puberty but can be caused later by mumps or other inflammation

**Hypergonadism**
- leads to excessive development of genitalia and secondary sex characteristics

**Prostate Cancer**
- second most common cancer in men (after lung cancer)
- affects ~9% of men over 50 yrs old
- more common in American blacks than whites, rare among Japanese
- often metastasizes to nearby lymph nodes and then to lungs and other organs

**Erectile Dysfunction**
- about 20% of men in 60’s and 50% in 80’s experience erectile dysfunction (=impotence)
  - erectile dysfunction can also result from hypertension, atherosclerosis, medication, prostate surgery, diabetes mellitus and psychological causes

Pollutants have been implicated in dramatic effects
especially on the male reproductive system

these pollutants are estrogen mimics called **endocrine disruptors**

such as common herbicides, insecticides, industrial chemicals used in detergents and cosmetics

possible effects include:
- declining fertility
- increase in cases of undescended testes
- reproductive abnormalities

also correlated with:

- the rate of testicular cancer has tripled in the last 50 yrs
- a sharp drop (19%) in sperm count