

# Internal Affairs

## ■ How the *Reproductive System* Works with Other Body Systems

## □ How Other Systems Work with the *Reproductive System*

### *Integumentary System*

- Sex hormones affect distribution of body hair and deposition of subcutaneous fat
- Covers and protects reproductive organs
- Provides sites for sexual sensory receptors
- Mammary glands represent specialized integumentary structures

### *Skeletal System*

- Sex hormones stimulate bone growth and maintenance
- Pelvis provides protection and support for reproductive organs

### *Muscular System*

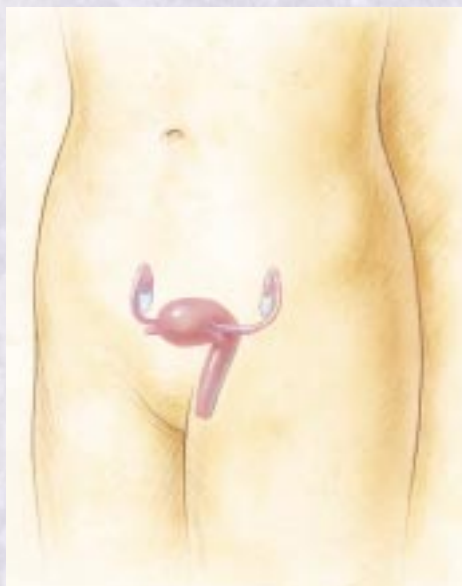
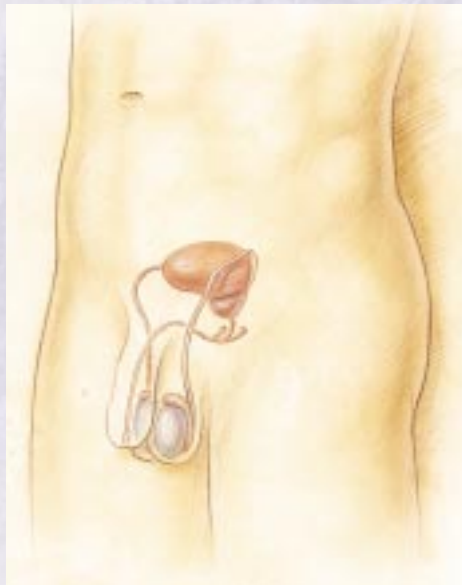
- Sex hormones stimulate muscle growth and maintenance
- Certain pelvic muscles aid coitus; involuntary action of smooth muscles aids movement of gametes; abdominal muscles aid childbirth; dartos and cremaster muscles help to maintain proper temperature of testes

### *Nervous System*

- Sex hormones influence brain development and sexual behavior
- Hypothalamus initiates gonadotropin function and lactation
- Sensory and autonomic nervous systems are involved in sexual arousal and orgasm

### *Endocrine System*

- Certain hormones (gonadotropins and GnRH) regulate the function of gonads
- Gonads and placenta constitute part of the endocrine system
- Sex hormones aid development and maintenance of sex organs; influence sex drives and functions



### *Circulatory System*

- Estrogens maintain healthy blood vessels (lower cholesterol levels)
- Androgens stimulate erythropoiesis
- Pregnancy stimulates increase in blood volume and cardiac output; may contribute to varicose veins
- Transports O<sub>2</sub>, sex hormones, and nutrients; eliminates CO<sub>2</sub> and metabolic wastes
- Vasodilation is necessary for erection

### *Lymphatic System*

- Blood-testis barrier isolates and protects sperm cells from the immune system
- Maintains a balanced amount of interstitial fluid within reproductive tissues

### *Respiratory System*

- Sexual arousal increases pulmonary ventilation
- Pregnancy interferes with the descent of the diaphragm during inspiration
- Provides O<sub>2</sub> to reproductive organs and eliminates CO<sub>2</sub>
- Vital capacity and respiratory rate increase during pregnancy

### *Digestive System*

- Developing fetus crowds digestive organs, which may cause heartburn and constipation
- Provides nutrients for organ function
- Provides nutrients for embryonic and fetal development in pregnant woman

### *Urinary System*

- Pregnancy crowds the urinary bladder, causing more frequent micturition
- Prostatic hyperplasia may impede urine flow
- Eliminates metabolic wastes
- Male urethra transports semen during ejaculation