

## 1.13.) PREGNANCY SCREENING

<b>hypertension</b>	<ul style="list-style-type: none"><li>• monitor throughout pregnancy (weight gain, edema, blood pressure)</li></ul>
<b>Rh incompatibility</b>	<ul style="list-style-type: none"><li>• determine at first prenatal visit</li></ul>
<b>rubella titer</b>	<ul style="list-style-type: none"><li>• determine at first prenatal visit</li></ul>
<b>STDS</b>	<p><b><u>screen at first prenatal visit:</u></b></p> <ul style="list-style-type: none"><li>○ gonorrhea</li><li>○ syphilis</li><li>○ chlamydia</li><li>○ HBsAg</li><li>○ offer HIV</li></ul>
<b>bacteriuria</b>	<ul style="list-style-type: none"><li>• urine culture at first prenatal visit</li><li>• treat bacteriuria, even if asymptomatic</li></ul>
<b>triple screen <sup>1</sup></b>	<ul style="list-style-type: none"><li>• at 16~20 weeks</li></ul>
<b>oral glucose tolerance</b>	<ul style="list-style-type: none"><li>• at 24~28 weeks</li></ul>
<b>RhoGAM vaccine</b>	<ul style="list-style-type: none"><li>• at 28~32 weeks if mother Rh-negative</li></ul>
<b>amniocentesis</b>	<ul style="list-style-type: none"><li>• consider for women &gt; 35</li></ul>

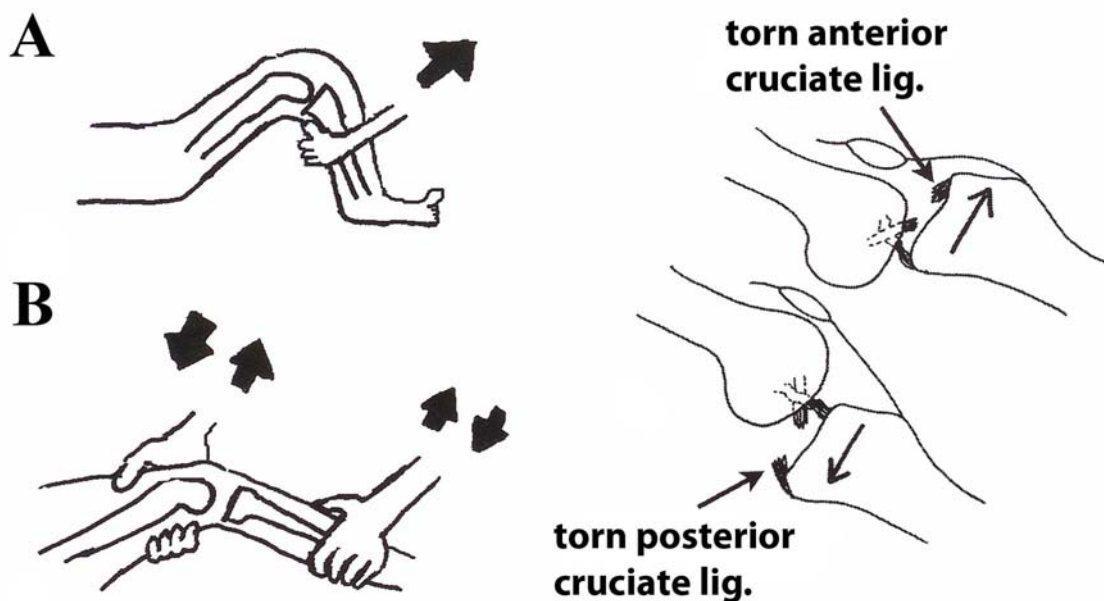
<sup>1</sup>  $\alpha$ -FP , hCG , estriol

## 2.7.) TRAUMA



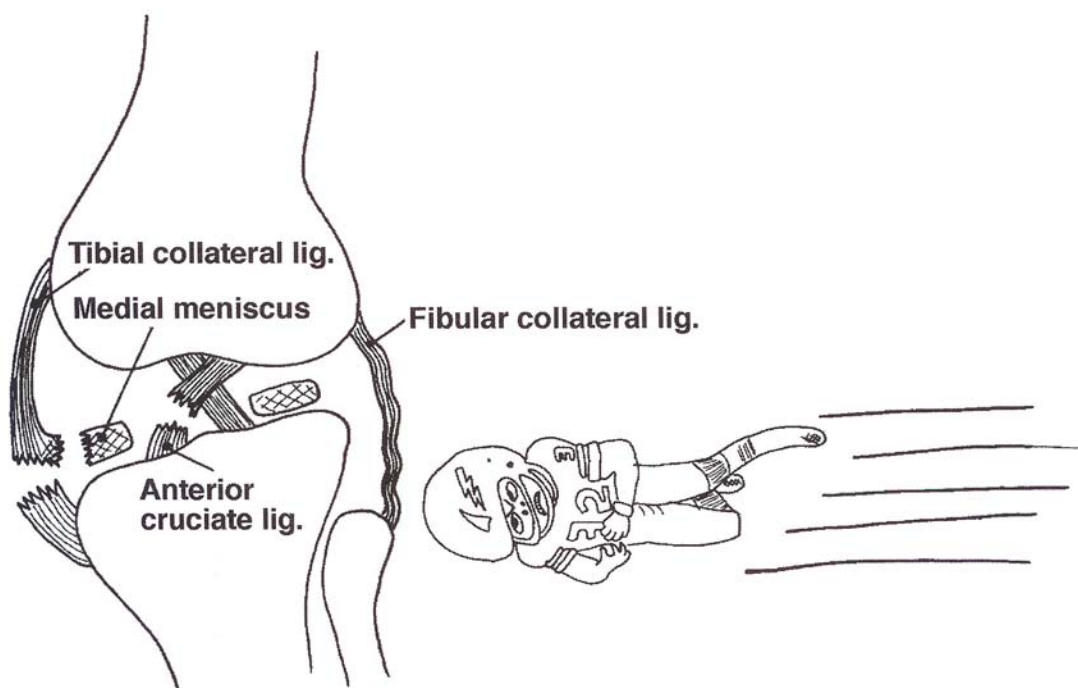
<b>Battle's sign</b> <sup>1</sup>	<b>basilar skull fracture</b> <ul style="list-style-type: none"><li>• ecchymosis over mastoid</li><li>• develops 24-36h after trauma</li></ul>
<b>Raccoon's eyes</b> <sup>1</sup>	<b>basilar skull fracture</b> <ul style="list-style-type: none"><li>• bilateral periorbital ecchymosis</li></ul>
<b>Cullen's sign</b>	<b>intra-abdominal bleeding</b> <ul style="list-style-type: none"><li>• hemorrhagic patches around umbilicus</li></ul>
<b>Turner's sign</b>	<b>intra-abdominal bleeding</b> <ul style="list-style-type: none"><li>• hemorrhagic patches at flanks</li></ul>
<b>anterior drawer sign</b>	<ul style="list-style-type: none"><li>• anterior cruciate ligament</li></ul>
<b>posterior drawer sign</b>	<ul style="list-style-type: none"><li>• posterior cruciate ligament</li></ul>
<b>McMurray's sign</b>	<b>meniscal tear</b> <ul style="list-style-type: none"><li>• "click" or "pop" elicited by lower leg manipulation</li></ul>

<sup>1</sup> *important signs since basilar skull fractures are easily missed on x-ray.*



From Tétréault & Ouellette: *Orthopedics Made Ridiculously Simple*, MedMaster, 2009

- A:** Drawer test performed with the knee flexed 90 degrees.  
**B:** Lachman test performed while holding the knee with both hands, flexed at 20 degrees, and moving hands in opposite direction to detect instability.



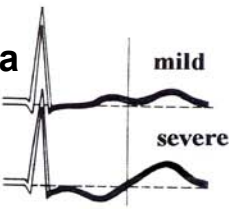
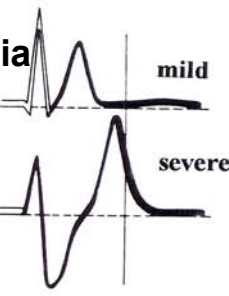
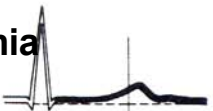
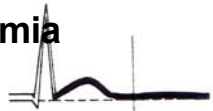

From Goldberg: *Clinical Anatomy Made Ridiculously Simple*, MedMaster, 2007

**Unhappy Triad:** Lateral impact on knee → tears of (1.) tibial collateral ligament, (2.) medial meniscus and (3.) anterior cruciate ligament.

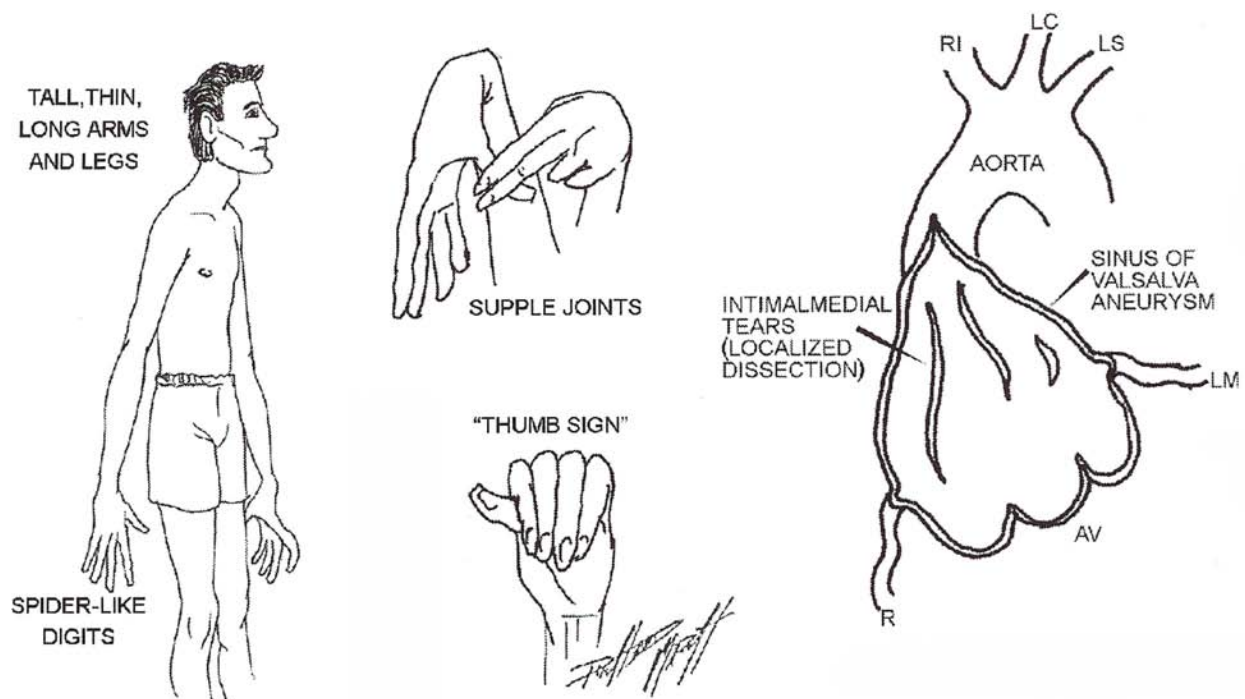
## 4.2.) ECG PATTERNS: ELECTROLYTES

Try to relate the ECG pattern to the 5 phases of the cardiac action potential to understand the characteristic effects of electrolyte disorders:



<p><b>hypokalemia</b></p> 	<ul style="list-style-type: none"> <li>• <b>prolonged, flat T waves</b></li> <li>• <b>U waves</b></li> </ul>
<p><b>hyperkalemia</b></p> 	<ul style="list-style-type: none"> <li>• <b>tall, peaked T waves</b></li> <li>• <b>widening of QRS</b></li> </ul>
<p><b>hypocalcemia</b></p> 	<ul style="list-style-type: none"> <li>• <b>prolonged ST segment</b></li> </ul>
<p><b>hypercalcemia</b></p> 	<ul style="list-style-type: none"> <li>• <b>shortened ST segment</b></li> </ul>
<p><b>digitalis</b></p> 	<ul style="list-style-type: none"> <li>• <b>prolonged PR interval</b> (watch for AV block)</li> <li>• <b>shortened QT interval</b> (watch for ectopic systoles)</li> <li>• <b>deep, scooped ST</b></li> </ul>

## MARFAN SYNDROME



From Chizner: *Clinical Cardiology Made Ridiculously Simple*, MedMaster, 2010

## CORONARY ARTERY DISEASE (CAD)

### Aggressive risk factor modification:

1. stop smoking
2. control blood pressure
3. lower lipids aggressively
4. control blood glucose tightly in diabetic patients

- ✓ All patients with CAD should receive low-dose aspirin unless contraindicated (bleeding) or Clopidogrel if allergic to aspirin.
- ✓  $\beta$ -blockers or calcium-antagonists to reduce cardiac work load.
- ✓ Prescribe sublingual nitrates to abort episodes of angina.
- ✓ Hospitalize if angina occurs at rest or unresponsive to third sublingual dose.
- ✓ If refractory to medical therapy: angiography to determine need for bypass.

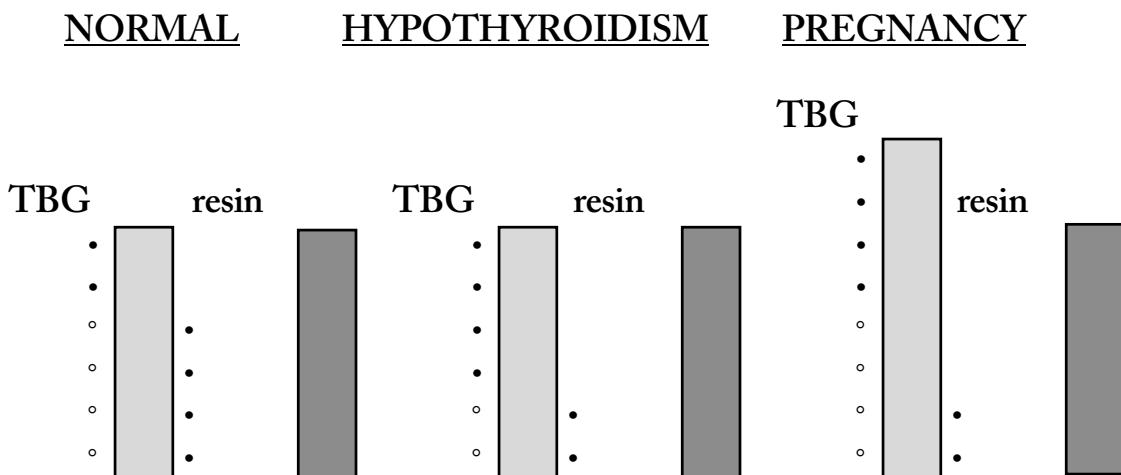
## MYOCARDIAL INFARCTION

- ✓ (1.) Establish IV line
- ✓ (2.) give O<sub>2</sub>, sublingual nitroglycerin and aspirin
- ✓ (3.) give  $\beta$ -blocker, heparin and morphine.
- ✓ Prompt coronary reperfusion if severe ischemia (ST elevation MI), ideally within 3h (but not if more than 12h have passed).
  - thrombolysis is relatively contraindicated if bleeding from other sites is likely (recent surgery or trauma, oral anticoagulation, cerebrovascular disease etc).
- ✓ If ventricular arrhythmias develop → IV lidocaine.
- ✓ Adjunctive: Aspirin (or Clopidogrel),  $\beta$ -blockers and statins reduce mortality.

## 11.7.) THYROID HORMONES

Thyroxin (T<sub>4</sub>) is converted to the biologically active hormone T<sub>3</sub>.

<b>T<sub>3</sub>, T<sub>4</sub></b>	<p><b>increased:</b> hyperthyroidism estrogens, pregnancy</p> <p><b>decreased:</b> euthyroid sick state hypothyroidism</p>
<b>T<sub>3</sub> resin uptake</b>	<p><b>increased:</b> hyperthyroidism nephrotic syndrome (TBG ↓) steroids, heparin, aspirin, others</p> <p><b>decreased:</b> hypothyroidism estrogens, pregnancy (TBG ↑)</p>
<b>TSH</b>	<p><b>increased:</b> primary hypothyroidism (Hashimoto's) pituitary adenoma</p> <p><b>decreased:</b> primary hyperthyroidism (Graves') pituitary insufficiency</p>



◦ T<sub>3</sub>

• T<sub>3</sub> (radiolabeled)

number of • on resin = T<sub>3</sub> resin uptake

## 13.2.) CONJUNCTIVITIS

### Three Major Causes of Conjunctivitis:

	<b>ALLERGIC</b>	<b>BACTERIAL</b>	<b>VIRAL</b>
<b>itching</b>	<b>severe</b>	little	little
<b>injection</b>	mild	<b>severe</b>	moderate
<b>discharge</b>	mild	<b>severe</b>	moderate
<b>preauricular LN</b>	negative	negative	<b>enlarged</b>
<b>associated with</b>	hay fever		sore throat
<b><i>treatment</i></b>	<i>steroids</i> <i>antihistamines</i>	<i>topical antibiotics</i>	<i>preventive</i>



*In elderly people conjunctivitis is often due to dryness caused by inadequate tearing and can be treated with “artificial tears”.*

## 14.4.) PARANEOPLASTIC SYNDROMES

Metabolic or neurological conditions not due to local tumor growth. Sometimes, these can be the first sign of malignancy!



<b>DIC</b>	<ul style="list-style-type: none"><li>• leukemias, lymphomas</li><li>• adenocarcinomas</li></ul>
<b>hypercalcemia</b>	<ul style="list-style-type: none"><li>• squamous cell carcinoma (lung)</li></ul>
<b>hypoglycemia</b>	<ul style="list-style-type: none"><li>• insulinoma</li><li>• mesenchymal tumors</li></ul>
<b>thrombosis</b> (Trousseau's syndrome)	<ul style="list-style-type: none"><li>• mucinous adenocarcinomas</li><li>• myeloproliferative disorders</li></ul>
<b>dermatomyositis</b>	<ul style="list-style-type: none"><li>• breast and lung cancer</li></ul>
<b>acanthosis nigricans</b>	<ul style="list-style-type: none"><li>• stomach cancer</li></ul>
<b>myasthenia</b> (Eaton-Lambert syndrome)	<ul style="list-style-type: none"><li>• small cell carcinoma (lung)</li></ul>



## 15.10.) BREAST CANCER

Breast cancer is the most common cancer in women and has the second highest mortality (after lung cancer). Fibrocystic change is very common and benign.

FIBROCYSTIC CHANGE	BREAST CANCER
<ul style="list-style-type: none"> <li>• often bilateral</li> <li>• multiple nodules</li> <li>• menstrual variation</li> <li>• may regress during pregnancy</li> </ul>	<ul style="list-style-type: none"> <li>• often unilateral</li> <li>• single mass</li> <li>• no cyclic variations</li> </ul>



*Fibrocystic change does not increase risk of breast cancer, but makes detection more difficult.*

PERHAPS BENIGN	PERHAPS MALIGNANT
<ul style="list-style-type: none"> <li>• discrete, smooth</li> <li>• movable</li> <li>• tender</li> </ul> <p><b><u>Mammogram:</u></b></p> <ul style="list-style-type: none"> <li>• round, ovoid, smooth</li> <li>• clearly defined margins</li> <li>• may contain calcifications</li> </ul>	<ul style="list-style-type: none"> <li>• ill-defined, thickened</li> <li>• non-movable</li> <li>• edema</li> </ul> <p><b><u>Mammogram:</u></b></p> <ul style="list-style-type: none"> <li>• distinct, irregular tumor mass</li> <li>• projection of dense spicules</li> <li>• may contain calcifications</li> </ul>

### **RISK FACTORS:**

- (1.) family history
- (2.) age of patient
- (3.) estrogens

## PRIMARY AMENORRHEA

- ✓ If uterus absent: karyotype.
- ✓ If uterus present and vagina patent: workup like secondary amenorrhea.

## SECONDARY AMENORRHEA

- ✓ Rule out pregnancy (hCG), rule out anorexia!
- ✓ If hirsutism present: rule out polycystic ovaries, ovarian and adrenal tumors.

**High FSH** suggests ovarian failure.

**Low FSH** suggests pituitary failure → get CT or MRI.

- ✓ Prolactinoma: Medical: Induce ovulation with bromocriptine.  
Surgical: transsphenoidal destruction of pituitary adenoma.

## DYSMENORRHEA

- ✓ NSAIDs (ibuprofen).
- ✓ Oral contraceptives → anovulation → decreased prostaglandin production.
- ✓ Adenomyosis and endometriosis may require surgical treatment.

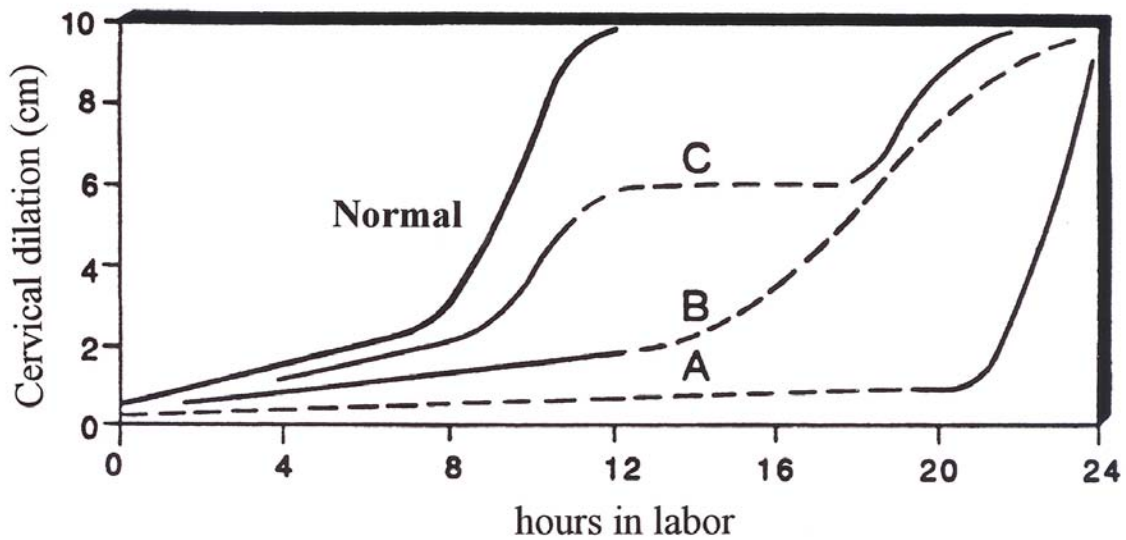
## INFERTILITY

- ✓ **Male factor:** semen analysis, postcoital test, consider removal of varicocele, consider sperm aspiration and IVF.
- ✓ **Ovarian factor:** document ovulation (basal temperature, progesterone levels), induce with clomiphene or bromocriptine for anovulation due to prolactin excess.
- ✓ **Cervical factor:** treat chronic infections, mucus quality, test behavior of sperms in mucus, consider steroids if antisperm antibodies present.
- ✓ **Tubal factor:** determine patency, consider *in vitro fertilization*.
- ✓ **Uterine factor:** treat endometritis, consider removal of myomas.

## POLYCYSTIC OVARIES

- ✓ Promote weight loss.
- ✓ Clomiphene to induce ovulation.
- ✓ Check oral glucose tolerance: if insulin-resistant → metformin.
- ✓ Ovarian wedge resection rarely necessary.

## 16.9.) LABOR PATTERNS



From *Obstetrics and Gynecology*, 2nd edition, p. 190, by C.R.B. Beckmann et al.  
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- A: prolonged latent phase
- B: prolonged active phase
- C: arrest of active phase

### PREMATURE RUPTURE OF MEMBRANES

- Danger of chorioamnionitis.
- Amniotic fluid shows “ferning”.
- Amniotic fluid has pH > 7.0 (Nitrazine test).
  
- Amniotic band syndrome: - fetus becomes entangled in membranes.  
- resulting in deformities, finger amputations...

## 19.2.) PUPILS

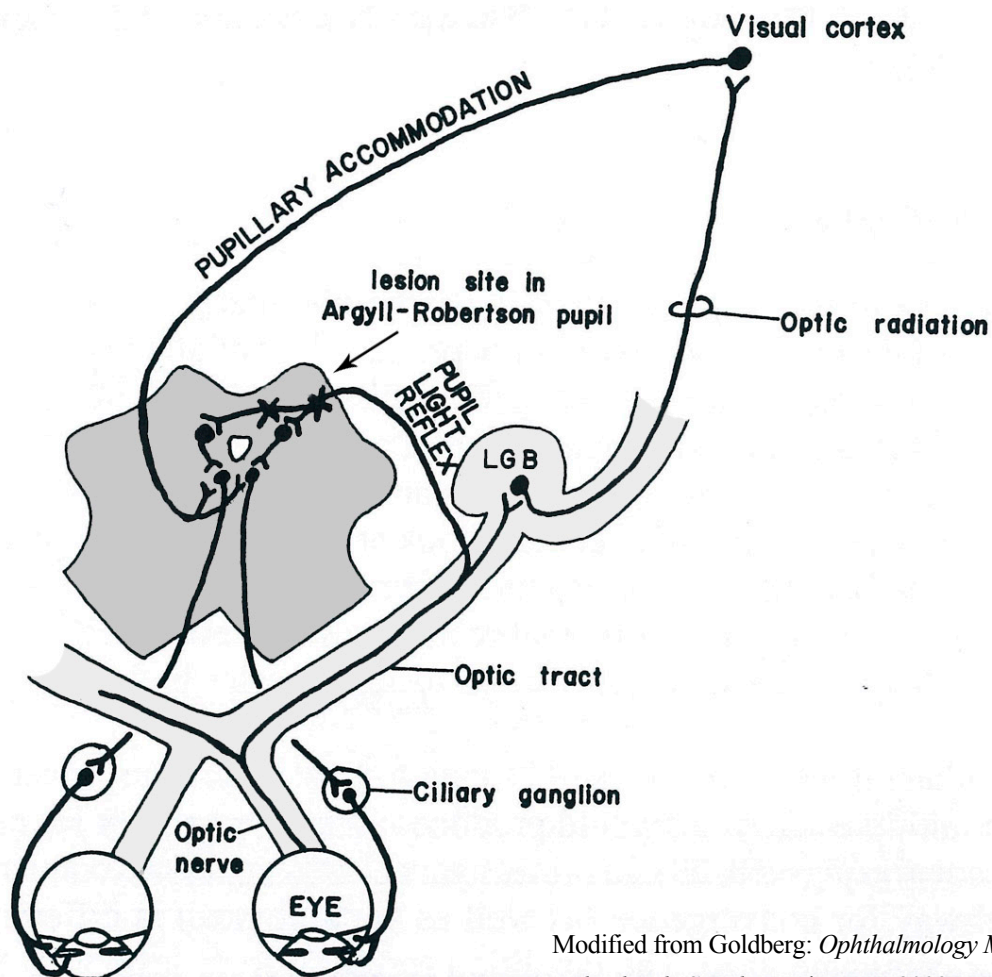
The pupillary light reflex is such an important diagnostic tool because it involves nuclei near the vital brainstem centers:

Optic nerve → Edinger Westphal nucleus → Oculomotor nerve

	LIGHT REACTIVE	NOT LIGHT REACTIVE
large	<ul style="list-style-type: none"> <li>• children</li> <li>• anxiety</li> </ul>	<ul style="list-style-type: none"> <li>• death</li> <li>• atropine poisoning</li> <li>• cocaine, amphetamine</li> </ul>
small	<ul style="list-style-type: none"> <li>• elderly</li> <li>• Horner's syndrome</li> </ul>	<ul style="list-style-type: none"> <li>• Argyll-Robertson</li> <li>• opiates</li> </ul>



*Argyll-Robertson pupils constrict to near accommodation but do not respond to light:*



Modified from Goldberg: *Ophthalmology Made Ridiculously Simple*, MedMaster, 2009