

# 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 ~1/3<sup>rd</sup> 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