

## Assessment of Male & Female Reproductive Systems

Subjective History: thorough review because of interrelatedness of problems (especially endocrine & urinary)

### Past Medical History

Use preferred pronouns

Included: major illnesses, hospitalizations, immunizations, surgeries, infections etc

Common Pediatric Illnesses:

Mumps:

Rubella: congenital anomalies; screen antibodies

### Chronic Conditions

- Diabetes:
  - Male: ED=impotency
  
  - Female: pregnancy & oral contraceptives
  
- Cardiovascular:
  - Male: CVA, MI, antihypertensives = ED
  
  - Female: oral contraceptives increase HTN, DVT, & angina; anemia
  
- Neurological
  - Male: SCI= ED, sexual dysfunction
  
  - Female: oral contraceptives – seizures & migraines
  
- Endocrine: hyper/hypothyroidism
  - Male: sexual performance
  
  - Female: menstrual cycle; fertility
  
- Genitourinary
  - Male: sexual function & reproduction (undescended testes)
  
  - Female: sexual function & reproductions
  
- Respiratory
  - Male: COPD- SOB on exertion
  
  - Female: oral contraceptives contraindicated with asthma & COPD
  
- Others: cholecystitis, liver disease aggravated by oral contraceptives (metabolized by liver)

### Hospitalizations & Surgeries

Male: herniorrhaphy, prostatectomy, vasectomy, testicular torsion

Female: D&C, cryosurgery, cystocele/rectocele, hysterectomy, oophorectomy, salpingectomy, pregnancy interruptions (preemptive or spontaneous)

\*Gender Confirmation Surgery (GCS): MTF or FTM

### Medications:

Prescribed

Over the Counter

Illegal

Herbal

\*diuretics, tranquilizers/psychotropics, antihypertensives, marijuana & amphetamines, hormones

### Allergies:

Sulfonamides: drug of choice

Penicillin: drug of choice

Latex/Rubber: ingredient in condoms, tampons, diaphragms

Occupational & Environmental History: increase birth defects and spontaneous abortion

### Family History:

Cancer – hereditary, genes

Identify familiar tendencies – chronic disorders: DM, MI

DES exposure (diethylstilbestrol) – correlated with vaginal, cervical, & testicular cancer

### Social & Sexual History:

Social:

Use of ETOH, cigarettes, caffeine, other drugs

- Use of these: Detrimental to fetus, ^ r/f complications (BCP & smoking); male fertility, libido, early menopause, impotency
- ^ Sexual partners: r/f STI's, HIV, PID, cervical cancer

### OB/GYN History

Previous illness or surgery – repro organs

Menstrual history – age of menarche, interval & duration; pain with period, flow, +/- clots; onset & duration of last 2 periods

Obstetrical history – pregnancies (dates, length, delivery, complications; abortions (spontaneous or preemptive)

## Sexual History

- o 5 P's of Sexual Health:
  - o Partners: Are you currently sexually active? (Yes or No)
    - Do you have sex with men, women, or both?
    - In the past 2 months, how many partners have you had sex with?
    - In the past 12 months, how many partners have you had sex with?
  - o Practices: To understand your risk for STIs, I need to understand the kind of sex you have had recently.
    - Genital (penis in the vagina)
    - Anal (penis in the anus)
    - Oral (mouth on penis, vagina, or anus)
  - o Protection from STIs: Do you and your partner(s) use any protection against STIs?
    - What kind?
    - How often?
  - o Past history of STIs: Have you ever been diagnosed with an STI?
    - What type?
    - When?
    - How were you treated?
  - o Prevention of Pregnancy: Are you or your partner trying to get pregnant?
    - If no, what are you doing to prevent pregnancy?
- o Self-awareness: expected to be informed and willing to discuss sexual matters openly
- o Establish trust – very important!
- o Maintain confidentiality & privacy
- o Discuss less sensitive areas first, then move to more sensitive areas
- o 3 principles to facilitate comfort are:
  - An atmosphere of trust-assurance of confidentiality
  - Provision of privacy
  - Comfort on part of nurse w/his or her own sexuality
- o Do not use 'why' questions; do not ask '?'s while examining genitalia
- o Person's role (has your illness interfered with your husband);  
Affective cognitive elements ('has your hysterectomy changed the way you see yourself as a woman);  
Biological aspects ('has your colostomy changed your ability to function sexually)

Physical Examination:

Male	Female
Breasts:	
Soft nipples, no lumps, nodules, swelling, or enlarged tissue	Symmetric, no dimpling, soft nipples, no drainage retraction or lesions, no masses or tenderness, no lymphadenopathy
External Genitalia:	
Diamond-shaped hair, no lesions or discharge. Scrotum symmetrical, no masses, descended. No inguinal hernia. Testes: left lower than right. Replace foreskin when finished, smegma wnl	Triangular hair distribution. Genitalia dark pink, no lesions redness swelling or inflammation; no discharge, no tenderness with palpation of ducts and glands
Anus:	
No hemorrhoids, fissures, or lesions	No hemorrhoids, fissures, or lesions

## Testicular Self-Exam

Done monthly

Warm environment-not cold

Use both hands, palpate scrotum, check for lesions &amp;/or masses

Identify structures- smooth, egg shaped, one normally larger; spermatic cord firm &amp; smooth

Risk for Testicular CA - ages 20-35 males

## Internal pelvic examination- Done by MD or nurse specialist

## Papanicolaou (PAP)

Uses a speculum – vaginal walls pink to pale, more visible with clear speculums

Best time- midcycle

Not painful

Assess- inflammation, drainage, lesions; looking at cervix: color contour position symmetry and lesions

Bimanual Exam – size, shape, and consistency of uterus, ovaries, and tubules, done with PAP exam, ensure client voided prior to exam

Gerontologic Considerations: decrease muscle tone, decreased subcutaneous tissue, decreased hormones, atrophy

- Males: gynecomastia, smaller size penis, enlarged prostate, decrease firmness & size in testes
- Females: pendulous breasts, decrease muscle tone urethra, increase r/f infections, incontinence, atrophy of tissue, less hair, dry mucosa, vulva- wrinkled, shrunken, flat, cystocele

## **Diagnostic Studies**

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Clients & families anxious  
 Reduction of anxiety  
 Nurses aware of specific prep  
 Keep pt informed  
 Observe

## **MALE**

Diagnostic Studies –

- Hormone Testing: Male: Testosterone- serum or 24 hr urine; testicular tumors & anomalies
- PSA - serum - increases in males w/prostatic disease or cancer
- Syphilis studies
  - o (nontreponemal – VDRL, RPR): nonspecific antibody screening tests for syphilis, non-fasting
  - o (treponemal – FTA-Abs): specifically detects syphilis antibodies; early diagnostic; non-fasting
  - o Need both
- Cultures: urethral discharge (Gonorrhea or Chlamydia)
- Cystoscopy: assessment and treatment
- CT scans/ MRI- abnormalities, masses
- Ultrasound- masses (testes) TRUS
- Semen analysis: fertility
- Prostatic smear: prostate massage
- Needle biopsy: prostate; contraindicated for testes (see testicular cancer)

- Transrectal biopsy: TRUS, US

### FEMALE

#### Diagnostic Studies-Female

- Hormone Testing: Female: Estrogen & Progesterone: serum or 24 hour urine
- Urine studies: (human chorionic gonadotropin) – first morning specimen; most accurate 6 weeks after last period
- Serum testing (hormones): prolactin, progesterone, estrogen; serum HCG; fasting, need to coordinate with menstrual cycle
- Syphilis studies: same as men; VDRL & RPR nonspecific; FTA-ABS specific
- Cultures: vaginal or cervical discharge
- Wet mounts: trichomonas, candida, bacteria, RBC WBC, STI's; no douching prior;
- Gram stain - Gonorrhea- quick results - more accurate in males
- Cytological studies: PAP test
  - Looks for changes of cervical cells
  - Done on all sexually active females or females over 21
  - Best mid-cycle
  - No douching 24 hrs prior
  - Ages 21-30 every 3 years (will still have annual examination if sexually active)
  - 30-65 every 5 years with HPV test
- Radiological studies:
  - Mammogram (45-54 yearly; 55 and older – every 2 years or yearly)  
\*(The screening guidelines are constantly changing and not all organizations agree, for testing purposes, use textbook recommendations)
  - Pelvic/Trans-vaginal US – masses >3 cm; need full bladder for any pelvic US
- Operative Procedures
  - Breast biopsy: breast tissue
  - Colposcopy: visualization of cervix; F/U abnormal PAPs
  - Conization: cone-shaped sample; under anesthesia; utilizing newer procedure: *electrocoagulation diathermy* (helps preserve fertility if low stage/grade cervical cancer; cauterization)
  - Laparoscopy: visualize pelvic structures; CO2
  - Dilation & curettage: (D&C); dilates cervix and allows for scraping of lining;

pad checks

-Endometrial ablation: removal of overgrown uterine lining; Used for DUB who do not respond to med management or who do not want a hysterectomy;  
Replacing D & C

- Fertility Studies

- Endometrial biopsy: post-ovulation portion of cycle or post-menopausal bleeding; cramping

- Hysterosalpingogram (HSG): dye instilled through cervix into uterus & tubes; detects blockages, adhesions, shape; uncomfortable procedure; cramping and bleeding post

- Culdoscopy (light) & culdotomy (incision): through vagina to examine ovaries, tubes, uterus; knee-to-chest; tubal ligation

- LEEP (loop electrosurgical excision procedure): cervical tissue excised; takes 10-30 minutes, local anesthetic; cramping and bleeding for 1-3 days post

- Biopsy

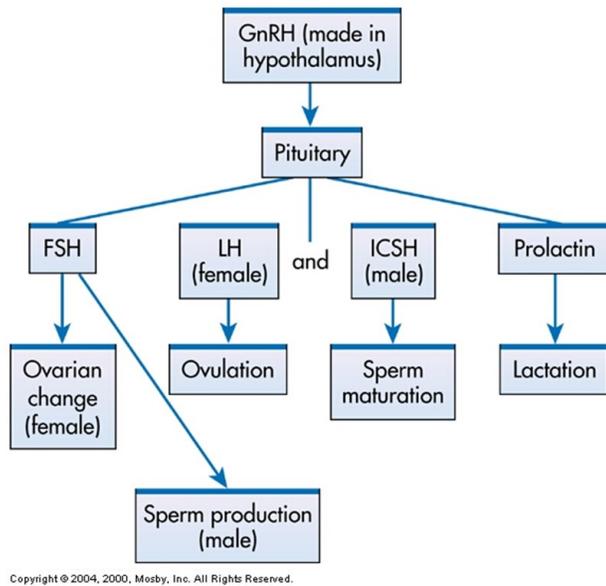
- Punch biopsy: 'punch holes' from t-zone of cervix during colposcopy

- Endocervical curettage (ECC): scraping cells; no anesthesia, minor discomfort

### Neuroendocrine Regulation

- Hormones are necessary for ovulation, spermatogenesis, fertilization, & secondary sex characteristics

Hypothalamic-Pituitary-Gonadal Axis



-Hypothalamus secretes gonadotropin releasing hormone (GnRH) to stimulate the pituitary to stimulate gonads

-FSH (follicle stimulating hormone)- stimulates the growth and maturity of the ovary, necessary for ovulation and estrogen. In men it stimulates the seminiferous tubules for sperm production

-LH (Luteinizing hormone) -- ovulatory process, ovulation occurs and an estrogen surge occurs. In men ICSH (interstitial cell stimulating hormone) is responsible for sperm maturation & production of testosterone

-LTH (luteotropic hormone) which is prolactin needed for development & growth of the mammary glands for lactation (no known function in men)

### Gonadal Feedback Mechanisms

[https://youtu.be/zv8LHyH7\\_rl](https://youtu.be/zv8LHyH7_rl)

TABLE 50-1 Gonadal Feedback Mechanisms	
<b>Negative Feedback</b>	
<b>Female</b>	
↓ Estrogen (hypothalamus)	→ ↑ GnRH (hypothalamus) → ↑ FSH (pituitary) → ↑ Estrogen (ovaries)
<b>Male</b>	
↓ Testosterone (hypothalamus)	→ ↑ GnRH (hypothalamus) → ↑ FSH and LH (or ICSH) (pituitary) → ↑ Testosterone (testes)
<b>Positive Feedback</b>	
↑ Estrogen (hypothalamus)	→ ↑ GnRH (hypothalamus) → ↑ LH (pituitary)

## Negative & Positive Feedback

- **Positive:** increased estrogen stimulates the release of GnRH from the hypothalamus and LH from the anterior pituitary, when stimulated from GnRH, LH stimulates the release of more estrogen, cycle continues. Once high levels of LH are accumulated in the blood, it stimulates the process of negative feedback
  - **Negative:** When high levels of LH trigger progesterone to be secreted from corpus luteum (in ovary); after ovulation, progesterone will trigger GnRH to turn off, thus stopping LH; resulting in reduced estrogen.
- Testosterone-** negative only; low levels stimulate hypothalamus to increase GnRH =  $\wedge$  FSH & ICSH to  $\wedge$  testosterone (thermostat – once temp is reached, it turns off)

## Female Hormones:

**Estrogen:** secondary sex characteristics, proliferative phase of cycle, uterine changes for pregnancy

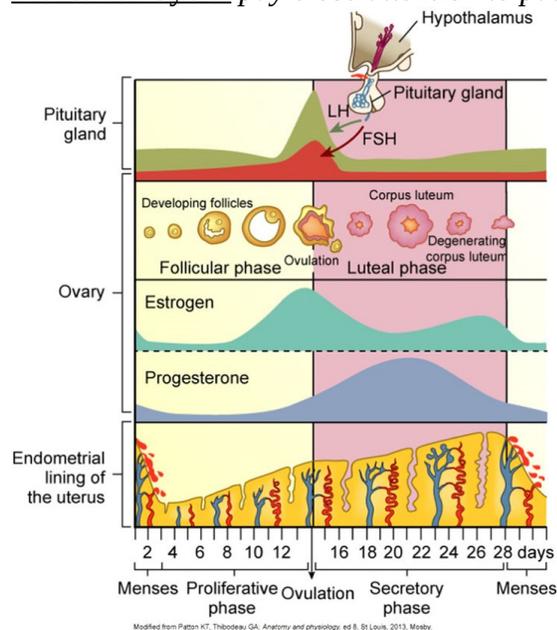
**Progesterone:** responsible for menstrual cycle, secretory phase of cycle, body changes related to pregnancy; needed to maintain implanted egg

## Male Hormones

**Testosterone:** secondary sex characteristics, spermatogenesis; (androgen)

**Estrogen:** not well understood in men; produced in adrenal cortex

## Menstrual Cycle: *pay close attention to patient teaching*



\*Menstrual cycle: secretion of hormones and ovulation occur during a normal menstrual cycle, occurs each month where the ovum is not fertilized (28 days)

Menarche:

- first episode of menstrual bleeding
- indicates puberty is reached
- onset usually 12-13 yrs of age
- may occur as early as 10
- anovulatory: irregular menstrual cycles for 1-2 yrs after menarche – no ovulation
- the menstrual cycle begins on the first day of menstruation, which lasts 4-6 days. First day of menstrual cycle is charted as LMP

MENSTRUAL CYCLE: 3 phases in relation to uterine and ovarian changes

Menstrual phase

- Day 1-4 (low estrogen and progesterone)
- Menstruation

Proliferative (follicular) phase

- Day 5-14 (FSH increases, **negative feedback**- estrogen increases, FSH decreases, LH secreted)
- Endometrial regrowth (increase in length of blood vessels and glandular tissue)
- ovary/follicle matures
- Ovulation – Day 14

Secretory (luteal) phase

- Day 15-28 (progesterone increases, if ovum fertilized = estrogen and progesterone continue to increase, if no fertilization = both decrease)
- endometrial lining unsupported, blood vessels contract, tissue sloughs
- starts menstrual phase

Psychological Aspects of Care of the Reproductive System

- Establish trust
- Be nonjudgmental
- Be competent (gives added reassurance during awkward situation)
- Self-awareness
- Make appropriate referrals
- Evaluate own sex feelings (self-awareness is key)