Autosomal recessive diseases (11)	1. CF 2. albinism 3. alpha 1 antitrypsin deficiency 4. phenylketonuria 5. thalassemias 6. sicke cell anemia 7. glycogen storage diseases 8. mucopolysaccharidoses (except Hunter's) 9. sphingolipidoses (except Fabry's) 10.infant polycystic kidney disease 11. hemochromatosis
_____are associated with low golic acid intake during pregnancy.	Neural tube defects
90% of adult polycystic kidney disease cases are due to mutation in _____.	APKD1 (on chromosome 16)
95% of Down's syndrome cases are due to what?	meiotic nondisjunction of homologous chromosomes (4% due to Robertsonian translocation and 1% due to Down mosaicism)

A patent ductus arteriosus is maintained by what 2 things?	PGE synthesis and low oxygen tension
Abnormalities associated with Marfan's syndrome:	1. Skeletal: tall with long extremities, hyperextensive joints, long tapering fingers and toes 2. Cardiovascular: cystic medial necrosis of the aorta, aortic incompetence, aortic dissection, aortic aneurysm, floppy mitral valve Ocular: subluxation of lenses
Adult polycystic kidney disease is associated with what other diseases or disorders?	polycystic liver disease BERRY ANEURYSMS mitral valve prolapse
Babies with Fetal Alcohol Syndrome are at higher risk for developing what other problems?	pre and postnatal developmental retardation microcephaly facial abnormalities limb dislocation heart and lung fistulas

Becker's muscular dystrophy is due to____.	dystrophin gene mutations (not deletions) Becker's is less severe.
Besides pulmonary infections, what are some other consequences of CF?	infertility in males fat-soluable vitamin deficiencies (A,D,E,K)
Causes of female pseudohermaphroditism:	excessive and inappropriate exposure to androgenic steroids during early gestation (i.e., congenital adrenal hyperplasia or exogenous administration of androgens during pregnancy)
Characteristic murmur with a patent ductus arteriosus.	continuous, 'machine-like'

Characteristics of Adult polycystic kidney disease:	always bilateral massive enlargement of kidneys due to multiple large cysts patients present with pain, hematuria, HTN, and progressive renal failure
Characteristics of Duchenne's MD:	onset before age 5 weakness begins in the pelvic girdle muscles and progresses superiorly pseudohypertrophy of calf muscles due to fibrofatty replacement of muscle cardiac myopathy use of Gower's maneuver
Characteristics of female pseudohermaphroditism:	ovaries present but external genitalia are virilized or ambiguous
Characteristics of Fragile X syndrome:	macro-orchidism (enlarged testes), long face with a large jaw, large everted ears, and autism

Characteristics of Hereditary Sperocytosis:	spheroid erythrocytes hemolytic anemia increased MCHC splenectomy is curative
Characteristics of male pseudohermaphroditism:	testes present, but external genitalia are female or ambiguous.
Children may do this to increase venous return with R-to-L shunt.	squat
Compare the cholesterol levels of heterozygores and homozygotes with familial hyperchlosterolemia:	Heterozygotes (1 : 500) cholest. levels around 300mg/dL Homozygotes (very rare) cholest. levels over 700 mg/dL.

Complications associated with homozygous familial hypercholesterolemia:	severe atherosclerotic disease early in life tendon xanthomas (classically in the Achilles tendon) Myocardial Infarction before age 20
Congenital heart defects are often due to which infection?	rubella
Cri-du-chat syndrome results from a congenital deletion on which chromosome?	short arm of chromosome 5 46 XX or XY, 5p-
Define Meningocele:	meninges herniate through spinal canal defect picture on p. 229

Define Meningomyelocele:	meninges and spinal cord herniate through spinal canal defect picture on p.229
Define pseudohermaphroditism:	disagreement between the phenotypic (external genitalia) and gonadal (testes vs. ovaries) sex.
Define Spina bifida occulta:	failure of bony spinal canal to close, but no structural herniation. (usually seen at lower vertebral levels) picture on p. 299 (2002 edition)
Describe a true hermaphrodite:	46 XX or 47 XXY both ovary and testicular tissue present; ambiguous genitalia

Describe Eisenmenger's syndrome:	Uncorrected VSD, ASD, or PDA leads to progressive pulm. HTN. As pulm. resistance increases, the shunt changes from L to R to R to L, which causes late cyanosis (clubbing and polycythemia).
Does coarctation of the aorta affect males or females most commonly?	3:1 males to females
Down's syndrome is associated with increased or decreased levels of AFP?	decreased
Elevated ___ in amniotic fluid is evidence of a neural tube defect.	AFP (alpha fetal protein)

Explain the adult type of coarctation of the aorta and give some associated symptoms.	aortic stenosis distal to ductus arteriosus (postductal) aDult is Distal to Ductus associated with notching of the ribs, hypertension in upper extremities, weak pulses in lower extermities (check femoral pulse)
Explain the infantile type of coarctation of the aorta. What is it commonly associated with?	aortic stenosis proximal to insertion of ductus arteriosus (preductal) 'INantile, IN close to the heart.' associated with Turner's syndrome
Explain the pathogenesis of a patent ductus arteriosus:	In fetal period, shunt is R to L (normal). In neonatal period, lung resistance decreases and shunt becomes L to R with subsequent RV hypertrophy and failure (abnormal).
Explain the transposition of the great vessels.	Aorta leaves RV (anterior) and pulmonaryt trunk leaves LV (posterior) this leads to separation of systemic and pulmonary circulations.

Familial Adenomatous Polyposis features:	Colon becomes covered with adenomatous polyps after puberty 'FAP' F= five (deletion on chromosome 5) A= autosomal dominant inheritance P= positively will get colon cancer (100% without resection)
Findings in Von Recklinghausen's disease:	café-au-lait spots, neural tumors, Lisch nodules (pigmented iris hamartomas), skeletal disorders (scoliosis), and increased tumor susceptibility
Findings of Cri-du-chat syndrome:	microcephaly, severe MR, high pitched crying/mewing - (Cri-du-chat is French for cry of the cat), cardiac abnormalities
Findings with Huntington's disease:	depression progressive dementia choreiform movements caudate atrophy dec. levels of GABA and Ach in the brain

Frequency of L-toR shunts:	VSD>ASD>PDA
Gender identity is based on what two things?	1. external genitalia 2. sex of upbringing
Genetic anticipation of Fragile X syndrome may be shown by what?	Triplet repeat (CGG)n
Highest risk of development of fetal alcohol syndrome at __ to ___ weeks.	3 to 8

How does CF present in infancy?	Failure to thrive
How is CF diagnosed?	increased concentration of Cl- ions in sweat test
How is MD diagnosed?	muscle biopsy increased serum CPK
Huntington's disease manifests between the ages of :	20 and 50

Incidence and characteristics and Turner's syndrome:	1 in 3000 births short stature, ovarian dysgenesis, webbed neck, coarction of the aorta
Incidence and characteristics of double Y males:	1 in 1000 births phenotypically normal, very tall, severe acne, antisocial behavior (seen in 1-2%)
Incidence and characteristics of Edward's syndrome:	1 in 8000 births severe MR, rocker bottom feet, low-set ears, micrognathia, congenital heart disease, clenched hands (flexion of fingers), prominent occiput. Death usually occurs within 1 year of birth.
Incidence and characteristics of Klinefelter's syndrome:	1 in 850 births testicular atrophy, eunuchoid body shape, tall, long extremities, gynecomastia, female hair distribution

Incidence and characteristics of Patau's syndrome:	1 in 6000 births severe MR, microphthalmia, microcephaly, cleft lip/palate, abnormal forebrain structures, polydactly, congenital heart disease Death usually occurs within 1 year of birth.
Marfan's is due a mutation in which gene?	fibrillin
Mechanism of Fetal Alcohol Syndrome may be :	inhibition of cell migration
Most common form of male pseudohermaphroditism is ____.	testicular feminization (androgen insensitivity) results from a mutation in the androgen receptor gene (X linked recessive); blind-end vagina

Name 3 examples of L-to-R shunts. (late cyanosis) 'blue kids'	1. VSD (ventricular septal defect) 2. ASD (atrial septal defect 3. PDA (patent ductus arteriosus)
Name 3 examples of R-to-L shunts. (early cyanosis) 'blue babies'	The 3 T's' 1. Tetralogy of Fallot 2. Transposition of great vessels 3. Truncus arteriosus
Name 7 common congenital malformations	1. heart defects 2. Hypospadias (when the urethral canal is open on the undersurface of the penis or on the perineum) 3. Cleft lip w/ or w/out cleft palate 4. congenital hip dislocation 5. Spina Bifida 6. Anencephaly 7. Pyloric stenosis
Name 8 autosomal-dominant diseases:	1. Adult polycystic kidney disease 2. Familial hyperchloresterolemia (type IIA) 3. Marfan's syndrome 4. Von Recklinghausen's disease (NFT1) 5. Von Hippel-Lindau disease 6. Huntington's disease 7. Familial Adenomatous Polyposis 8. Hereditary Sperocytosis

Name an X-linked recessive muscular disease that leads to accelerated muscle breakdown.	Duchenne's Muscular Dystrophy
Name the 4 components of Tetralogy of Fallot.	PROVe' 1. Pulmonary Stenosis 2. RVH (right ventricular hypertrophy) 3. Overriding aorta (overrides the VSD) 4. VSD (ventricular septal defect)
Neural tube defects (spina bifida and anencephaly) are associated with increased levels of ___ in the amniotic fluid and maternal serum.	AFP (alpha fetal protein)
Newborns of mothers who consumed significant amounts of alcohol (teratogen) during pregnancy are at risk for _____.	fetal alcohol syndrome (the number one cause of congenital malformations in the U.S.)

Patau's syndrome = trisomy ___	13 (hint: Puberty - 13)
Pathogenesis of Cystic Fibrosis:	defective Cl- channel --> secretion of abnormally thick mucus that plugs lungs, pancreas, and liver --> recurrent pulmonary infections (Pseudomonas species and Staph aureus), chronic bronchitis, bronchiectasis, pancreatic insufficiency (malabsorption and steatorrhea), meconium ileus in newborns.
Patients with Tetralogy of Fallot often suffer _____.	cyanotic spells
Pyloric stenosis is associated with_____.	polyhydramnios; projectile vomiting

T/F: Trisomy 21 is associated with advanced maternal age.	True (from 1 in 1500 births in women<20 to 1 in 25 births in women>45)
Tetralogy of Fallot leads to early cyanosis from a R-to-L shunt across the ____.	VSD
The defect in Von Recklinghausen's disease is found on which chromosome?	17 (hint: 17 letters in Recklinghausen's)
The gene responsible for Huntington's disease is located on chromosome__.	4 ; triplet repeat disorder

The incidence of neural tube defects is decreased by maternal ingestion of what?	folate
Transposition of great vessels is a common congenital heart disease in offspring of _____ mothers.	diabetic
Transposition of great vessels is not compatible with life unless what is present?	a shunt that allows adequate mixing of blood (VSD, PDA, or patent foramen ovale)
Trisomy 18 is also known as_____.	Edward's syndrome (hint: Election age = 18)

Turner's syndrome is the most common cause of what?	primary amenorrhea
Von Hippel-Lindau disease characteristics:	hemangioblastomas of retina/cerebellum/medulla about half of affected individuals develop multiple bilateral renal cell carcinomas and other tumors
Von Hippel-Lindau disease is associated with the deletion of what gene?	VHL gene (tumor suppressor) on chromosome 3 (3p)
What are some findings of Down's syndrome?	mental retardation flat facial profile prominent epicanthal folds simian crease duodenal atresia congenital heart disease (most common malformation is endocardial cushion defect) Alzheimer's disease in individuals over 35 increased risk of ALL

What does a heart with Tetralogy of Fallot look like on x-ray?	boot-shaped due to RVH
What gender genetic disorder has been observed with increases frequency among inmates of penal institutions?	Double Y males (XYY)
What is different about the juvenile form of polycystic kidney disease?	it is recessive
What is Gower's maneuver?	requiring assistance of the upper extermities to stand up (indicates proximal lower limb weakness)

What is the cause of Duchenne's MD?	a deleted dystrophin gene (hint: 'D' for deletion)
What is the cause of Tetralogy of Fallot?	anterosuperior displacement of the infundibular septum
What is the incidence of Down's syndrome?	1 in 700 births
What is the most common cause of early cyanosis?	Tetralogy of Fallot

What is the most common chromosomal disorder and cause od congenital mental retardation?	Down's syndrome (trisomy 21)
What is the most common congenital cardiac anomaly?	VSD
What is the most common lethal genetic disease of Caucasians?	Cystic Fibrosis
What is the second most common cause of mental retardation?	Fragile X syndrome

What is the underlying cause of Cystic Fibrosis?	Autosomal - recessive defect in CFTR gene on chromosome 7
What is the underlying cause of Familial hypercholesterolemia?	defective or absent LDL receptor leading to elevated LDL
What is used to close a patent ductus arteriosus? What is used to keep it open?	Indomethacin PGE (may be necessary to sustain life in conditions such as transposition of the great vessels)
Which gene is affected in Fragile X?	methylation and expression of the FMR 1 gene is affected in this X-linked disorder

Which genetic gender disorder has an inactivated X chromosome (Barr body)?	Klinefelter's syndrome
Why are female carriers of X-linked recessive disorders rarely affected?	because of random inactivation of X chromosomes in each cell
X-linked recessive disorders (10)	1. Fragile X 2. Duchenne's MD 3. hemophilia A and B 4. Fabry's 5. G6PD deficiency 6. Hunter's syndrome 7. ocular albimism 8. Lesch-Nyhan syndrome 9. Bruton's agammaglobulinemia 10. Wiscott-Aldrich syndrome
XO =	Turner's syndrome (think: 'hugs and kisses' -XO- from Tina Turner)

XXY =	Klinefelter's syndrome one of the most common causes of hypogonadism in males
Approximately what percentage of brain tumors arise from metastasis?	0.5
Are basal cell carcinomas invasive?	Locally invasive but rarely metastasize
Are Ewing's sarcomas likely to metastasize?	Yes. They are extremely aggressive with early metastasis. However, they are responsive to chemotherapy.

Are meningiomas resectable?	Yes
Are squamous cell carcinomas of the skin invasive?	Locally invasive but rarely metastasize
Are the majority of adult tumors supratentorial or infratentorial?	Supratentorial
Are the majority of childhood tumors supratentorial or infratentorial?	Infratentorial

Common histopathology often seen in squamous cell carcinomas of the skin?	Keratin pearls
Define anaplasia	Abnormal cells lacking differentiation; like primitive cells of the same tissue. Often equated with undifferentiated malignant neoplasms. Tumor giant cells may be formed.
Define dysplasia	Abnormal growth with loss of cellular orientation, shape, and size in comparison to normal tissue maturation. It is reversible but is often a preneoplastic sign.
Define hyperplasia	Increase in the number of cells (reversible)

Define metaplasia	One adult cell type is replaced by another (reversible). It is often secondary to irritation and/or environmental exposure (e.g. squamous metaplasia in the trachea and bronchi of smokers)
Define neoplasia	Clonal proliferation of cells that is uncontrolled and excessive
Do oncogenes cause a gain or loss of function?	Gain of function
Do tumor suppressor genes cause a gain or loss of function?	Loss of function. Both alleles must be lost for expression of disease

Does a melanoma have a significant risk of metastasis?	Very significant risk! The depth of the tumor often correlates with the risk of metastasis.
From what cells do meningiomas most commonly arise?	Arachnoid cells external to the brain
Give 2 examples of a benign tumor of epithelial origin.	1. Adenoma 2. Papilloma
Give 2 examples of a malignant tumor of epithelial origin.	1. Adenocarcinoma 2. Papillary carcinoma

Give 2 examples of malignant tumors of blood cell (mesenchymal) origin.	1. Leukemia 2. Lymphoma
Give an example of a benign tumor of blood vessel (mesenchymal) origin.	Hemangioma
Give an example of a benign tumor of bone (mesenchymal) origin.	Osteoma
Give an example of a benign tumor of more than one cell type.	Mature teratoma

Give an example of a benign tumor of skeletal muscle (mesenchymal) origin.	Rhabdomyoma
Give an example of a benign tumor of smooth muscle (mesenchymal) origin.	Leiomyoma
Give an example of a malignant tumor of blood vessel (mesenchymal) origin.	Angiosarcoma
Give an example of a malignant tumor of bone (mesenchymal) origin.	Osteosarcoma

Give an example of a malignant tumor of more than one cell type.	Immature teratoma
Give an example of a malignant tumor of skeletal muscle (mesenchymal) origin.	Rhabdomysarcoma
Give an example of a malignant tumor of smooth muscle (mesenchymal) origin.	Leiomyosarcoma
Give an example of a neoplasm associated with Down's Syndrome.	Acute Lymphoblastic Leukemia (ALL)

How are tumor markers used?	Tumor markers are used to confirm diagnosis, to monitor for tumor recurrence, and to monitor the response to therapy. They should not be used as a primary tool for diagnosis.
How is prostatic adenocarcinoma most commonly diagnosed?	Digital rectal exam (detect hard nodule) or by prostate biopsy
How often do primary brain tumors undergo metastasis?	Very rarely
In what population is osteochondroma most often found?	Usually men under the age of 25

In which age group is prostatic adenocarcinoma most common?	Men over the age of 50
Is malignant transformation in osteochondroma common?	Malignant transformation to chondrosarcoma is rare
Name 1 common tumor staging system.	TNM system T= size of tumor, N=node involvement, and M=metastases
Name 3 herniation syndromes that can cause either coma or death when the herniations compress the brainstem	1. Downward transtentorial (central) herniation 2. Uncal herniation 3. Cerebellar tonsillar herniation into the foramen magnum

Name 4 factors that predispose a person to osteosarcoma.	1. Paget's disease of bone 2. Bone infarcts 3. Radiation 4. Familial retinoblastoma
Name 4 possible routes of herniation in the brain	1. Cingulate herniation under the falx cerebri 2. Downward transtentorial (central) herniation 3. Uncal herniation 4. Cerebellar tonsillar herniation into the foramen magnum
Name 5 primary brain tumors with peak incidence in adulthood.	1. Meningioma 2. Glioblastoma multiforme 3. Oligodendroglioma 4. Schwannoma 5. Pituitary adenoma
Name 5 primary brain tumors with peak incidence in childhood.	1. Medulloblastoma 2. Hemangioblastoma 3. Ependymomas 4. Low-grade astrocytoma 5. Craniopharyngioma

Name 5 sites from which tumor cells metastasize to the brain.	1. Lung 2. Breast 3. Skin (melanoma) 4. Kidney (renal cell carcinoma) 5. GI
Name a common histopathological sign of basal cell carcinoma nuclei	The nuclei of basal cell tumors have 'palisading' nuclei
Name a population at a greater risk for melanoma.	Fair-skinned people (blue eyes and red hair have also been considered as factors)
Name the 5 primary tumors that metastasize to the liver	1. Colon 2. Stomach 3. Pancreas 4. Breast 5. Lung

Name two of the most common sites of metastasis after the regional lymph nodes	The liver and the lung
Name two presenting sequelae of a pituitary adenoma.	1. Bitemporal hemianopsia (due to pressure on the optic chiasm) 2. Hypopituitarism
On which chromosome is the p53 gene located?	17p
On which chromosome is the Rb gene located?	13q

On which chromosomes are the BRCA genes located?	BRCA 1 is on 17q and BRCA 2 is on 13q
Out of the 6 primary tumors that metastasize to bone, which two are the most common?	Metastasis from the breast and prostate are the most common
What 2 cancers are associated with EBV?	1. Burkitt's lymphoma 2. Nasopharyngeal carcinoma
What 2 neoplasms are associated with AIDS?	1. Aggressive malignant lymphomas (non-Hodgkins) 2. Kaposi's sarcoma

What 2 neoplasms are associated with Autoimmune disease (e.g. Hashimoto's thyroiditis, myasthenia gravis, etc.)?	Benign and malignant thymomas
What 2 neoplasms are associated with Paget's disease of bone?	1. Secondary osteosarcoma 2. Fibrosarcoma
What 2 neoplasms are associated with Tuberous sclerosis (facial angiofibroma, seizures, and mental retardation)?	1. Astrocytoma 2. Cardiac rhabdomyoma
What are 2 characteristic findings in carcinoma in situ?	1. Neoplastic cells have not invaded the basement membrane 2. High nuclear:cytoplasmic ratio and clumped chromatin

What are 2 characteristic findings of an invasive carcinoma?	1. Cells have invaded the basement membrane using collagenases and hydrolases 2. Able to metastasize if they reach blood or lymphatic vessels.
What are 2 neoplasms associated with Xeroderma pigmentosum?	1. Squamous cell carcinoma of the skin 2. Basal cell carcinoma of the skin
What are 3 disease findings associated with Alkaline Phosphatase?	1. Metastases to bone 2. Obstructive biliary disease 3. Paget's disease of bone
What are 6 primary tumors that metastasize to bone?	1. Kidney 2. Thyroid 3. Testes 4. Lung 5. Prostate 6. Breast

What are a common histopathological finding of meningiomas?	Psammoma bodies. These are spindle cells concentrically arranged in a whorled pattern.
What are ependymomas?	Ependymal cell tumors most commonly found in the 4th ventricle. May cause hydrocephalus
What are the steps in the progression of neoplasia?	1. Normal 2. Hyperplasia 3. Carcinoma In Situ/Preinvasive 4. Invasion
What are two signs of bone metastases in prostatic adenocarcinoma?	An increase in serum alkaline phosphatase and PSA (prostate-specific antigen)

What are two useful tumor markers in prostatic adenocarcinoma?	Prostatic acid phosphatase and prostate-specific antigen (PSA)
What can be associated with the risk of melanoma?	Sun exposure
What cancer is associated with HBV and HCV (Hep B and C viruses)?	Hepatocellular carcinoma
What cancer is associated with HHV-8 (Kaposi's sarcoma-associated herpes virus)?	Kaposi's carcinoma

What cancer is associated with the HTLV-1 virus?	Adult T-cell leukemia
What cancers are commonly associated with HPV (human papilloma virus)?	Cervical carcinoma, penile, and anal carcinoma
What causes the local effect of a mass?	Tissue lump or tumor
What causes the local effect of a nonhealing ulcer?	Destruction of epithelial surfaces (e.g. stomach, colon, mouth, bronchus)

What causes the local effect of a space-occupying lesion?	Raised intracranial pressure in brain neoplasms. Also seen with anemia due to bone marrow replacement.
What causes the local effect of bone destruction?	Pathologic fracture or collapse of bone
What causes the local effect of edema?	Venous or lymphatic obstruction
What causes the local effect of hemorrhage?	Caused by ulcerated area or eroded vessel

What causes the local effect of inflammation of a serosal surface?	Pleural effusion, pericardial effusion, or ascites
What causes the local effect of obstruction in the biliary tree?	Jaundice
What causes the local effect of obstruction in the bronchus?	Pneumonia
What causes the local effect of obstruction in the left colon?	Constipation

What causes the local effect of pain?	Any site with sensory nerve endings. Remember that tumors in the brain are usually painless.
What causes the local effect of perforation of an ulcer in the viscera?	Peritonitis or free air
What causes the local effect of seizures?	Tumor mass in the brain.
What causes the localized loss of sensory or motor function?	Compression or destruction of nerve (e.g. recurrent laryngeal nerve by lung or thyroid cancer causes hoarseness)

What causes the paraneoplastic effect gout?	Hyperuricemia due excess nucleic acid turnover (secondary to cytotoxic therapy of various neoplasms)
What causes the paraneoplastic effect of Cushing's disease?	ACTH or ACTH-like peptide (secondary to small cell lung carcinoma)
What causes the paraneoplastic effect of hypercalcemia?	PTH-related peptide, TGF-a, TNF-a, IL-2 (secondary to squamous cell lung carcinoma, renal cell carcinoma, breast carcinoma, multiple myeloma, and bone metastasis)
What causes the paraneoplastic effect of Lambert-Eaton syndrome?	Antibodies against presynaptic Ca2+ channels at NMJ (Thymoma, bronchogenic carcinoma)

What causes the paraneoplastic effect of Polycythemia?	Erythropoietin (secondary to renal cell carcinoma)
What causes the paraneoplastic effect of SIADH?	ADH or ANP (secondary to small cell lung carcinoma and intracranial neoplasms)
What chemical carcinogen is commonly associated with the centrilobar necrosis and fatty acid change?	CCL4
What chemical carcinogen is commonly associated with the esophagus and stomach?	Nitrosamines

What chemical carcinogen is commonly associated with the lungs?	Asbestos (Causes mesothelioma and bronchogenic carcinoma)
What chemical carcinogen is commonly associated with the skin (squamous cell)?	Arsenic
What chemical carcinogen(s) are commonly associated with the liver?	Aflatoxins and vinyl chloride
What is a chondrosarcoma?	Malignant cartilaginous tumor.

What is a common genetic finding in Ewing's sarcoma?	11;22 translocation
What is a common gross pathological sign seen in Ewing's sarcoma?	Characteristic 'onion-skin' appearance of bone
What is a common origin of a chondrosarcoma?	May be of primary origin or from osteochondroma
What is a common sign found on the x-ray of a person with osteosarcoma?	Codman's triangle (from elevation of periosteum)

What is a craniopharyngioma?	Benign childhood tumor. Often confused with pituitary adenoma because both can cause bitemporal hemianopsia. Calcification of the tumor is common.
What is a Ewing's sarcoma?	Anaplastic small cell malignant tumor.
What is a giant cell tumor?	Locally aggressive benign tumor around the distal femur, proximal tibial region.
What is a gross pathological sign of basal cell carcinoma?	Pearly papules

What is a helpful mnemonic to remember the neoplasm associated with Down's Syndrome?	We ALL go DOWN together.
What is a helpful mnemonic to remember the site of metastasis to the brain?	Lots of Bad Stuff Kills Glia
What is a helpful mnemonic to remember the types of cancer that metastasize to the liver?	Cancer Sometimes Penetrates Benign Liver
What is a helpful mnemonic to remember what tumors metastasize to bone?	BLT with a Kosher Pickle

What is a Hemangioblastoma?	Most often a cerebellar tumor. Associated with von Hippel Lindau syndrome when found with retinoblastoma.
What is a low-grade astrocytoma?	Diffusely infiltrating glioma. In children, it is most commonly found in the posterior fossa.
What is a medulloblastoma?	Highly malignant cerebellar tumor. A form of primitive neuroectodermal tumor (PNET). Can compress 4th ventricle causing hydrocephalus
What is a neoplasm associated with actinic keratosis?	Squamous cell carcinoma of the skin

What is a neoplasm associated with Barrett's esophagus (chronic GI reflux)?	Esophageal adenocarcinoma
What is a neoplasm commonly associated with chronic atrophic gastritis, pernicious anemia, and postsurgical gastric remnants?	Gastric adenocarcinoma
What is an oligodendroglioma?	A relatively rare, slow growing, benign tumor.
What is CEA (carcinoembryonic antigen)?	Very nonspecific antigen produced by 70% of colorectal and pancreatic cancers and by gastric and breast carcinoma

What is considered a precursor to squamous cell carcinoma?	Actinic keratosis
What is considered to be a precursor to malignant melanoma?	Dysplastic nevus
What is meant by the term tumor grade?	Histologic appearance of the tumor. Usually graded I-IV based on degree of differentiation and number of mitoses per high-power field.
What is meant by the term tumor stage?	Based on site an size of primary lesion, spread to regional lymph nodes, and presence of metastases.

What is the characteristic appearance of a giant cell tumor on an x-ray?	Characteristic 'double bubble' or 'soap bubble' appearance
What is the common histopathology associated with Ependymomas?	Characteristic perivascular rosettes. Rod-shaped blepharoblasts (basal ciliary bodies) found near the nucleus.
What is the common histopathology associated with Hemangioblastoma?	Foamy cells and high vascularity are characteristic. Can produce EPO and lead to polycythemia.
What is the common histopathology associated with medulloblastomas?	Rosettes or perivascular pseudorosette pattern of cells

What is the common histopathology associated with oligodendrogliomas?	Fried egg' appearance of cells in tumor. Often calcified.
What is the common histopathology associated with schwannoma?	Antoni A=compact palisading nuclei; Antoni B=loose pattern
What is the common histopathology found in Glioblastoma multiforme?	Pseudopalisading' tumor cells border central areas of necrosis and hemorrhage
What is the differentiation pattern of normal cells?	Basal to apical differentiation

What is the histopathology commonly associate with giant cell tumors?	Spindle-shaped cells with multi-nucleated giant cells.
What is the most common benign bone tumor?	Osteochondroma
What is the most common location of basal cell carcinoma of the skin?	Usually found in sun-exposed areas of the body.
What is the most common location of osteosarcoma?	Commonly found in the metaphysis of long bones

What is the most common organ to 'send' metastases?	The lung is the most common origin of metastases. The breast and stomach are also big sources.
What is the most common organ to receive metastases?	Adrenal glands. This is due to their rich blood supply. The medulla usually receives metastases first and then the rest of the gland.
What is the most common population to have chondrosarcoma?	Men age 30-60 years old
What is the most common primary brain tumor?	Glioblastoma multiforme (grade IV astrocytoma)

What is the most common primary malignant tumor of bone?	Osteosarcoma
What is the most common type of pituitary adenoma?	Prolactin secreting
What is the most likely population to have Ewing's sarcoma?	Boys under 15 years old.
What is the origin of a craniopharyngioma?	Derived from the remnants of Rathke's pouch

What is the origin of a Pituitary adenoma?	Rathke's pouch
What is the origin of the Schwannoma?	Schwann cell origin. Often localized to the 8th cranial nerve (acoustic schwannoma). Bilateral schwannoma found in NF2.
What is the peak incidence of giant cell tumor?	20-40 years old
What is the peak incidence of osteosarcoma?	Men 10-20 years old

What is the prognosis for Glioblastoma multiforme?	Prognosis is grave. Usually only have a year life expectancy.
What is the second most common primary brain tumor?	Meningioma
What is the third most common primary brain tumor?	Schwannomas
What neoplasias are associated with a-fetoprotein?	Hepatocellular carcinoma and nonseminomatous germ cell tumors of the testis.

What neoplasias are associated with B-hCG?	Hydatidiform moles, Choriocarcinomas, and Gestational trophoblastic tumors.
What neoplasias are associated with CA-125?	Ovarian and malignant epithelial tumors
What neoplasias are associated with S-100?	Melanoma, neural tumors, and astrocytomas
What neoplasm is associated with Cirrhosis (due to alcoholism, Hep B, or Hep C)	Hepatocellular carcinoma

What neoplasm is associated with Dysplastic nevi?	Malignant melanoma
What neoplasm is associated with Immunodeficiency states?	Malignant lymphomas
What neoplasm is associated with Plummer-Vinson syndrome (atrophic glossitis, esophageal webs, and anemia; all due to iron deficiency)	Squamous cell carcinoma of the esophagus
What neoplasm is associated with ulcerative colitis?	Colonic adenocarcinoma

What oncogene is associated with breast, ovarian, and gastric carcinomas?	erb-B2
What oncogene is associated with Burkitt's lymphoma?	c-myc
What oncogene is associated with colon carcinoma?	ras
What oncogene is associated with Follicular and undifferentiated lymphomas (inhibits apoptosis)?	bcl-2

What tumor marker is associated with Prostatic carcinoma?	PSA (Prostatic acid phosphatase)
What tumor suppressor gene is associated with Retinoblastoma and osteosarcoma?	Rb gene
What type of metastases are common in the late stages of prostatic adenocarcinoma?	Osteoblastic metastases in bone
What type of neoplasm is associated with Acanthosis nigricans (hyperpigmentation and epidermal thickening)	Visceral malignancies (stomach, lung, breast, and uterus)

What type of skin cancer is associated with excessive exposure to sunlight or arsenic exposure?	Squamous cell carcinoma
Where are chondrosarcomas usually located?	Pelvis, spine, scapula, humerus, tibia, or femur.
Where are Ewing's sarcomas most commonly found?	Diaphysis of long bones, pelvis, scapula, and ribs
Where are Glioblastoma multiformes found?	Cerebral hemispheres

Where do giant cell tumors most commonly occur?	At epiphyseal end of long bones
Where do meningiomas most commonly occur?	Convexities of hemispheres and parasagital region
Where do oligodendrogliomas most often occur?	Most often found in the frontal lobes
Where do osteochondromas commonly originate?	Long metaphysis

Where do squamous cell carcinomas most commonly occur?	Hands and face
Where does prostatic adenocarcinoma most commonly arise?	From the posterior lobe (peripheral zone) of the prostate gland
Which has more prognostic value: tumor stage or grade?	Stage
Which is more common: metastasis to bone or primary tumors of bone?	Metastatic bone tumors are far more common than primary tumors

Which is more common: metastasis to the liver or primary tumors of the liver?	Metastasis to the liver is more common
Which tumor suppressor gene is associated with most human cancers and the Li-Fraumeni syndrome?	p53
Which tumor suppressor genes are associated with breast and ovarian cancer?	BRCA 1 and 2
___% of African-Americans carry the HbS trait, and ___% have the disease.	8%; 0.2

_____ = defect of platelet aggregation	Glanzmann's thrombasthenia
_____ disease = defect of platelet adhesion	Bernard-Soulier
_____= activation of coagulation cascade leading to microthrombi and global consumption of platelets, fibrin, and coagulation factors.	DIC (Disseminated intravascular coagulation)
2 therapies for sickle cell anemia:	1. Hydroxyurea (increased HbF) 2. bone marrow transplantation

50% of Hodgkin's cases are associated with which virus?	EBV
7 causes of normocytic normochromic anemia:	1. hemorrage 2. enzyme defects (e.g., G6PD deficiency, PK deficiency) 3. RBC membrane defects (e.g., hereditary spherocytosis) 4. Bone Marrow disorders (e.g., aplastic anemia, leukemia) 5. Hemoglobinopathies (e.g., sickle cell) 6. Autoimmune hemolytic anemia 7. Anemia of chronic disease
Antiplatelet antibodies and increased megakaryocytes are seen in ____.	ITP
Auer rods, myeloblasts, adults =	AML

bcl-2 activation is associated with which translocation and which lymphomas?	t(14;18) - Follicular lymphomas
bcr-abl hybrid is associated with which translocation and which leukemia?	t(9;22) - CML
Blood smear of a Multiple Myeloma patient would show what?	RBCs stacked like poker chips (rouleau formation)
Burkitt's lymphoma: '_____' appearance associated with what virus? endemic where?	starry sky' EBV Africa

c-myc activation is associated with which translocation and which lymphoma?	t(8;14) - Burkitt's
Causes of aplastic anemia:	radiation, benzene, chloramphenicol, alkylating agents, antimetabolites, viral agents (HCV,CMV,EBV, herpes zoster-varicella), Faconi's anemia, idiopathic (immune-mediated, primary stem cell defect)
Causes of platelet abnormalities:	ITP, TTP, drugs, DIC
CFU-GM (colony forming unit-granulocyte-monocyte) gives rise to which cells?	monocytes, neutrophils and basophils

CLL is very similar to what lymphoma?	SLL (small lymphocytic lymphoma)
Coagulation factor defects (macrohemorrage) cause: (3)	1. Hemarthroses (bleeding into joints) 2. easy bruising 3. prolonged PT and/or PTT
Common cause of macrocytic megalobalstic anemia:	Vit. B12/folate deficiency
common in children, lymphoblasts, most responsive to therapy =	ALL

Compare Multiple Myeloma with Waldenstrom's macroglobinemia:	Waldenstrom's also has an M spike, but large amounts of IgM are produced (not IgA or IgG), no lytic lesions
Complications often seen in homozygotes (sickle cell disease) include:	aplastic crisis (due to B19 parvovirus infection) autosplenectomy inc. risk of encapsulated organism infection Salmonella osteomyelitis painful crisis (vaso-occlusive) and splenic sequestration crisis
Describe the RBCs of a parient with Hereditary spherocytosis.	RBCs are small, round, with no central pallor less membrane therefore increased MCHC
FAB classification L1:	ALL-null, ALL-common

FAB classification L2:	ALL- T
FAB classification L3:	ALL- B
FAB classification M1:	AML (without maturation)
FAB classification M2:	AML (with maturation)

FAB classification M3:	acute promyelocytic leukemia
FAB classification M4:	acute myelomonocytic leukemia
FAB classification M5:	acute monocytic leukemia
FAB classification M6:	acute erythroleukemia

FAB classification M7:	acute megakaryocytic leukemia
General considerations of leukemias:	increased number of circulating leukocytes in blood bone marrow infiltrates of leukemic cells leukemic cell infiltrates in liver, spleen, and lymph nodes also common
Genetics associated with Burkitt's lymphoma:	t(8;14) c-myc gene moves next to heavy chain Ig gene (14)
Hb Barts =	Gamma 4 tetramers, lacks all 4 alpha globin genes

Hb Barts results in what?	hydrops fetalis and intrauterine fetal death
Hb H =	Beta 4 tetramers, lacks 3 alpha globin genes
Hereditary spherocytosis causes intrinsic, extravascular hemolysis due to a _____ defect.	spectrin
Hereditary spherocytosis is associated with what other problems?	gallstones, splenomegaly, anemia and jaundice

Hereditary spherocytosis is distinguished from warm antibody hemolysis by what test?	Direct Coomb's test (Hereditary spherocytosis is Coomb's negative)
Hodgkin's or NHL: which is associated with HIV & immunosuppression?	NHL
Hodgkin's or NHL: which is associated with mediastinal lymphadenopathy?	Hodgkin's
Hodgkin's or NHL: which one displays a bimodal distribution?	Hodgkin's (young and old)

How does Multiple Myeloma affect calcium levels?	destructive bone lesions cause hypercalcemia (punched-out lytic bone lesions can be seen on x-ray)
In _____, the alpha globin chain is underproduced.	alpha thalassemia
In _____, the beta chain is underproduced.	Beta-minor thalassemia (heterozygote)
In ______, the beta chain is absent.	Beta-major thalassemia (homozygote)

In anemia of chronic disease, are these values increased or decreased? 1. TIBC 2. ferritin 3. serum iron 4. storage iron in marrow macrophages 5. % sat.	1. dec. 2. inc. 3. dec. 4. inc. 5. normal
In Beta Thalassemia, cardiac failure is often due to what?	secondary hemochromatosis (due to transfusions)
In which hemorrhagic disorder is PT increased?	DIC
In which hemorrhagic disorders is PTT increased? (4)	1. Hemophilia A 2. Hemophilia B 3. von Willibrand's disease 4. DIC

increased or decreased in iron deficiency anemia? 1. TIBC 2. ferritin 3. serum iron	1. increased 2. decreased 3. decreased
Is Hodgkin's more common in men or women?	men (except nodular sclerosing type)
Lab findings of DIC:	increased PT and PTT, increased fibrin split products (D-dimers), decreased platelet count
Lymphoblastic lymphoma commonly presents with what?	ALL and mediastinal mass

Lymphomas derived from the B cell lineage:	ALL (B cell) Lymphoblastic lymphoma, CLL (B) Lymphocytic lymphoma, Follicular center cell lymphoma, Immunoblastic lymphoma (B), Plasmacytoid lymphocytic lymphoma and myeloma
Lymphomas derived from the T cell lineage:	ALL (T cell) Lymphoblastic lymphoma, CLL (T) Lymphocytic lymphoma, Immunoblastic lymphoma (T), Sezary syndrome and mycosis fungoides
Macrocytic anemia is defined as MCV>____.	100
Marrow failure due to leukemia can lead to (3)	1. anemia (dec. RBCs) 2. infections (dec. WBCs) 3. hemorrhage (decreased platelets)

Microcytic, hypochromic anemia = MCV<____.	80
most commonly associated with Philadelphis chromosome, myeloid stem cell proliferation, may accelerate to AML =	CML
Name 3 coagulopathies:	1. Hemophilia A 2. Hemophilia B 3. von Willibrand's disease
Name 3 etiologies of microcytic, hypochromic anemia:	1. iron deficiency 2. Thalassemias 3. lead poisoning

Name 5 hemorrhagic disorders that exhibit increased bleeding time.	1. Qualitative platelet defects 2. Vascular bleeding 3. Thrombocytopenia 4. Von Willibrand's disease 5. DIC
Name 5 types of NHL:	1. Small lymphocytic lymphoma 2. Follicular lymphoma (small cleaved cell) 3. Diffuse large cell 4. Lymphoblastic lymphoma 5. Burkitt's lymphoma
Name 9 chronic myeloid leukemias:	CML, Polycythemia rubra vera, CML, Myelofibrosis, idiopathic thrombocythemia, (chronic monocytic, chronic myelomonocytic, eosinophilic, chronic erythroid) *last 4 are rare*
Nodal involvement and spread of Hodgkin's vs. NHL:	Hodgkin's: localized, single group of nodes, extranodal rare, contiguous spread NHL: multiple, peripheral nodes, extranodal involvement common, noncontiguous spread

Normal values: 1. TIBC 2. Serum iron 3. % sat.	1. TIBC 250-400 micro grams/ dl 2. 50-150 3. 20-50 %
older adults, lymphadenopathy, hepatosplenomegaly, few symptoms, indolent course, increased smudge cells in peripheral blood smear, warm Ab autoimmune hemolytic anemia =	CLL
Other causes of macrocytic anemia (2)	1. drugs that block DNA synthesis (e.g., sulfa drugs, AZT) 2. marked reticulocytosis
Pathologic features of aplastic anemia:	pancytopenia with normal cell morphology, hypocellular bone marrow with fatty infiltration

Peak incidence of NHL between what ages?	20-40
Philadelphia chromosome=	t(9;22), bcr-abl
Plasma cells in Multiple Myeloma produce large amounts of what?	IgG (55%) and IgA (25%)
Platelet abnormalities (microhemorrage) lead to: (4)	1. mucous membrane bleeding 2. petechiae 3. purpura 4. prolonged bleeding time

PMNs are hypersegmented in ____ .	Vit. B 12 and folate deficiencies
PT and PTT: which one measures the intrinsic and which one measures the extrinsic path?	PT (extrinsic) PTT (intrinsic)
Rank the prognoses of the different types of Hodgkin's:	NS and LP = excellent MC = intermediate LD = poor
Schistocytes are characteristic of ___.	TTP

Sickle cell heterozygotes (sickle cell trait) are relatively ____-resistant.	malaria; (balanced polymorphism)
Symptoms of aplastic anemia:	fatigue, malaise, pallor, purpura, mucosal bleeding, petechiae, infection
Thalassemia is prevalent in which populations?	Mediterranean (hint: thalassa=sea. Think, thalaSEAmia)
The lymphoid stem cell gives rise to: (2)	T cells and B cells

The majority of NHL involve T cells or B cells?	B cells (except lymphoblastic T cell origin)
Treatment of aplastic anemia:	withdrawal of offending agent, allogenic bone marrow transplantation, RBC and platelet transfusion, G-CSF or GM-CSF
What are 2 indications of hemolysis?	1. decreased serum haptoglobin 2. increased serum LDH
What are constitutional signs/ symptoms?	(mostly seen in Hodgkin's) low grade fever, night sweats, weight loss

What are some other causes of DIC?	gram-negative sepsis, transfusion, trauma, malignancy, acute pancreatitis, and nephrotic syndrome
What genetics are involved with follicular lymphoma (small cleaved cell)?	t(14;18) bcl-2 expression
What is another Beta chain mutation in which patients have a milder disease than Hb SS patients?	HbC defect. patients can be HbC or HbSC (1 of each mutant gene)
What is aplastic anemia?	pancytopenia characterized by severe anemia, neutropenia, and thrombocytopenia caused by destruction of multipotent myeloid stem cells, with inadequate production or release of differentiated cell lines.

What is compensatorily increased in both forms of Beta Thalassemia?	fetal hemoglobin (it is inadequate, however)
What is found in the urine of patients with Multiple Myeloma?	Ig light chains (Bence Jones protein)
What is it called when CML --> AML?	blast crisis
What is the characteristic cell of Hodgkin's lymphoma?	Reed-Sternberg cell (decreased numbers of RS cells indicates a better prognosis)

What is the M spike?	the monoclonal immunoglobin spike on serum electrophoresis
What is the most common bleeding disorder?	von Willibrand's disease
What is the most common cause of DIC?	obstetric complications
What is the most common primary tumor arising within bone in adults?	Multiple Myeloma

What is the name of a chronic T cell leukemia?	Sezary syndrome
What mutation causes sickle cell anemia?	a single AA replacement in the Beta chain (normal glutamic acid with valine)
What other problems result from Multiple Myeloma?	renal insufficiency, increased susceptibility to infections, anemia, and amyloidosis
What precipitates sickling of cells?	low oxygen or dehydration

What test is used to confirm Hereditary spherocytosis?	osmotic fragility test
What test is used to distinguish between immune vs. non-immune RBC hemolysis?	Direct Coomb's test
What type of cell is cancerous in Multiple Myeloma and what does it resemble?	Monoclonal plasma cell, 'fried egg' appearance
Which 2 hemorrhagic disorders have decreased platelet counts?	1. thrombocytopenia 2. DIC

Which 2 types of NHL occur in children?	lymphoblastic lymphoma, and Burkitt's lymphoma (20% of diffuse large cell type too)
Which Beta Thalassemia results in severe anemia?	Beta Thal. major, (requires blood transfusions)
Which coagulation factors are a part of the intrinsic and which are a part of the extrinsic path?	(extrinsic) = Factors II, V, VII, and X (intrinsic) = all factors except VII and XIII
Which coagulation factors are deficient in each of the Hemophilias?	Hemophilia A (factor VIII deficiency) Hemophilia B (factor IX deficiency)

Which one is associated with neurological problems, folate deficiency or Vit. B12 deficiency?	Vit. B12
Which type of Hodgkin's accounts for 6% of cases and which type is the most rare.	LP (lymphocyte predominant) - 6% LD (lymphocyte depleted) - rare
Which type of Hodgkin's commonly affects males under 35?	LP
Which type of Hodgkin's commonly affects older males and is associated with disseminated disease?	LD

Which type of Hodgkin's has the most Reed Sternberg cells?	Mixed Cellularity
Which type of Hodgkin's is characterized by collagen banding?	NS (nodular sclerosing)
Which type of Hodgkin's is the most common? (65-75%)	NS (nodular sclerosing)
Which type of Hodgkin's is the second most common? (25%)	MC (mixed cellularity)

Which type of Hodgkin's primarily affects young adults, women>men?	NS
Which type of NHL clinically presents like CLL?	small lymphocytic lymphoma
Which type of NHL is difficult to cure?	follicular lymphoma
Which type of NHL is most common in children?	Lymphoblastic lymphoma (very aggressive)

Which type of NHL is the most common type in adults?	follicular lymphoma (small cleaved cell)
Which types of NHL involve T cells?	Lymphoblastic lymphoma (immature T cells) 20% of Diffuse large cell NHL (mature T cells)
With iron overload (hemosiderosis) are values increased or decreased? 1. TIBC 2. serum iron 3. %sat.	1. TIBC normal 2. Serum iron increased 3. % sat. increased (100%) -see charts on p.238 of 2002 edition-
A patient with gallstones may present with Charcot's triad. What comprises the triad?	(1)epigastric/RUQ pain (2) fever (3)jaundice

Failure of copper to circulate in what form causes Wilson's disease?	ceruloplasmin
How can one distinguish between Dubin-Johnson syndrome and Rotor's syndrome?	Rotor's syndrome presents similarly, except less severely and no black liver(as seen in Dubin-Johnson)
How does Budd-Chiari syndrome progress(in the liver)?	Congestive liver disease
How does cirrhosis/portal hypertension(HTN) affect liver histology?	diffuse fibrosis, destroying normal structure, with nodular regeneration

How does Hirschsprung's disease first present?	Chronic constipation early in life
How does one diagnose gallstones?	ultrasound
How does one differentiate liver nodules, in the case of cirrhosis?	micronodular(<3mm and uniform) macronodular(> 3mm and varied)
How does one treat gallstones?	cholecystectomy

How is achalasia evidenced on a Barium swallow?	Bird beak'--dilated esophagus with an area of distal stenosis.
How is hepatocellular carcinoma spread?	like renal cell carcinoma, hematogenously
How is the hyperbilirubinemia in Dubin-Johnson syndrome different than in the other 2 hyperbilirubinemias(Gilbert's or Crigler-Najjar(type 1))?	Dubin-Johnson syndrome--conjugated hyperbilirubinemia (due to defective liver excretion)
How would you expect a Gilbert's syndrome patient to present?	Asymptomatically, with an elevated unconjugated bilirubin

In PUD, how can H.pylori be treated?	triple therapy (metronidazole, bismuth salicylate, amoxicillin or tetracycline with or without a proton pump inhibitor
In what fatal childhood hepatoencephalopathy is there an association with viral infections(VZV,influ.B) and salicylates?	Reye's syndrome
In Wilson's disease, where does copper accumulate(3)?	(1)Liver (2)Brain (3)cornea
Is chronic pancreatitis strongly associated with alcoholism?	YES

Is the dilation proximal, at, or distal to the aganglionic segment?	Proximal (results in a 'transition zone')
Low-fiber diets are associated with which of the following?	diverticulosis
To what cancer is a chronic gastritic patient predisposed?	Gastric carcinoma
What 3 common findings are evident in a Reye's patient?	(1)fatty liver (2)hypoglycemia (3)coma

What are 2 anti-androgen effects of liver cell failure?	gynecomastia loss of sexual hair
What are 2 extraintestinal manifestations of Crohn's?	migratory polyarthritis erythema nodosum
What are 2 main symptoms and a histological sign of Duodenal ulcers?	(1)pain Decreases with meals, (2)weight gain, hypertrophy of Brunner's glands
What are 2 main symptoms of Gastric ulcers?	pain Greater with meals, weight loss

What are 2 signs of Crigler-Najjar syndrome(other than hyperbilirubinemia)?	jaundice kernicterus(bilirubin deposition in the brain)
What are 2 types of Inflammatory Bowel Disease?	Crohn's disease Ulcerative colitis
What are 2 types of peptic ulcer disease(PUD)?	gastric ulcer duodenal ulcer
What are 3 associations of Budd-Chiari Syndrome?	(1)pregnancy (2)polycythemia rubra vera (3)hepatocellular carcinoma

What are 3 neuro effects of liver cell failure?	(1)asterixis, (2)scleral icterus, (3)coma
What are 3 types of gallstones?	(1)Cholesterol stones (2) Mixed stones (3)Pigment stones
What are 4 potential complications of PUD?	(1)bleeding, (2)penetration, (3)perforation, (4)obstruction
What are 4 signs of congestive liver disease?	(1)hepatomegaly (2)ascites (3) abdominal pain (4)eventual liver failure

What are 5 GI and 2 GU effects of portal HTN?	(1)esophageal varices(->hematemesis), (2)melena, (3)splenomegaly, (4)caput medusae, (5)ascites and (1) testicular atrophy, (2) hemorrhoids
What are 5 possible consequences of acute pancreatitis?	(1)DIC (2)ARDS (3)Diffuse fat necrosis (4)hypocalcemia (5) pseudocyst formation
What are possible causes of acute pancreatitis(GET SMASHeD)?	Gallstones Ethanol Trauma Steroids Mumps Autoimmune disease Scorpion sting Hyperlipidemia Drugs
What are possible etiologies of hemochromatosis?	primary(autos. Recessive) secondary to chronic transfusion therapy

What are risk factors for esophageal cancer(ABCDEF)?	Achalasia, Barrett's esophagus, Corrosive esophagitis, Diverticuli, Esophageal web, Familial
What are some complications of Crohn's(4)?	(1)strictures, (2)fistulas, (3) perianal disease, (4) malabsorption-nutritional depletion
What are some complications of ulcerative colitis(3)?	(1)severe stenosis, (2)toxic megacolon, (3)colorectal carcinoma
What are the 2 types of chronic gastritis?	Type A(fundal) Type B(antral)

What are the 3 forms of Diverticular disease?	(1)diverticulum, (2) diverticulosis, (3)diverticulitis
What are the 4 risk factors for gallstone development?	(1)Female (2)Fat (3)Fertile (4) Forty
What are the ABCD characteristics of Wilson's?	Asterixis Basal ganglia degeneration Cirrhosis, Ceruloplasmin decrease, Corneal deposits(Kayser-Fleischer rings), Carcinoma (hepatocell.), Choreiform movements Dementia
What are the characteristic 4 A's of type A gastritis?	Autoimmune disorder characterized by Autoantibodies to parietal cells, pernicious Anemia, Achlorhydria

What are the respective etiologies of Crohn's and Ulcerative colitis(UC)?	infectious(Crohn's) autoimmune(UC)
What can achalasia arise from and lead to?	A secondary form can arise from Chagas' disease; can lead to progressive dysphagia.
What can hemochromatosis lead to(2)?	(1)CHF (2)hepatocellular carcinoma
What cell tumor marker is elevated in hepatocellular carcinoma?	Alpha FetoProtein(AFP)

What disorder is characterized by increased iron deposition in many organs(up to 50g)?	hemochromatosis
What happens to hepatocytes as a result of alcoholic hepatitis?	they become swollen and necrotic
What happens when cholesterol and bilirubin overwhelm solubilizing bile acids and lecithin?	Gallstones
What histological changes, other than to hepatocytes, does one see in liver hepatitis?	neutrophil infiltration, Mallory bodies(hyaline), increased fat, and sclerosis around the central vein

What is a mnemonic for Barrett's esophagus?	BARRett's = Becomes Adenocarcinoma, Results from Reflux.
What is Barrett's esophagus?	The replacement of glandular stratified squamous with gastric columnar epithelium in distal esophagus.
What is failure of lower esophageal sphincter relaxation due to?	Achalasia is due to the loss of the myenteric plexus.
What is hepatic vein or IVC occlusion with centrilobular congestion and necrosis?	Budd-Chiari syndrome

What is recommended for patients over 50, in terms of CRC screening?	screen these patients over 50 with stool occult blood test
What is the cause of diverticulosis?	increased intraluminal pressure and focal weakness in the colonic wall
What is the classic triad of hemochromatosis?	(1)micronodular pigment cirrhosis (2)'bronze' diabetes (3)skin pigmentation
What is the discerning characteristic for type B gastritis?	Type B is caused by a Bug(H. pylori)

What is the embryonic cause of Hirschsprung's disease?	failure of neural crest migration
What is the etiology of duodenal ulcers?	H.pylori(100%)--lower mucosal protection or increased gastric acid secretion
What is the etiology of gastric ulcers?	H.pylori(70%), NSAIDS both lower mucosal protection vs. gastric acid
What is the gross morphology of Crohn's?	transmural inflamm. COBBLESTONE mucosa, creeping FAT, bowel wall thickening(string sign on x-ray), linear ulcers, fissures

What is the gross morphology of ulcerative colitis?	mucosal inflamm. Friable mucosal pseudopolyps with freely hanging mesentery
What is the incidence of diverticulosis in the elderly?	over 60y/o, 50%
What is the microscopic morphology of Crohn's?	noncaseating granulomas
What is the microscopic morphology of ulcerative colitis?	crypt abscesses and ulcers

What is the mnemonic for Crohn's?	For Crohn's, think of a FAT old CRONE SKIPping down a COBBLESTONE road.
What is the most common clinical sign of acute pancreatitis?	epigastric abdominal pain radiating to the back
What is the most common primary malignant tumor of the liver in adults?	hepatocellular carcinoma
What is the most common type of gallstone?	mixed stones

What is the primary cause of macronodules in the liver?	significant liver injury leading to hepatic necrosis(e.g. Infections, drug-induced)
What is the primary cause of micronodules in the liver?	metabolic(e.g. Alcohol)
What is the prognosis for pancreatic adenocarcinoma?	~6months (very aggressive--often already spread at presentation)
What is the term for inflamm. of diverticula?	diverticulitis

What is the term used for congenital megacolon characterized by loss of parasympathetic ganglion cells?	Hirschsprung's disease
What is the term used to describe breath that smells like a freshly opened corpse, as seen in liver cell failure?	fetor hepaticus
What is the term used to describe having many diverticula?	diverticulosis
What is the treatment for Crigler-Najjar syndrome?	plasmaphoresis phototherapy

What is the treatment of hemochromatosis?	repeated phlebotomy deferoxamine
What is the treatment of Wilson's disease(1 drug)?	penicillamine
What is the typical presentation of a patient with pancreatic adenocarcinoma(5 signs)?	(1)Abdominal pain radiating to the back (2)Weight loss (3) Anorexia (4)Migratory thrombophlebitis(Trousseau's Sd) (5)Pancreatic duct obstruction(palpable gallbladder)
What is the usual location of Crohn's?	Terminal ileum, small intestine, colon (but any part can be affected)-- often SKIP lesions, rectal sparing

What is the usual location of ulcerative colitis?	colon (with continuous lesions and rectal involvement)
What lab values are characteristic in alcoholic hepatitis?	SGOT(AST)/SGPT(ALT) > 1.5,usually (A Scotch and Tonic=AST elevation)
What lab values are characteristic in hemochromatosis?	increased ferritin and transferrin saturation
What labs are elevated in acute pancreatitis?	amylase lipase(higher specificity)

What part of the GI tract is most frequently involved in diverticulosis?	sigmoid colon
What risk group has an increased incidence of PUD by 2X?	smoking
What type of stones are seen in patients with RBC hemolysis,alcoholic cirrhosis,biliary infection?	pigment stones
When do patients with Crigler-Najjar syndrome(type I) usually present?	early in life(often die within a few years)

Where are pancreatic tumors most often located?	pancreatic head (with obstructive jaundice)
Where is the pain associated with diverticulitis?	left lower quadrant
Which of the following are effects of liver cell failure? Anemia, hypercoagulation,spider nevi, jaundice, gynecomastia,bleeding tendency, ankle edema	all, except hyper coagulation
Which of the following are risk factors for colorectal cancer(CRC): age,smoking,personal and family history of colon cancer, low-fiber diet, hereditary non-polyposis CRC?	all, except for smoking

Which of the following are risk factors for colorectal cancer: colorectal villous adenomas, chronic inflamm.bowel disease, familial adenomatous polyposis,Peutz-Jeghers?	all, except for Peutz-Jeghers
Which of the following is a blind pouch leading off the GI tract lined by mucosa, muscularis, serosa? Diverticulosis, diverticulum, diverticulitis	diverticulum
Which of the following is a common association between cholesterol stones and pigment stones: obesity,Crohn's,cystic fibrosis,age,clofibrate, estrogens,multiparity,rapid weight loss?	advanced age
Which of the following is associated with perforation, peritonitis, abscesses, or bowel stenosis?	Diverticulitis

Which of the following is associated with stress:Gilbert's, Dubin-Johnson syndrome, or Crigler-Najjar(type 1)?	Gilbert's
Which of the following syndromes have a mildly decreased UDP-glucuronyl transferase: Gilbert's or Crigler-Najjar(type 1)?	Gilbert's(Crigler-Najjar has an absence of UDP-glucuronyl transferase)
Which type of liver nodule is associated with an increased risk of hepatocellular carcinoma?	macronodules
With what 6 diseases does hepatocellular carcinoma have an association?	(1)Hepatitis B (2)Hepatitis C (3)Wilson's (4) Hemochromatosis (5)alpha 1 antitrypsin deficiency (6) alcoholic cirrhosis

With what cancer is achalasia associated?	Increased risk for esophageal cancer.
An FEV1/FVC ratio greater than 80% indicates what form of pulmonary disease?	Restrictive lung disease
Are bronchogenic carcinoma metastases common?	Yes, very common
Decreased FEV1/FVC ratio are the hallmark of what kind of pulmonary disease?	COPD

How does interstitial fibrosis create a restrictive lung disease?	It causes increased recoil (decreased compliance), thereby limiting alveolar expansion.
How does lung cancer commonly present? (5)	- Cough - Hemoptysis - Bronchial obstruction - Wheezing - Pneumonic 'coin' lesion on x-ray
How does surfactant deficiency cause NRDS?	It leads to an increase in surface tension, resulting in alveolar collapse
How to you treat NRDS?	- Maternal steroids before birth - Artificial surfactant for infant

Identify: ivory-white pleural plaques in the lung.	Ferruginous bodies
In COPD, are lung volumes increased, decreased, or normal?	Increased (increasedTLC, increased FRC, increased RV)
In restrictive lung disease, are lung volumes increased, decreased, or normal?	Decreased
In what occupations is asbestosis most commonly seen? (2)	Shipbuilders and plumbers

Name three 'triggers' of asthma.	- Viral URIs - Allergens - Stress
Name three characteristics of Horner's syndrome?	- Ptosis - Miosis - Anhidrosis
Name two extrapulmonary (poor breathing mechanics) causes of restrictive lung disease.	- Poor muscular effort: polio, myasthenia gravis - Poor apparatus: scoliosis
Name two pulmonary (poor lung expansion) causes of restrictive lung disease.	- Defective alveolar filling: pneumonia, ARDS, pulmonary edema - Interstitial fibrosis

Patients with asbestosis are at increased risk for what? (2)	Pleural mesothelioma and bronchogenic carcinoma
T/F Bronchiectasis is associated with bronchial obstruction, cystic fibrosis, and poor ciliary motility.	True
T/F In obstructive (not restrictive) lung disease, FEV1 and FVC are reduced.	False, FEV1 and FVC are reduced in both
T/F Restricted lung expansion causes decreased total lung capacity and increased vital capacity.	False, decreased VC and TLC

T/F Smokers with asbestosis have a decreased risk of developing cancer.	False, it increases synergistically
What are asbestos fibers coated with hemosiderin in the lung?	Ferruginous bodies
What are the characteristics of lobar pneumonia?	Intra-alveolar exudate -> consolidation; may involve entire lung
What are the clinical findings of chronic bronchitis? (3)	- Wheezing - Crackles - Cyanosis

What are the clinical findings of emphysema? (4)	- Dyspnea - Decreased breath sounds - Tachycardia - Decreased I/E ratio
What are the symptoms and complications of interstitial lung fibrosis?	- Symptoms: gradual progressive dyspnea and cough - Complications include cor pulmonale (can be seen in diffuse interstitial pulmonary fibrosis and bleomycin toxicity)
What bronchogenic carcinoma is associated with ectopic hormone production (ADH, ACTH) and may lead to Lambert-Eaton syndrome?	Small cell carcinoma
What bronchogenic carcinoma is associated with ectopic PTH-related peptide production?	Squamous cell carcinoma

What bronchogenic carcinoma is most common?	Adenocarcinoma
What bronchogenic carcinoma is thought not to be related to smoking?	Bronchioalveolar carcinoma
What bronchogenic carcinomas are clearly linked to SSmoking?	SSquamous cell carcinoma and SSmall cell carcinoma
What bronchogenic carcinomas usually express tumors that arise centrally? (2)	- Squamous cell carcinoma - Small cell carcinoma

What bronchogenic carcinomas usually express tumors that arise peripherally? (3)	- Adenocarcinoma - Bronchioalveolar carcinoma - Large cell carcinoma-- undifferentiated
What carcinoma occurs in the apex of the lung and may affect the cervical sympathetic, causing Horner's syndrome?	Pancoast's tumor
What causes bronchiectasis?	Chronic necrotizing infection of bronchi
What causes neonatal respiratory distress syndrome (NRDS)?	Surfactant deficiency

What cells make surfactant and when is it made most abundantly in fetuses?	Type II pneumocytes most abundantly after 35th week of gestation
What COPD has a productive cough for greater than three months in two years and hypertrophy of mucus-secreting glands in the bronchioles (Reid index greater than 50%)?	Chronic bronchitis
What COPD is characterized by dilated airways, purulent sputum, recurrent infections, and hemoptysis?	Bronchiectasis
What COPD is due to an enlargement of air spaces and decreased recoil resulting from destruction of alveolar walls?	Emphysema

What COPD is due to bronchial hyperresponsiveness which causes reversible bronchoconstriction?	Asthma
What does inhaled asbestos do to the lungs?	It causes diffuse pulmonary interstitial fibrosis
What is the composition of surfactant:	Dipalmitoyl phosphatidylcholine
What is the difference in FEV1/FVC ratios between obstructive and restrictive lungs diseases?	FEV1 and FVC are reduced in both, but in obstructive the FEV1 is more dramatically reduced, resulting in a decreased FEV1/FVC ratio

What is the leading cause of cancer death?	Lung cancer
What is the SPHERE (acronym) of complications associated with lung cancer?	Superior vena caval syndrome Pancoast's tumor Horner's syndrome Endocrine (paraneoplastic) Recurrent laryngeal symptoms (hoarseness) Effusions (pleural or pericardial)
What kind of pulmonary diseases are caused by a inhibition of air flow resulting in air trapping in the lungs?	Obstructive lung diseases (COPD)
What organisms are is the most frequent cause of lobar pnuemonia?	Pneumococcus

What organisms are the most frequent cause of bronchopnuemonia? (4)	- S. aureus - H. flu - Klebsiella - S. pyogenes
What organisms are the most frequent cause of interstitial (atypical) pnuemonia? (3)	- Viruses (RSV, adenoviruses) - Mycoplasma - Legionella
What specific type of emphysema is caused by alpha-1-antitrypsin deficiency?	Panacinar emphysema (and liver cirrhosis)
What specific type of emphysema is caused by smoking?	Centriacinar emphysema

What test is used to measure in utero lung maturity?	The lecithin-to-sphingomyelin ratio in the amniotic fluid, usually less than 1.5 in neonatal respiratory distress syndrome
What type of lung cancer can cause carcinoid syndrome?	Carcinoid tumor
What type of pneumonia is characterized by acute inflammatory infiltrates from bronchioles into adjacent alveoli with a patchy distribution affecting more than one lobe?	Bronchopneumonia
What type of pneumonia is characterized by diffuse patchy inflammation localized to interstial areas at alveolar walls and involves more than one lobe?	Interstitial (atypical) pneumonia

Where does bronchogenic carcinoma commonly metastasize and how does it present? (3)	- Brain (epilepsy) - Bone (pathologic fracture) - Liver (jaundice, hepatomegaly)
Why does alpha-1-antitrypsin deficiency cause emphysema?	Increased elastase activity
Define epilepsy.	Epilepsy is a disorder of recurrent seizures.
Define syrinx.	Tube, as in syringe

Describe a myoclonic seizure.	Quick,repetitive jerks
Describe a tonic-clonic seizure.	Alternating stiffening and movement (grand mal)
Describe a tonic seizure.	Stiffening
Describe an absence seizure.	A blank stare (petit mal- it's in 1st aid this way!!)

Describe an atonic seizure.	drop' seizures
Describe Broca's aphasia.	Broca's is nonfluent aphasia with intact comprehension. BROca's is BROken speech.
Describe Horner's syndrome.	Sympathectomy of face (lesion above T1). Interruption of the 3-neuron oculosympathetic pathway.
Describe Wernicke's aphasia.	Wernicke's is fluent aphasia with impaired comprehension. Wernicke's is Wordy but makes no sense.

How do patients present with a subarachnoid hemorrhage?	Worst headache of my life'
How do pts present with MS?	-Optic neuritis (sudden loss of vision) - MLF syndrome (internuclear ophthalmoplegia) - Hemiparesis -Hemisensory symptoms -Bladder/bowel incontinence
How does it spread?	Through the bloodstream to the CNS
How does Werdnig-Hoffman disease present?	At birth as a 'floppy baby'

How is Huntington's disease inherited?	Autosomal dominant
How is the polio virus transmitted?	Fecal-oral route
How is the prevalence of MS geographically distributed?	Higher prevalence with greater distance from the Equator
In what persons is subdural hemorrhage often seen?	Elderly individuals, alcoholics, and blunt trauma

T/F. Partial seizures can not generalize.	False- Partial seizures can generalize.
What are 2 common organisms that target the brain in AIDS pts?	1. Toxo!Toxo!Toxo! 2. Cryptococcus
What are 2 degenerative diseases of the cerebral cortex?	1. Alzheimer's 2. Pick's disease
What are 2 degenerative diseases that affect the basal ganglia and brain stem?	1. Huntington's disease 2. Parkinson's disease

What are 3 degenerative disorders of the motor neuron?	1. Amyotrophic lateral sclerosis (ALS) 2. Werdnig-Hoffman disease 3. Polio
What are associated with Guillain-Barre?	1. Infections (herpesvirus or C. jejuni) 2. Inoculations 3. Stress
What are neurofibrillary tangles?	Abnormally phosphorylated tau protein
What are some demyelinating and dysmyelinating diseases?	1. Multiple sclerosis (MS) 2. Progressive multifocal leukoencephalopathy (PML) 3. Postinfectious encephalomyelitis 4. Metachromatic Leukodystrophy 5. Guillain-Barre syndrome

What are the 4 types of intracranial hemorrhages?	1. Epidural hematoma 2. Subdural Hematoma 3. Subarachnoid hemorrhage 4. Parenchymal hematoma
What are the 5 types of generalized seizures?	1. Absence 2. Myoclonic 3. Tonic-clonic 4. Tonic 5. Atonic
What are the clinical symptoms of Huntington's disease?	Dementia, chorea
What are the clinical symptoms of Parkinson's disease?	TRAP= Tremor (at rest) cogwheel Rigidity Akinesia Postural instability (you are TRAPped in your body)

What are the clinical symptoms of Tabes dorsalis?	-Charcot joints -Shooting pain -Argyll-Robertson Pupils -Absence of deep tendon reflexes
What are the common causes of seizures in adults?	-Tumors -Trauma -Stroke -Infection
What are the common causes of seizures in children?	-Genetic -Infection -Trauma -Congenital -Metabolic
What are the common causes of seizures in the elderly?	-Stroke -Tumor -Trauma -Metabolic -Infection

What are the lab findings in Guillain-Barre syndrome?	Elevated CSF protein with normal cell count ('albumino-cytologic dissociation')
What are the lab findings in poliomyelitis?	-CSF with lymphocytic pleocytosis with slight elevation of protein -Virus recovered from stool or throat
What are the pathological signs of glioblastoma multiforme (GBM)?	-Necrosis -Hemorrhage -Pseudo-palisading
What are the signs of LMN lesions seen in poliomyelitis?	-Muscle weakness and atrophy -Fasciculations -Fibrillation -Hyporeflexia

What are the symptoms of Horner's?	1. Ptosis 2. Miosis 3. Anhidrosis and flushing of affected side of face
What are the symptoms of poliomyelitis?	-Malaise -Headache -Fever -Nausea -Abdominal pain -sore throat
What area of the brain is affected by generalized seizures?	Diffuse area
What artery is compromised in an epidural hematoma?	Middle meningeal artery

What blood vessels are affected in subdural hemorrhages?	Rupture of bridging veins
What causes a parenchymal hematoma?	-HTN -Amyloid angiopathy -Diabetes Mellitus -Tumor
What causes poliomyelitis?	Poliovirus
What chemical can Parkinson's disease be linked to?	MPTP, a contaminant in illicit street drugs

What clinical symptoms are present with syringomyelia?	Bilateral pain and temperature loss in the upper extremities with preservation of touch sensation
What clinical symptoms are present?	-Symmetric ascending muscle weakness beginning in the distal lower extremities -Facial diplegia in 50% of cases -Autonomic fx may be severely affected
What congenital malformation is often associated with syringomyelia?	Arnold Chiari Malformation
What damage does cryptococcus cause in the brain?	Periventricular calcifications

What damage does toxoplasma cause in the brain?	Diffuse (intracerebral) calcifications
What diseases are berry aneurysms associated with?	-Adult polycystic kidney disease -Ehlers-Danlos syndrome -Marfan's syndrome
What do partial seizures affect?	One area of the brain
What does rupture of a berry aneurysm lead to?	Stroke

What does the spinal tap show in a subarachnoid hemorrhage?	Bloody or xanthochromic
What event is the rupture of the middle meningeal artery secondary to?	Temporal bone fracture
What genes is the familial form of Alzheimer's associated with?	Genes are chromosomes 1, 14, 19 and 21
What is a complex partial seizure?	Impaired awareness

What is a degenerative disorder of the Spinocerebellar tract?	Friedrich's ataxia (olivopontocerebellar atrophy)
What is anhidrosis?	Absence of sweating
What is another name for Guillain-Barre syndrome?	Acute idiopathic polyneuritis
What is another symptom of Werdnig-Hoffman disease?	Tongue fasciculations

What is another term for Broca's aphasia?	Expressive aphasia
What is another term for Wernicke's aphasia?	Receptive aphasia
What is miosis?	Pupil constriction
What is PML associated with?	JC virus

What is ptosis?	Slight drooping of the eyelids
What is the classic triad of MS?	SIN 1. Scanning speech 2. Intention Tremor 3. Nystagmus
What is the common name for ALS?	Lou Gehrig's disease
What is the course of a subdural hemorrhage?	Venous bleeding (less pressure) with delayed onset of symptoms

What is the course of MS?	In most pts, the course is remitting and relapsing
What is the incidence of brain tumors in adults?	Metastases> Astrocytoma (including glioblastoma)> Meningioma
What is the incidence of brain tumors in children?	Astrocytoma> Medulloblastoma> Ependymoma
What is the most common cause of dementia in the elderly?	Alzheimer's disease

What is the most common complication of a berry aneurysm?	Rupture of the aneurysm
What is the most common site for a berry aneurysm?	The bifurcation of the anterior communicating artery
What is the pathogenesis of Guillain-Barre syndrome?	Inflammation and demyelination of peripheral nerves and motor fibers of ventral roots (sensory effect less severe than motor)
What is the pathogenesis of Tabes dorsalis?	Degeneration of the dorsal columns and dorsal roots due to tertiary syphilis.

What is the pathology of Alzheimer's?	Associated with senile plaques (beta-amyloid core) and neurofibrillary tangles
What is the pathology of Huntington's disease?	Atrophy of the caudate nucleus
What is the pathology of MS?	-Periventricular plaques -Preservation of axons -Loss of oligodendrocytes -Reactive astrocytic gliosis -Increased protein (IgA) in CSF
What is the pathology of Parkinson's disease?	Associated with Lewy bodies and depigmentation of the substantia nigra

What is the pathology of Pick's disease?	Associated with Pick bodies, intracytoplasmic inclusion bodies
What is the pathology of poliomyelitis?	Destruction of anterior horn cells, leading to LMN destruction
What is the pathology of syringomyelia?	Softening and cavitation around the central canal of the spinal cord.
What is the prognosis for a pts diagnosed with a GBM?	Very poor

What is the second most common cause of dementia in the elderly?	Multi-infarct dementia
What is the shape of GBMs?	Butterfly' glioma
What neural deficits are present in Tabes dorsalis?	Impaired proprioception and locomotor ataxia
What neural tracts are damaged?	Crossing fibers of the spinothalamic tract

What neurons are affected in ALS?	Both the upper and lower motor neurons
What neurons are affected in Polio?	Lower motor neurons only
What seizures are categorized as simple partial?	Awareness intact -Motor -Sensory -Autonomic -Psychic
What tumor is Horner's syndrome associated with?	Pancoast's tumor

Where are most brain tumors located in adults?	70% are supratentorial (cerebral hemispheres)
Where are most childhood brain tumors located?	70% below tentorium (cerebellum)
Where do berry aneurysms occur?	At the bifurcations in the Circle of Willis
Where does it initially replicate?	The oropharynx and small intestine

Where does the 3 neuron oculosympathetic pathway project from?	The hypothalamus
Where does the 3 neuron oculosympathetic pathway project to?	1. Interomediolateral column of the spinal cord 2. Superior cervical (sympathetic) ganglion 3. To the pupil, smooth muscles of the eyelids and the sweat glands
Where is Broca's area located?	Inferior frontal gyrus
Where is Pick's disease specific for?	The frontal and temporal lobes

Where is the aopE-4 allele located?	Chromosome 19
Where is the most common site of syringomyelia?	C8-T1
Where is the p-App gene located?	21
Where is Wernicke's area located?	Superior Temporal Gyrus

Which demyelinating disease is seen in 2-4% of AIDS patients?	PML
Define Ankylosing spondylitis?	Chronic inflammatory disease of spine & large joints, sacroilitis, uveitis, & aortic regurgitation
Define Ankylosing spondylitis?	Chronic inflammatory disease of spine & large joints, sacroilitis, uveitis, & aortic regurgitation
Define Celiac sprue	Autoimmune-mediated intolerance of gliadin (wheat) leading to steatorrhea.

Define Celiac sprue	Autoimmune-mediated intolerance of gliadin (wheat) leading to steatorrhea.
Define Gout.	Precipitation of monosodium urate crystals into joints due to hyperuricemia.
Define Gout.	Precipitation of monosodium urate crystals into joints due to hyperuricemia.
Define Scleroderma	Excessive fibrosis & collagen deposition throughout the body; commonly sclerosis of the skin, but also of CV & GI systems & kidney

Define Scleroderma	Excessive fibrosis & collagen deposition throughout the body; commonly sclerosis of the skin, but also of CV & GI systems & kidney
Define Sicca syndrome.	dry eyes, dry mouth, nasal & vaginal dryness, chronic bronchitis, reflux esophagitis
Define Sicca syndrome.	dry eyes, dry mouth, nasal & vaginal dryness, chronic bronchitis, reflux esophagitis
In what population is ankylosing sponsylitis more commonly found?	males (10-30 year old)

In what population is ankylosing sponsylitis more commonly found?	males (10-30 year old)
In what population is Celiac sprue more commonly found?	Assoc. w/ people of northern European descent
In what population is Celiac sprue more commonly found?	Assoc. w/ people of northern European descent
In what population is Goodpasture's syndrome more commonly found?	Men 20-40 y/o

In what population is Goodpasture's syndrome more commonly found?	Men 20-40 y/o
In what population is gout more commonly found?	Men
In what population is gout more commonly found?	Men
In what population is Osteoarthritis more commonly found?	Common in older patients

In what population is Osteoarthritis more commonly found?	Common in older patients
In what population is pseudogout more commonly found?	> 50 y/o, both sexes equally
In what population is pseudogout more commonly found?	> 50 y/o, both sexes equally
In what population is Reiter's syndrome more commonly found?	Strong predilection for males

In what population is Reiter's syndrome more commonly found?	Strong predilection for males
In what population is Rheumatoid arthritis more commonly found & what the common autoimmune factor present?	- Common in females - 80% of RA pt's have positive rheumatoid factor (anti-IgG Ab)
In what population is Rheumatoid arthritis more commonly found & what the common autoimmune factor present?	- Common in females - 80% of RA pt's have positive rheumatoid factor (anti-IgG Ab)
In what population is sarcoidosis more commonly found?	black females

In what population is sarcoidosis more commonly found?	black females
In what population is scleroderma more commonly found?	75% female
In what population is scleroderma more commonly found?	75% female
In what population is Sjogren's syndrome more commonly found?	females between the ages of 40 & 60

In what population is Sjogren's syndrome more commonly found?	females between the ages of 40 & 60
In what population is SLE more commonly found?	90% are female & between ages 14 & 45. More common & severe in black females
In what population is SLE more commonly found?	90% are female & between ages 14 & 45. More common & severe in black females
What are the 2 major categories of scleroderma & what findings are they assoc w/?	Diffuse scleroderma: widespread skin involvement, rapid progression, early visceral involvement. Assoc. w/ anti-Scl-70 Ab CREST syndrome: Calcinosis, Raynaud's phenomenon, Esophageal dysmotility, Sclerodactyly & Telangiectasia; limited skin involvement, often confined to fingers & face. More benign clinical course - assoc w/ anticentromere Ab

What are the 2 major categories of scleroderma & what findings are they assoc w/?	Diffuse scleroderma: widespread skin involvement, rapid progression, early visceral involvement. Assoc. w/ anti-Scl-70 Ab CREST syndrome: Calcinosis, Raynaud's phenomenon, Esophageal dysmotility, Sclerodactyly & Telangiectasia; limited skin involvement, often confined to fingers & face. More benign clinical course - assoc w/ anticentromere Ab
What are the associated sx's & risks for Sjogren's syndrome?	- Parotid enlargement - incr risk of B-cell lymphoma - Assoc. w/ RA
What are the associated sx's & risks for Sjogren's syndrome?	- Parotid enlargement - incr risk of B-cell lymphoma - Assoc. w/ RA
What are the characteristic findings in Celiac sprue?	Blunting of villi, lymphocytes in the lamina propria, & abnormal D-xylose test

What are the characteristic findings in Celiac sprue?	Blunting of villi, lymphocytes in the lamina propria, & abnormal D-xylose test
What are the common characteristics of Sarcoidosis?	immune-mediated, widespread noncaseating granulomas & elevated serum ACE levels
What are the common characteristics of Sarcoidosis?	immune-mediated, widespread noncaseating granulomas & elevated serum ACE levels
What are the common gross findings in Goodpasture's syndrome?	pulmonary hemorrhages, renal lesions, hemoptysis, hematuria, crescentic glomerulonephritis

What are the common gross findings in Goodpasture's syndrome?	pulmonary hemorrhages, renal lesions, hemoptysis, hematuria, crescentic glomerulonephritis
What can cause gout?	Lesch-Nyan disease, PRPP excess, decreased excretion of uric acid, or G6PD deficiency. Also assoc. w/ the use of thiazide diuretics which competitively ingibit the secretion of uric acid.
What can cause gout?	Lesch-Nyan disease, PRPP excess, decreased excretion of uric acid, or G6PD deficiency. Also assoc. w/ the use of thiazide diuretics which competitively ingibit the secretion of uric acid.
What causes pseudogout?	deposition of calcium pyrophosphate crystals w/in the joint space

What causes pseudogout?	deposition of calcium pyrophosphate crystals w/in the joint space
What CV disease state can be caused by SLE?	SLE causes LSE (Libman-Sacks Endocarditis): vavular vegetations found on both sides of valve (mitral valve stenosis) & do not embolize
What CV disease state can be caused by SLE?	SLE causes LSE (Libman-Sacks Endocarditis): vavular vegetations found on both sides of valve (mitral valve stenosis) & do not embolize
What drugs can induce a commonly reversible SLE-like syndrome?	- procainamide - INH - phenytoin - hydralazine

What drugs can induce a commonly reversible SLE-like syndrome?	- procainamide - INH - phenytoin - hydralazine
What immune marker aids in dx?	90% of cases are assoc w/ B27 (gene which codes for HLA MHC-I)
What immune marker aids in dx?	90% of cases are assoc w/ B27 (gene which codes for HLA MHC-I)
What is characteristic about gout crystals?	needle-shaped & negatively berefringent.

What is characteristic about gout crystals?	needle-shaped & negatively berefringent.
What is characteristic about pseudogout crystals?	basophilic, rhomboid crystals
What is characteristic about pseudogout crystals?	basophilic, rhomboid crystals
What is Reiter's syndrome?	a seronegative spondyloarthropath w/ a HLA-B27 link

What is Reiter's syndrome?	a seronegative spondyloarthropath w/ a HLA-B27 link
What is the 'classic triad' for Reiter's syndrome?	1. Urethritis (Can't pee) 2. Conjunctivities & ant. uveitis (Can't see) 3. Arthritis (Can't climb a tree)
What is the 'classic triad' for Reiter's syndrome?	1. Urethritis (Can't pee) 2. Conjunctivities & ant. uveitis (Can't see) 3. Arthritis (Can't climb a tree)
What is the 'classic triad' for Sjogren's syndrome?	1. dry eyes (conjunctivitis, xerophthalmia) 2. dry mouth (dysphagia, xerostomia) 3. arthritis

What is the 'classic triad' for Sjogren's syndrome?	1. dry eyes (conjunctivitis, xerophthalmia) 2. dry mouth (dysphagia, xerostomia) 3. arthritis
What is the classic pathology for Osteoarthritis?	Mechanical: wear & tear of joints leads to destruction of articular cartilage, subchondral bone formation, sclerosis, osteophytes, eburnation, & Heberden's nodes (DIP)
What is the classic pathology for Osteoarthritis?	Mechanical: wear & tear of joints leads to destruction of articular cartilage, subchondral bone formation, sclerosis, osteophytes, eburnation, & Heberden's nodes (DIP)
What is the classic pathology for Rheumatoid arthritis?	Autoimmune: inflammatory d/o affecting synovial joints, w/ pannus formation in joints (MCP, PIP), subcutaneous rheumatoid nodules, ulnar deviation, subluxation.

What is the classic pathology for Rheumatoid arthritis?	Autoimmune: inflammatory d/o affecting synovial joints, w/ pannus formation in joints (MCP, PIP), subcutaneous rheumatoid nodules, ulnar deviation, subluxation.
What is the Classic presentation for Osteoarthritis?	pain in weight-bearing joints after use (e.g.- at the end of the day), improving w/ rest. No systemic sx's
What is the Classic presentation for Osteoarthritis?	pain in weight-bearing joints after use (e.g.- at the end of the day), improving w/ rest. No systemic sx's
What is the classic presentation for Rheumatoid arthritis?	morning stiffness improving w/ use, symmetric joint involvement & systemic symptoms: fever, fatigue, pleuritis, pericarditis

What is the classic presentation for Rheumatoid arthritis?	morning stiffness improving w/ use, symmetric joint involvement & systemic symptoms: fever, fatigue, pleuritis, pericarditis
What is the common immunologic finding for Goodpasture's syndrome?	Anti-glomerular basement membrane antibodies produce linear staining on immunofluorescence
What is the common immunologic finding for Goodpasture's syndrome?	Anti-glomerular basement membrane antibodies produce linear staining on immunofluorescence
What is the common tx for gout?	allopurinol, probenecid, colchicine, & NSAID's.

What is the common tx for gout?	allopurinol, probenecid, colchicine, & NSAID's.
What is the common tx for pseudogout?	no tx
What is the common tx for pseudogout?	no tx
What is the descriptive acrynym for Sarcoidosis?	GRAIN Gammaglobulinemia Rheumatoid arthritis ACE incr. Interstitial fibrosis Noncaseating granulomas

What is the descriptive acrynym for Sarcoidosis?	GRAIN Gammaglobulinemia Rheumatoid arthritis ACE incr. Interstitial fibrosis Noncaseating granulomas
What is the useful memory tool for Goodpasture's syndrome?	there are TWO Good Pastures for this disease: Glomerulus & Pulmonary. Also, a type II (TWO) hypersensitivity disease
What is the useful memory tool for Goodpasture's syndrome?	there are TWO Good Pastures for this disease: Glomerulus & Pulmonary. Also, a type II (TWO) hypersensitivity disease
What sx's is sarcoidosis commonly associated w/?	restrictive lung disease, bilateral hilar lypmphadenopathy, erythema nodosum, Bell's palsy, epithelial granulomas containing microscopic Schaumann & asteroid mobies, uveoparotitis, & hypercalcemia (due to elevated conversion of vit. D to its active form in epithelioid macrophages)

What sx's is sarcoidosis commonly associated w/?	restrictive lung disease, bilateral hilar lypmphadenopathy, erythema nodosum, Bell's palsy, epithelial granulomas containing microscopic Schaumann & asteroid mobies, uveoparotitis, & hypercalcemia (due to elevated conversion of vit. D to its active form in epithelioid macrophages)
What the common pattern of psudogout presentation?	Usually affects large joints (classically the knee)
What the common pattern of psudogout presentation?	Usually affects large joints (classically the knee)
Where is gout commonly manifested?	Asymmetric joint distribution. Favored manifestation is painful MTP joint in the big toe (podagra). Tophus formation (often on external ear or Achilles tendon)

Where is gout commonly manifested?	Asymmetric joint distribution. Favored manifestation is painful MTP joint in the big toe (podagra). Tophus formation (often on external ear or Achilles tendon)
Addison's disease is characterized by what (remember 4 A's)?	Adrenal Atrophy and Absence of hormone production; involves All three cortical divisions
All MEN syndromes have what mode of inheritance?	Autosomal Dominant
An increased risk of carcinoma with atypical cells is seen in which type of fibrocystic breast disease?	Epithelial hyperplasia

Blood filled, 'chocolate cysts' are seen in what condition?	Endometriosis
Carcinoid tumors result in what recurrent symptoms? (4)	- diarrhea - cutaneous flushing - asthmatic wheezing - right-sided valvular disease
Cretin means 'Christ-like,' why is that name used?	Those affected were considered so mentally retarded as to be incapable of sinning.
Diabetic ketoacidosis (DKA) is caused by what?	Excess fat breakdown (usually due to an increase in insulin requirements) and increased ketogenesis from the increase in free fatty acids, which are then made into ketone bodies

Do leiomyosarcomas derive from other known tumors?	No, they usually arise de novo
From where do leiomyosarcomas often protrude?	Cervix
How do you treat carcinoid syndrome?	Treat with octreotide
How do you treat postmenopausal osteoporosis?	Estrogen replacement therapy

Hydatiform moles result in an increase in what hormone?	Beta-HCG
Increase in what substance is seen in the urine due to carcinoid tumors?	5-HIAA
Is ACTH increased or decreased when increased cortisol is due to a primary adrenal hyperplasia or neoplasia?	Decreased
Is ACTH increased or decreased when increased cortisol is due to an iatrogenic etiology?	Decreased

Is ACTH increased or decreased when increased cortisol is due to Cushing's disease?	Increased
Is ACTH increased or decreased when increased cortisol is due to ectopic ACTH production (e.g., carcinoid)?	Increased
Is plasma renin low or high in primary hyperaldosteronism?	Low
Is plasma renin low or high in secondary hyperaldosteronism?	High

Leiomyomas are sensitive to what?	Estrogen
Name 3 common tests for evaluating DM?	- Fasting serum glucose - Glucose tolerance test - HbA1c
Name 3 specific example of large vessel atherosclerosis due to DM?	- Coronary artery disease - Peripheral vascular occlusive disease and gangrene - Cerebrovascular disease
Name five possible causes of secondary hyperaldosteronism?	1. Renal artery stenosis 2. Chronic renal failure 3. CHF 4. Cirrhosis 5. Nephritic syndrome

Name four causes of SIADH.	Ectopic ADH CNS disorders/ head trauma Pulmonary disease Drugs
Name four common presenting symptoms of benign prostatic hyperplasia.	1. Increased frequency of urination 2. Nocturia 3. Difficulty starting and stopping the stream of urine 4. Dysuria
Name four important chronic manifestations of DM.	- Small vessel disease - Large vessel atherosclerosis - Neuropathy - Cataracts, glaucoma
Name four risk factors of endometrial carcinoma.	1. Prolonged estrogen use 2. Obesity 3. Diabetes 4. HTN

Name four treatment modalities for polycystic ovarian syndrome.	- Weight loss - OCPs - Gonadotropin analogs - Surgery
Name six risk factors of breast disease.	1. Gender 2. Age 3. Early first menarche (under 12) 4. delayed first pregnancy (over 30) 5. Late menopause (over 50) 6. Family history of first degree relative with breast cancer at a young age.
Name some of the acute manifestations of Diabetes Mellitus (DM)? (7)	- Polydipsia - Polyuria - Polyphagia - Weight loss - DKA (type1) - Hyperosmolar coma (type 2) - Unopposed secretion of GH and Epi (exacerbating hyperglycemia)
Name syndrome: increased LH due to peripheral estrogen production leads to anovulation and may manifest in amenorrhea, infertility, obesity, and hirsutism.	Polycystic ovarian syndrome

Name the autoimmune hyperthyroidism with TSH receptor antibodies, opthalmopathy, pretibial myxedema, and diffuse goiter.	Graves' disease
Name the benign breast tumor: most common tumor under 25 years; small, mobile, firm mass with sharp edges.	Fibroadenoma
Name the benign breast tumor: tumor of lactiferous ducts; presents with nipple discharge.	Intraductal papilloma
Name the benign breast tumor: large, bulky mass of connective tissue and cysts; breast surface has 'leaflike' appearance.	Cystosarcoma phyllodes

Name the disease caused by primary deficiency of aldosterone and cortisol due to adrenal atrophy?	Addison's disease
Name the histologic type of fibrocystic breast disease: fluid-filled.	Cystic
Name the histologic type of fibrocystic breast disease: hyperplasia of breast stroma.	Fibrosis
Name the histologic type of fibrocystic breast disease: increase in number of epithelial cell layers in terminal duct lobule.	Epithelial hyperplasia

Name the histologic type of fibrocystic breast disease: increased acini and intralobular fibrosis.	Sclerosing
Name the histologic type of malignant breast disease: cheesy consistency of tumor tissue due to central necrosis.	Comedocarcinoma
Name the histologic type of malignant breast disease: eczematous patches on nipple.	Paget's disease
Name the histologic type of malignant breast disease: lymphatic involvement; poor prognosis.	Inflammatory

Name the histologic type of malignant breast disease: most common carcinoma; firm, fibrous mass.	Infiltrating ductal
Name three characteristics of inappropriate ADH secretion (SIADH).	1. Excessive water retention 2. Hyponatremia 3. Serum hypo-osmolarity with urine osmolarity > serum osmolarity
Name three fractures commonly seen due to osteoporosis.	1. Vertebral crush fractures 2. Distal radius (Colle's) fractures 3. Vertebral wedge fractures
Pheochromocytomas may be associated with what 3 diseases?	1. Neurofibromatosis 2. MEN type II 3. MEN type III

T/F A partial hydatiform mole is commonly triploid or tetraploid.	True
T/F DKA is common in Type 1 DM.	True
T/F DKA is common in Type 2 DM.	False, rare
T/F Endometriosis often manifests with severe menstrual-related pain and often with infertility?	True

T/F Fibrocystic breast disease usually does not indicate increased risk of carcinoma.	True
T/F Genotype of a complete hydatiform mole is 46, XX and is purely maternal in origin.	False, it is 46, XX and Purely Paternal in origin
T/F Glucose intolerance in Type 1 DM is severe.	True
T/F Insulin is always necessary to treat Type 1 DM.	True

T/F Insulin is always necessary to treat Type 2 DM.	False, sometimes
T/F Leiomyomas often present with multiple tumors.	True
T/F Leiomyomas often transform into malignant tumors.	False, it is rare
T/F Leiomyomas progress to leiomyosarcomas.	False

T/F Leiomyosarcomas: highly aggressive, have a tendancy to recur, and have an increased incidence in blacks.	True
T/F Risk of breast disease is increased by fibroadenoma and nonhyperplastic cysts.	False
T/F Type 1 diabetes is often associated with obesity.	False
T/F Type 1 diabetes is polygenic and strongly due to genetic disposition?	False. It is polygenic and only weakly associated with genetic disposition, whereas Type 2 is strongly associated.

T/F Women with endometrial hyperplasia are at increased risk for endometrial carcinoma which tends to manifest with vaginal bleeding?	True
Urinary VMA levels and plasma catecholamines are elevated due to what neoplasms?	Pheochromocytoma
What are the clinical effects of increased cortisol? (9)	- hypertension - weight gain - moon facies - truncal obesity - buffalo hump - hyperglycemia (insulin resistance) - skin changes (thinning striae) - osteoporosis - immune suppression
What are the clinical effects of primary hyperaldosteronism? (4)	- Hypertension - Hypokalemia - Metabolic alkalosis - Low plasma renin

What are the episodic hyperadrenergic symptoms (5 P's) due to pheochromocytomas?	- Pressure - Pain (headache) - Perspiration - Palpitations - Pallor/diaphoresis
What are the primary hormonal causes of DM?	Insulin deficiency (or inefficiency) and glucagon excess
What are the six 'Rule of 10's' associated with pheochromocytomas?	- 10% Malignant - 10% bilateral - 10% extraadrenal - 10% calcify - 10% kids - 10% familial
What are theorized causes for Types 1 and 2 DM?	Type 1 - viral or immune destruction of pancreatic beta cells Type 2 - Increased resistance to insulin

What benign breast tumor increases in size and tenderness with pregnancy?	Fibroadenoma
What breast disease is common in postmenopausal women and arises from mammary duct epithilium or lobular glands?	Malignant tumors (carcinoma)
What causes Cushing's Syndrome?	Increased cortisol
What causes sporadic cretinism?	Defect in T4 formation or developmental failure in thyroid formation.

What condition can produce all these symptoms: cold intolerance, hypoactivity, weight gain, fatigue, lethargy, decreased appetite, constipation, weakness, decreased reflexes, myxedema (facial/periorbital), dry, cool skin, and coarse, brittle hair?	Hypothyroidism
What condition can produce all these symptoms: heat intolerance, hyperactivity, weight loss, chest pain/ palpitations, arrhythmias, diarrhea, increased reflexes, warm, moist skin, and fine hair?	Hyperthyroidism
What condition is associated with the expressions 'honeycombed uterus' and 'cluster of grapes' appearance?	Hydatiform mole
What condition is caused by increased bone resorption due to decreased estrogen levels (seen postmenopausal by 10-15 years)?	Type 1 Osteoporosis

What condition is characterized by non-neoplastic endometrial glands/stroma in abnormal locations outside the uterus?	Endometriosis
What disease is characterized by intense thirst and polyuria together with an inability to concentrate urine with fluid restriction owing to lack of ADH or to a lack of renal response to ADH. Caused by lithium demeclocycline.	diabetes insipidus
What disease may be due to an age-related increase in estradiol with sensitization of the prostate to the growth promoting effects of DHT? It is characterized by nodular enlargement of the periurethral lobes of the prostate gland compressing the urethra into a vertical slit?	Benign prostatic hyperplasia
What diuretic acts as an aldosterone antagonist used to treat primary hyperaldosteronism?	Spironolactone

What endocrine pathology may produce these findings: pot-bellied, pale, puffy-faced child with protruding umbilicus and protuberant tongue?	Cretinism
What fractures cause acute back pain, loss of height, and kyphosis?	Vertebral crush fractures
What gynecologic tumor is often bulky with areas of necrosis and hemorrhage?	Leiomyosarcoma
What is a pathologic ovum resulting in cystic swelling of chorionic villi and proliferation of chorionic epithelium?	Hydatiform mole

What is an abnormal endometrial gland proliferation usually caused by excess estrogen stimulation?	Endometrial hyperplasia
What is the 'Rule of 1/3s' for carcinoid tumors?	1/3 metastasize 1/3 present with second malignancy 1/3 multiple
What is the etiology of Cushing's Syndrome caused by Cushing's disease?	Primary pituitary adenoma
What is the etiology of primary hyperaldosteronism (Conn's syndrome)?	An aldosterone-secreting tumor

What is the etiology of small vessel disease due to DM?	Diffuse thickening of the basement membrane
What is the most common gynecologic malignancy, with a peak age of 55-65 y/o?	Endometrial carcinoma
What is the most common of all tumors in females?	Leiomyoma
What is the most common site of ectopic endometrial tissue?	Ovary

What is the most common tumor of the adrenal medulla in adults?	Pheochromocytoma
What is the most common tumor of the adrenal medulla in children?	Neuroblastoma
What is the most common tumor of the appendix?	Carcinoid tumor
What is the pathophysiology of secondary hyperaldosteronism?	Kidney perception of low intravascular volume results in an overactive renin-angiotensin system.

What metabolic reaction is responsible for the chronic manifestations of DM?	Nonenzymatic glycosylation
What neoplasms secrete high levels of serotonin (5HT) that does not get metabolized by the liver due to liver metastases?	Carcinoid tumors (neuroendocrine cells) especially of the small bowel
What non-selective, irreversible alpha blocker is used to treat pts with pheochromocytomas?	Phenoxybenzamine
What phenotypic difference can distinguish between primary and secondary causes of Addison's disease?	Primary insufficiency results in hyperpigmentation due to increased MSH.

What substance causes cataract formation in DM patients?	Sorbitol accumulation
What syndrome is caused by a gastrin-secreting tumor that is usually located in the pancreas, causes recurrent ulcers, and may be associated with MEN type 1?	Zollinger-Ellison syndrome
What three organs (3 P's) are involved in MEN type I?	- Pancreas - Pituitary - Parathyroid
What type of respirations are seen in diabetic ketoacidosis?	Kussmaul respiration

Where (and in what forms) is small vessel disease from DM seen most prominently?	- Retinopathy - hemorrhage, exudates, and microaneurysms - Nephropathy - nodular sclerosis, progressive proteinuria, chronic renal failure, arteriosclerosis leading to HTN
Where does endemic cretinism occur?	Wherever endemic goiter is prevalent (lack of dietary iodine).
Whether the complications of diabetes Q. as it does is	life threatening mucormycosis, Rhizopus infection, cerebral edema, cardiac arrhythmias, heart failure
Which type of Multiple Endocrine Neoplasia (MEN) is associated with medullary carcinoma of the thyroid, pheochromocytoma, and oral and intestinal ganglioneuromatosis (mucosal neuromas)?	Type III (formerly MEN IIb)

Which type of Multiple Endocrine Neoplasia (MEN) is associated with medullary carcinoma of the thyroid, pheochromocytoma, parathyroid tumor, or adenoma?	Type II (Sipple's syndrome)
Which type of Multiple Endocrine Neoplasia (MEN) is associated with pancreas (e.g. ZE syndrome, insulinomas, VIPomas), parathyroid and pituitary tumors?	Type I (Wermer's syndrome)
Which type of osteoporosis affects men and women over 70 y/o?	Type 2 (Senile) Osteoporosis
Why is intracellular myoinositol depleted in DM?	Hyperglycemia increases intracellular sorbitol (which is associated with depletion) and may also directly inhibit myoinositol uptake

Will total T4, free T4, and T3 uptake be increased or decreased (respectively) in primary hyperthyroidism?	All increased – Increased total T4 – Increased free T4 – Increased T3 uptake
Will total T4, free T4, and T3 uptake be increased or decreased (respectively) in primary hypothyroidism?	All decreased (remember: TSH is increased) – Decreased total T4 – Decreased free T4 – Decreased T3 uptake
Will TSH be increased or decreased in primary hyperthyroidism?	Increased
Will TSH be increased or decreased in primary hypothyroidism?	Increased

Are most pericardial effusions serous or hemorrhagic?	serous
Bacterial endocarditis of which valve is associated with IV drug abuse?	Tricuspid
Characterize EKG changes in an MI	ST elevation (transmural ischemia) and Q waves (transmural infarct)
characterize the AST levels in an MI	elevated 1-3 days post MI. Nonspecific enzyme found in heart, liver, and skeletal muscle

Characterize the cardiac troponin I levels in an MI.	Elevated between 4 hrs. and 7-10 days post MI most specific protein marker for MI
Characterize the CK-MB levels in an MI	elevated in the first 24 hrs. post MI
Characterize the LDH1 levels in an MI	elevated from 2 to 7 days post MI
Describe a mitral prolapse murmur?	Most frequent valvular lesion, esp. in young women. Late systolic murmur ending with 2nd heart sound

Describe a mitral regurgitation murmur?	High pitched holosystolic (continuous sound throughout systole)
Describe a mitral stenosis murmur	Rumbling late diastolic murmur when LA>>LV during diastole. Begins in late diastole
Describe a vent. Septal defect (VSD) murmur.	holosystolic murmur (continuous throughout systole)
Describe an aortic regurgitation murmur	high-pitched 'blowing' murmur, beginning immediately in diastole. Wide pulse pressure

Describe an aortic stenosis murmur	Crescendo-decrescendo systolic murmur, with LV>>aortic pressure during systole. Follows an 'ejection click,' and ends before 2nd heart sound
Describe an patent ductus arteriosus (PDA) murmur.	Continuous machine-like murmur. Loudest at the time of 2nd heart sound
Describe the bacterial growths in subacute bact. Endocarditis.	Small vegetations on congentially abnormal valves
Describe the bacterial growths of acute bact. endocarditis?	Large vegetations on previously normal valves

Describe the onset of Staph. Aureus endocarditis.	rapid, acute onset
Describe the onset of Streptoccus viridans endocarditis.	Insidious, subacute onset
During what weeks of pregnancy does preeclampsia present?	20 weeks gestation to 6 weeks postpartum
How can pericarditis progress?	It can resolve without scarring or it can lead to chronic adhesive or chronic constrictive pericarditis

How does atherosclerosis progress?	1. Fatty streaks in arteries 2. Proliferative plaques 3. Complex atheromas
How does Prinzmental's variant angina present?	chest pain at rest
How does stable angina present?	chest pain with exertion
How does syphilis change the aorta?	Causes dilation of the aorta and valve ring. Can result in aortic aneurysm or aortic valve incompetence

How does unstable/crescendo angina present?	Worsening chest pain
To what does HTN predispose one?(5)	Coronary heart dz, CVA, CHF, renal dz, and aortic dissection
What are associations of preeclampsia?(3)	1. Hemolysis 2. Elevated LFT (liver fxn test) 3. Low platelets
What are clinical features of preeclampsia?(6)	1. Headache 2. Blurred vision 3. Abdominal pain 4. Edema of face and extremities 5. Altered mentation 6. Hyperreflexia

What are complications from an MI?(7)	1. Card. Arrhythmia(90%) 2. LV failure and pul. Edema (60%) 3. Thromboembolism: mural thrombus 4. Cardiogenic shock 5. Physical trauma 6. Fibrinous pericarditis 7. Dressler's syndrome
What are complications of bacterial endocarditis?(4)	1. Chordae rupture 2. Glomerulonephritis 3. Suppurative pericarditis 4. Emboli
What are examples traumatic MI complications?(4)	1. Vent wall rupture 2. Interventricular. Septum rupture 3. Papillary muscle rupture (4-10 days post-MI) 4. Cardiac tamponade (heart compression)
What are fat emboli associated with?(2)	Long bone fractures and liposuction

What are Janeway lesions?	Small erythematous lesions on palms or soles
What are nonbacterial causes of endocarditis?(2)	Secondary to metastasis or renal failure (marantic/ thrombotic endocarditis)
What are olser nodes?	tender raised lesions on finger or toe pads
What are possible manifestations of ischemic heart disease?(4)	1. Angina(CAD narrowing> 75%) 2. Myocardial infarction 3. Sudden cardiac death 4. Chronic ischemic heart disease

What are risk factors for hypertension?(6)	Increased age, obesity, diabetes, smoking, genetics, race (black>white>asian)
What are Roth's spots?	round white spots on retina surrounded by hemorrhage
What are some atherosclerosis symptoms?	Agina and claudication. Can be asymptomatic
What are some risk factors for preecalmpsia?(4)	1. Preexisting HTN 2. Diabetes 3. Chronic renal dz 4. Autoimmune dz

What are the 2 major causes of HTN?	1.Primary (essential) HTN, related to ?CO and ?TPR 2. Secondary HTN, usually related to renal dz
What are the 3 most common sites of an MI?	LAD>RCA>circumflex
What are the 3 types of angina in ischemic heart dz?	stable angina, prinzmetal's variant, and unstable/ crescendo
What are the 7 types of heart murmurs?	1. Aortic stenosis 2. Aortic regurgitation 3. Mitral stenosis 4. Mitral regurgitation 5. Mitral prolapse 6. Vent. Septal defect 7. Patent ductus arteriosus

What are the causes/ associations of cardiogenic shock?	A large infarct with a high incidence of mortality
What are the complications of atherosclerosis?(6)	aneurisms, ischemia, infarcts, peripheral vasc dz thrombus, and emboli
What are the etiologies of dilated cardiomyopthy? (6)	1. Chronic alcohol abuse 2. Beriberi (wet) 3. Coxacke virus B postviral myocarditis 4. Cocaine use 5. Chagas dz. 6. Doxirubicin toxicity
What are the finding in temporal arteritis?	1. Unilateral headache 2. Jaw claudication 3. Impaired vision 4. Systemic involvement with polymyalgia rheumatica (in 50% of patients)

What are the findings in Buerger's dz?	Intermittent claudication, superficial nodular phlebitis, cold sensitivity (Raynauld's phenom.), severe pain in affected part; may lead to gangrene.
What are the findings in pericarditis?(4)	1. Pericardial pain 2. Friction rub 3. EKG changes 4. Pulsus paradoxicus
What are the findings of Wegener's granulomatosis?(3)	1. C-ANCA positive 2. CXR reveals large nodular lesions 3. Hematuria and red cell casts
What are the major causes of restrictive/obliterative cardiomyopathy?(4)	1. Sarcoidosis 2. Amyloidosis 3. Endocardial fibroelastosis 4. Endomyocardial fibrosis (Loffler's)

What are the possible lab findings in preeclampsia?(2)	thrombocytopenia and hyperuricemia
What are the risk factors of atherosclerosis?(4)	smoking, HTN, diabetes mellitus, and hyperlipidemia
What are the signs and symp of rheumatic fever or rheumatic heart dz?(7)	1. Fever 2. Erythema marginatum 3. Valvular damage 4. ESR increase 5. Polyarthritis 6. Subcutaneous nodules 7. Chorea
What are the signs and symp. of bacterial endocarditis?(8)	JR= NO FAME 1. Janeway lesions 2. Roth's spots 3. Nail bed hemorrhages 4. Osler nodes 5. Fever 6. Anemia 7. Murmur 8. Emobli

What are the signs of polyarteritis nodosa?(7)	1. Cotton wool spots 2. Microaneurysms 3. Pericarditis 4. Myocarditis 5. Palpable purpura 6. Elevated ESR 7. P-ANCA positive serum
What are the symptoms of a pulmonary embolus? (3)	Chest pain, tachypnea, and dyspnea
What are the symptoms of an MI?(5)	Severe retrosternal pain, pain in left arm or jaw, shortness of breath, fatigue, and adrenergic symptoms
What are the symptoms of polyarteritis nodosa?(6)	fever, weight loss, malaise, abdominal pain, myalgia, and HTN

What are the symptoms of Takaysu's arteritis?(6)	Fever, arthritis, night sweats, myalgia, and skin nodules
What are the symptoms of Wegeners granulomatosis? (7)	1. Perforation of nasal septum 2. Chronic sinusitis 3. Otitis media 4. Mastoiditis 5. Cough 6. Dyspnea 7. Hemoptysis
What are the types of emboli? (6)	1. Fat 2. Air 3. Thrombus 4. Bacteria 5. Amniotic fluid 6. Tumor
What can cause pericarditis? (4)	1. Infection 2. Ischemic heart dz 3. Chronic renal failure leading to uremia 4. Connective tissue dz

What causes acute bact. Endocarditis?	Staphyloccus aureus
What causes cardiac dilation in CHF?	greater ventricle end-diastolic volume
What causes dyspnea on exertion in CHF?	failure of LV output to increase during exercise
What causes hepatomegaly in CHF?	increased central venous press.?increased resistance to portal flow. Rarely leads to 'cardiac cirrhosis.'

What causes othopenea (dyspnea when supine) in CHF?	Pooling of blood in lungs when supine adds volume to congested pul. Vasculature system; increased venous return not put out by left ventricle.
What causes Paroxysmal nocturnal dyspnea and pulmonary edema in CHF?	Failure of left heart to keep up with rt. Heart output ? acute rise pul. Venous and capillary press. ? transudation of fluid
What causes prinzmental's variant angina?	coronary artery spasm
What causes pulmonary congestion in CHF?	LV failure?increased pul. Venous press.? pul. Venous distention and transudation of fluid. Presence of hemosiderin-laden macrophages (heart failure cells).

What causes pulmonary emboli?	95% of pulmonary emboli arise from deep leg veins
What causes rheumatic fever?	Pharyngeal infection with group A, ? hemolytic streptococci leads to cross reactivity with self (not due to direct effects of bacteria)
What causes stable angina?	atherosclerosis
What causes sudden cardiac death?	Most commonly from lethal arrhythmia

What causes the edema seen in CHF?	RV failure?increased venous press.? fluid transudation
What causes unstable/ crescendo angina?	thrombosis in a branch of the coronary artery
What happens 2-4 days after an MI?(5)	1. Infarct appears pale 2. Tissue surrounding infarct shows acute inflammation 3. Dilated vessels (hyperemia) in infarct 4. Neutrophil emigration 5. Extensive coagulative necrosis
What happens 5-10 days after an MI?(4)	1. A hyperemic boarder forms around the infarct 2. The infarct shows central softening with brown/yellow color 3. An outer zone (ingrowth of granulation tissue) forms around infarct 4. Neutrophils and macrophages infiltrate infarcted tissue

What happens by 7 weeks post-MI?(3)	1. The Occluded artery causing the MI is recanalized 2. The infarct area is gray/ white 3. The infarcted tissue shows contracted, complete scarring
What happens to contractility, cardiac output, and effective atrial blood volume in CHF?	all decrease
What happens to renal blood flow in CHF?	decreases
What happens to renin, angiotensin II, and aldosterone in CHF	all increase

What happens to sympathetic nervous activity in CHF?	increases
What happens to the heart 1 day after an MI?(5)	1. Appearance of a pale infarcted area 2. Coagulative necrosis in the infarct 3. Release of necrotic cells in the blood 4. Beginning of neutrophil emigration 5. Artery supplying infarcted tissue is occluded
What happens to urinary excretion of water and Na in CHF?	decrease
What happens to venous pressure in CHF?	increases

What histologic part of the aorta is affected by syphilis?	vasa vasorum
What is 'pulseless disease'?	Takayasu's arteritis
What is a red infarct?	A hemorrhagic infarct associated with reperfusion of infarcted tissue
What is an association of polyarteritis nodosa?	Hepatitis B infection (30% of patients)

What is Buerger's disease?	Known as smoker's disease and thromboangitis obliterans; idiopathic, segmental, thrombosing vasculitis of intermediate and small peripheral arteries and veins.
What is chronic ischemic heart dz?	Progressive onset of CHF over several years due to chronic ischemic myocardial damage
What is Dressler's syndrome?	an autoimmune phenomenon resulting in fibrinous pericarditis several weeks post-MI
What is eclampsia?	The addition of seizures to the preeclampsia triad

What is fibrinous pericarditis?	A friction rub of the pericardium usually 3-5 days post-MI
What is hypertrophic cardiomyopathy (formerly IHSS: idiopathic hypertrophic subaortic stenosis)?	Familial hypertrophy, usually asymmetric, involving the interventricular septum
What is polyarteritis nodosa?	Necrotizing immune complex inflammation of small or medium-sized muscular arteries, typically involving renal or visceral vessels.
What is preeclampsia?	A triad of HTN, protenuria, and edema that occurs in pregnancy

What is sudden cardiac death?	death from cardiac causes within 1 hr. of onset of symptoms
What is Takayasu's arteritis?	Thickening of aortic arch and proximal great vessels causing weak pulses in extremities and ocular disturbances.
What is temporal arteritis?	Vasculitis that affects medium and small arteries, usually branches of the carotid artery.
What is the appearance of a heart with hypertrophic cardiomyopathy?	Walls of LV are thickened, chamber becomes banana shaped on echocardiogram

What is the appearance of an aorta affected by syphilis?	Tree bark appearance
What is the incidence of preeclampsia?	7% of pregnant women
What is the inheritance pattern of hypertrophic cardiomyopathy?	AD
What is the most common cardiomyopathy?	Dilated (congested) cardiomyopathy (90%)

What is the most common heart tumor	metastases
What is the most common primary cardiac tumor in adults?	Myxoma
What is the most common primary cardiac tumor in children	rhabdomyoma
What is the most common vasculitis?	temporal arteritis

What is the treatment for Buerger's dz?	stop smoking
What is the treatment for temporal arteritis?	Responds well to steroids
What is the treatment of eclampsia?	IV Magnesium sulfate and diazepam This is a medical emergency
What is the treatment of polyarteritis nodosa?	Corticosteroids, azathioprine, and/or cyclophosphamide

What is the treatment of preeclampsia?	Deliver the fetus ASAP. Otherwise rest, salt restriction, treatment of HTN
What is the treatment of wegener's granulomatosis?	cyclophosphamide, corticosteroids, and/or methotrexate
What is the x-ray appearance of a heart with dilated myopathy?	Dilated: looks like a balloon
What is Wegner's granulomatosis?	Focal necrotizing vasculitis and granulomas in the lung and upper airway with necrotizing glomerulonephritis

What kind of effusions are found in pericarditis associated with TB or malignancy?	hemorrhagic
What kind of effusions are found in pericarditis associated with renal failure?	Serous of fibrinous
What lab finding is seen in Takayasu's arteritis or temporal arteritis?	elevated ESR
What part of the heart/ vasculature can be damaged by syphilis?	Aortic root and ascending aorta

What percentage of HTN is primary?	90%
What percentage of HTN is secondary?	10%
What population is associated with death from hypertrophic cardiomyopathy?	young athletes
What predisposes one to deep vein thromosis?(3)	Virchow's triad: 1. Stasis 2. Hypercoagulability 3. Endothelial damage

What stage of syphilis can affect the heart?	tertiary
What symptoms are associated with CHF?(8)	1. Ankle and sacral edema 2. Hepatomegaly (nutmeg liver) 3. Pulmonary congestion 4. Dyspnea on exertion 5. Paroxysmal nocturnal dyspnea 6. Pulmonary edema 7. Orthopnea (dyspnea when supine) 8. Cardiac dilation
What tests are used to diagnose an MI?(5)	1. EKG (the gold standard) 2. Cardiac troponin I 3. CK-MB 4. LDH1 5. AST
What type of bacterial endocarditis is associated with dental procedures?	Subacute endocarditis from Strep. Viridans infection

What type of embolus is associated with DIC?	amniotic fluid, especially postpartum
What types of infections cause pericarditis?	Viruses, TB, pyogenic bacteria; often by direct spread from lung or mediastinal lymph node
What visual complication can temporal arteritis cause?	occlusion of ophthalmic artery leading to blindness
Where do myxomas occur?	90% occur in the atria, mostly LA. Myxomas are described as a 'ball valve' obstruction.

Where do pale infarcts occur?	Solid tissues with single blood supply: brain, heart, kidneys, and spleen
Where do red infarcts occur?	Loose tissue with collaterals: lungs or intestine
Where does a MI usually occur?	In the left anterior descending coronary artery
Where histologically does atherosclerosis occur?	The elastic arteries and medium to large muscular arteries

Where, anatomically, does atherosclerosis most occur? (4)	abdominal aorta>coronary art>popliteal art>carotid art
Which valve is most frequently involved in bacterial endocarditis?	Mitral
Which valves are most affected by rheumatic heart dz?	mitral>aortic>>tricuspid (high pressure valves most affected)
Who gets Takayasu's arteritis?	Primarily affects young Asian females

Who gets temporal arteritis?	Affects elderly females
Define renal failure.	Failure to make urine and excrete nitrogenous wastes
How do you calculate anion gap?	Na-(Cl + HCO3) = 8-12 mEq/L
How do you treat minimal change disease?	Responds well to steroids

How does acute poststreptococcal glomerulonephritis resolve?	Spontaneously
How does renal cell carcinoma spread metastically?	Invades the IVC and spreads hematogenously
How does transitional cell carcinoma present?	Hematuria
How does Wilms' tumor present?	Huge, palpable flank mass

In what epidemiological group is renal cell carcinoma most common?	Men ages 50-70
T/F: Ammonium magnesium phosphate kidney stones are radiopaque	TRUE
T/F: Calcium kidney stones are radiopaque.	TRUE
T/F: Calcium kidney stones do not recur.	FALSE

T/F: Cystine kidney stones are radiopaque.	FALSE, cystine stones are radiolucent
T/F: Transitional cell carcinoma is cured by surgical removal.	False, transitional cell carcinoma often recurs after removal
T/F: Uric acid kidney stones are radiopaque	FALSE, uric acid stones are radiolucent
What additional sx are seen in a pt with acute streptococcal glomerulonephritis?	Peripheral and periorbital edema

What age group is poststreptococcal glomerulonephritis most common?	Children
What are 4 causes of hypoventilation?	1. Acute lung disease 2. Chronic lung disease 3. Opioids, narcotics, sedatives 4. Weakening of respiratory muscles
What are the 2 forms of renal failure?	Acute and chronic
What are the 2 main symptoms present in Goodpasture's syndrome?	Hemoptysis, hematuria

What are the 4 major types of kidney stones?	1. Calcium 2. Ammonium magnesium phosphate 3. Uric acid 4. Cystine
What are the 5 nephritic syndromes?	Acute poststreptococcal glomerulonephritis Rapidly progressive (crescentic) glomerulonephritis Goodpasture's syndrome Membranoproliferative glomerulonephritis Berger's disease
What are the 5 nephrotic syndromes?	1. Membranous glomerulonephritis 2. Minimal change disease (lipoid nephrosis) 3. Focal segmental glomerular sclerosis 4. Diabetic nephropathy 5. SLE
What are the causes and signs of calcium ion deficiency?	-Kids- rickets -Adults- osteomalacia -Contributes to osteoporosis -Tetany

What are the causes and signs of phosphate toxicity?	-Low serum calcium ion -can cause bone loss -renal stones
What are the causes of chloride ion deficiency?	Secondary to emesis, diuretics, renal disease
What are the causes of metabolic acidosis?	-Diabetic ketoacidosis -Diarrhea -Lactic Acidosis -Salicylate OD -Acetazolamide OD
What are the causes of respiratory acidosis?	-COPD -Airway obstruction

What are the causes of respiratory alkalosis?	-High altitude -Hyperventilation
What are the characteristics of acute poststreptococcal glomerulonephritis seen with immunofluorescence?	Granular pattern
What are the characteristics of acute poststreptococcal glomerulonephritis seen with the electron microscope?	Subepithelial humps
What are the characteristics of acute poststreptococcal glomerulonephritis seen with the light microscope?	Glomeruli enlarged and hypercellular neutrophils 'lumpy-bumpy'

What are the characteristics of rapidly progressive (crescentic) glomerulonephritis seen on LM and IF?	Crescent-moon shape
What are the clinical features of renal cell carcinoma?	-Hematuria -Palpable mass -Secondary polycythemia -Flank pain -Fever
What are the clinical symptoms of a nephritic syndrome?	I' = inflammation; hematuria, hypertension, oligouria, azotemia
What are the clinical symptoms of nephrotic syndromes?	O = proteinuria Hypoalbuminuria Generalized edema Hyperlipidemia

What are the consequences of renal failure?	1. Anemia 2. Renal osteodystrophy 3. Hyperkalemia 4. Metabolic acidosis 5. Uremia 6. Sodium and water excess 7. Chronic pyelonephritis 8. HTN
What are the factors associated metabolic alkalosis?	-Increased pH -Increased PCO2 -Increased HCO3-
What are the factors associated with metabolic acidosis?	-Decreased pH -Decreased PCO2 -Decreased HCO3-
What are the factors associated with respiratory acidosis?	-Decreased pH -Increased PCO2 -Increased HCO3-

What are the factors associated with respiratory alkalosis?	-Increased pH -Decreased PCO2 -Decreased HCO3-
What are the functions of calcium ion?	-Muscle contraction -Neurotransmitter release -Bones, teeth
What are the functions of sodium ion?	-Extracellular fluid -Maintains plasma volume -Nerve/muscle function
What are the functions of the chloride ion?	-Fluid/electrolyte balance -Gastric acid -HCO3/Cl shift in RBC

What are the functions of the magnesium ion?	-Bones, teeth -Enzyme cofactor
What are the functions of the phosphate ion?	-ATP -nucleic acids -Phosphorylation -Bones, teeth
What are the functions of the potassium ion?	-Intracellular fluid -Nerve/ muscle function
What are the signs of magnesium ion deficiency?	-Diarrhea -Alcoholism

What are the signs of magnesium ion toxicity?	-Decreased reflexes -Decreased respirations
What are the signs of phosphate deficiency?	-Kids- rickets -Adults- osteomalacia
What are the signs of potassium ion toxicity?	-EKG changes -Arrhythmia
What bugs cause ammonium magnesium phosphate kidney stones?	Urease-positive bugs such as Proteus vulgaris or Staphylococcus

What calcium molecules form calcium kidney stones?	Calcium oxalate or calcium phosphate or both
What can excess Na and water cause?	CHF and pulmonary edema
What can the hyperkalemia associated with renal failure lead to?	Cardiac arrhythmias
What causes metabolic alkalosis?	1. Vomiting 2. Diuretic use 3. Antacid use 4. Hyperaldosteronism

What causes renal osteodystrophy?	Failure of active vitamin D production
What characteristics of Berger's disease are seen with IF and EM?	Mesangial deposits of IgA
What characteristics of focal segmental glomerular sclerosis are seen with the LM?	Segmental sclerosis and hyalinosis
What characteristics of Goodpasture's syndrome are seen with IF?	Linear pattern Anti-glomerular basement membrane antibodies

What characteristics of Membranoproliferative glomerulonephritis are seen with the EM?	subendothelial humps 'tram track'
What characteristics of membranous glomerulonephritis are seen with IF?	Granular pattern
What characteristics of membranous glomerulonephritis are seen with the EM?	Spike and Dome'
What characteristics of membranous glomerulonephritis are seen with the LM?	Diffuse capillary and basement membrane thickening

What characteristics of minimal change disease are seen with the EM?	Foot process effacement
What characteristics of minimal change disease are seen with the LM?	Normal glomeruli
What characteristics of SLE are seen with the LM?	Wire-loop appearance with extensive granular subendothelial basement-membrane deposits in membranous glomerulonephritis pattern
What defines metabolic acidosis?	-pH less than 7.4 -PCO2 less than 40 mm Hg

What defines metabolic alkalosis with compensation?	-pH greater than 7.4 -PCO2 greater than 40 mm Hg
What defines respiratory acidosis?	-pH less than 7.4 -PCO2 greater than 40mm Hg
What defines respiratory alkalosis?	-pH greater than 7.4 -PCO2 less than 40 mm Hg
What diseases often cause uric acid kidney stones?	Diseases with increased cell proliferation and turnover, such as leukemia and myeloproliferative disorders

What disorders can lead to hypercalcemia and thus kidney stones?	1. Cancer 2. Increased PTH 3. Increased vitamin D 4. Milk-alkali syndrome
What disorders cause an increased anion gap?	1. Renal failure 2. Lactic acidosis 3. Ketoacidosis (DM) 4. Aspirin ingestion
What disorders cause metabolic acidosis and normal anion gap?	1. Diarrhea 2. Glue sniffing 3. Renal tubular acidosis 4. Hyperchloremia
What disorders make up the WAGR complex?	Wilms' tumor Aniridia Genitourinary malformation mental-motor Retardation

What does potassium deficiency cause?	-Weakness -Paralysis -Confusion
What factors are associated with transitional cell carcinoma?	Exposure to cyclophosphamide, smoking, phenacetin, and aniline dyes
What genetic disorder and mutation are associated with renal cell carcinoma?	Renal cell carcinoma is associated with von Hippel-Lindau and gene deletion in chromosome 3
What genetic disorder is associated with Wilms' tumor?	Deletion of tumor suppression gene WT-1 on chromosome 11

What is a common cause of adult nephrotic syndrome?	Membranous glomerulonephritis
What is acute renal failure often due to?	Hypoxia
What is Berger's disease?	IgA nephropathy -Mild disease -Often postinfectious
What is chronic failure due to?	HTN and diabetes

What is the 2nd most common type of kidney stone?	Ammonium magnesium phosphate
What is the cause of magnesium ion deficiency?	Secondary to malabsorption
What is the cause of metabolic alkalosis?	Vomiting
What is the cause of potassium ion deficiency?	Secondary to injury, illness or diuretics

What is the cause of sodium deficiency?	Secondary to injury or illness
What is the compensatory mechanism of metabolic alkalosis?	Hypoventilation
What is the compensatory mechanism of respiratory alkalosis?	Renal HCO_3^- secretion
What is the compensatory response to metabolic acidosis?	Hyperventilation

What is the compensatory response to respiratory acidosis?	Renal HCO_3^- reabsorption
What is the course of membranoproliferative glomerulonephritis?	Slowly progresses to renal failure
What is the course of rapidly progressive (crescentic) glomerulonephritis?	Rapid course to renal failure from one of many causes
What is the Henderson-Hasselbalch equation?	$pH = pKa + \log [(HCO_3^-)/(0.03*PCO_2)]$

What is the most common cause of childhood nephrotic syndrome?	Minimal change disease (lipoid nephrosis)
What is the most common renal malignancy of early childhood (ages 2-4)?	Wilms' tumor
What is the most common renal malignancy?	Renal cell carcinoma
What is the most common tumor of the urinary tract system?	Transitional cell carcinoma

What is the primary disturbance in respiratory acidosis?	Increased PCO2
What is the primary disturbance of metabolic acidosis?	HCO3- decrease
What is the primary disturbance of metabolic alkalosis?	Increased HCO3-
What is the primary disturbance of respiratory alkalosis?	Decreased PCO2

What is the sign of calcium ion toxicity?	Delirium
What is the sign of sodium ion toxicity?	Delirium
What lesions are seen on the LM in diabetic nephropathy?	Kimmelstiel-Wilson lesions
What might an elevated anion gap indicate?	MUD PILES 1. Methanol 2. Uremia (chronic renal failure) 3. Diabetic ketoacidosis 4. Paraldehyde or Phenformin 5. Iron tablets or INH 6. Lactic acidosis (CN-, CO, shock) 7. Ethanol or Ethylene glycol 8. Salicylates

What paraneoplastic syndromes are associated with renal cell carcinoma?	Ectopic EPO, ACTH, PTHrP, and prolactin
What severe complications may kidney stones lead to?	Hydronephrosis Pyelonephritis
What social factor increases the incidence of renal cell carcinoma?	Smoking
What type of hypersensitivity contributes to the pathogenesis of Goodpasture's syndrome?	Type II hypersensitivity

Where can transitional cell carcinoma occur?	-Renal calyces -Renal pelvis -Ureters -Bladder
Where does renal cell carcinoma originate?	Renal tubule cells, polygonal clear cells
Which kidney stone is often secondary to cystinuria?	Cystine
Which kidney stone is strongly associated with gout?	Uric acid kidney stones

Which of the nephrotic syndromes are worse in HIV pts?	Focal segmental glomerular sclerosis
Which type of kidney stones constitute the majority of kidney stones (80-85%)?	Calcium
Why are ammonium magnesium phosphate kidney stones often associated with UTIs?	Ammonium magnesium phosphate stones can form large struvite calculi that can be a nidus for UTIs
Why does renal failure cause anemia?	Failure of EPO production

Why does renal failure cause metabolic acidosis?	Due to decreased acid secretion and decreased generation of HCO_3^-
Define/Describe Alcoholism:	-Physiologic tolerance and dependence with syptoms of withdrawal when intake is interrupted. -Continued drinking despite medical and social contraindications and life disruptions.
In alcoholics, what causes Wernicke-Korsakoff syndrome?	Vitamin B1 (thiamine) deficiency
Is Korsakoff's syndrome reversible?	NO

Wernicke-Korsakoff syndrome is associated with periventricular hemorrage/ necrosis in which part of brain?	Mamillary bodies
What are the accompanying symptomes of Alcoholic cirrhosis?	-Jaundice -Hypoalbuminemia -Coagulation factor deficiencies -Portal hypertension -Peripheral edema and ascites -Encephalopathy -Neurologic manifestations (e.g., asterixis, flapping tremor of the hands)
What are the bodily effects of ethanol? (3)	-Toxicity (especially in the brain) -Fatty liver -Increased NADH/HAD
What are the effects of increased NADH/NAD (from ethanol use)? (4)	-Increases lactate/pyrubate -Inhibits gluconeogenesis -Inhibits fatty acid oxidation -Inhibits glycerophosphate dehydrogenase leading to elevated glycerophosphate

What are the long term consequences of alcohol use?	-Alcoholoic hepatitis and cirrhosis -Pancreatitis -Dilated cardiomyopathy -Peripheral neuropathy -Cerebellar degeneration -Wernicke-Korsakoff syndrome -Testicular atrophy and hypertension -Mallory-Weiss syndrome
What are the symptoms of alcohol withdrawel?	-tremor -tachycardia -hypertension -malaise -nausea -delerium tremens
What is Korsakoff's syndrome?	Progression of Wernicke's encephalopathy to memory loss, confabulation, and confusion
What is Mallory-Weiss syndrome?	Longitudinal lacerations at the gastroesophageal junction caused by excessive vomitting with failure of Lower Esophageal Sphincter relaxation that could lead to fatal hematemesis.

What is the treatment for Wernicke-Korsakoff syndrome?	IV vitamin B1 (thiamine)
What is the triad of symptoms for Wernicke's encephalopathy?	1. Psychosis 2. Ophthalmoplegia 3. Ataxia
What supportive group has been mose successful in sustaining abstinence?	Alcoholics Anonymous (sorry… it was in the book :)
What treatment is used to condition the patient negatively against alcohol use?	Disulfiram

Actinic keratosis	Often precedes squamous cell carcinoma
Addison's	Autoimmune (infection is the second most common cause)
Albumino-cytologic dissociation	Guillain-Barre (increased protein in CSF with only modest increase in cell count)
Aneurysm, dissecting	HTN

Anti-basement membrane	Goodpasture's syndrome
Anti-centromere antibodies	Scleroderma (CREST)
Anti-double-stranded-DNA antibodies (ANA antibodies)	SLE (type III hypersensitivity)
Anti-epithelial cell	Pemphigus vulgaris

Anti-gliadin antibodies	Celiac disease
Anti-histone Antibodies	Drug-induced SLE (cf. SLE)
Anti-IgM antibodies	Rheumatoid arthritis
Anti-mitochondrial antibodies	Primary biliary cirrhosis

Anti-neutrophil antibodies	Vasculitis
Antiplatelet antibodies	Idiopathic thrombocytopenic purpura
Aortic aneurysm, abdominal & descending aorta	Atherosclerosis
Aortic aneurysm, ascending	Tertiary syphilis

Arachnodactyly	Marfan's syndrome
Argyll-Robertson pupil	Neurosyphilis
Aschoff bodies	Rheumatic fever
Atrophy of the mamillary bodies	Wernicke's encephalopathy

Auer rods	Acute myelogenous leukemia (especially the promyelocytic type)
Autosplenectomy	Sockle cell anemia
Babinski sign	Upper motor neuron lesion
Bacteremia/pneumonia (IVDA)	Staphylococcus aureus

Bacteria associated with cancer	Helicobacter pylori
Bacteria found in GI tract	Bacteroides (second most common is Escherichia coli)
Bacterial meningitis (adults)	Neisseria meningitidis
Bacterial meningitis (elderly)	Streptococcus pneumoniae

Bacterial meningitis (kids)	Haemophilus influenza type B
Bacterial meningitis (newborns)	Escherichia coli
Baker's cyst in popliteal fossa	Rheumatoid arthritis
Bamboo spine' on xray	Ankylosing spondylitis

Basophilic stippling of RBC's	Lead poisoning
Bence-Jones proteins	Multiple myeloma (kappa or lambda Ig light chains in urine) Waldenstrom's macroglobinemia (IgM)
Bilateral hilar adenopathy, uveitis	Sarcoidosis
Birbeck granules on EM	Histiocytosis X (eosinophilic granuloma)

Bloody tap on LP	Subarachnoid hemorrhage
Blue-domed cysts	Fibrocystic change of the breast
Blue bloater'	Chronic bronchitis
Blue sclera	Osteogenesis imperfecta

Boot-shaped heart on x-ray	Tetralogy of Fallot; RV hypertrophy
Bouchard's nodes	Osteoarthritis (PIP swelling secondary to osteophytes)
Boutonniere's deformity	Rheumatoid arthritis
Brain tumor - supratentorial (kids)	Craniopharyngioma

Brain tumor (adults)	Astrocytoma (including glioblastoma multiforme) > mets > meningioma > Schwannoma
Brain tumor (kids)	Medullobastoma (cerebellum)
Branching rods in oral infection	Actinomyces israelii
Breast cancer	Infultrating ductal carcinoma (in the US, one in nine women will develop breast cancer)

Breast mass	Fibrocystic change (in post-menopausal women, carcinoma is the most common)
Breast tumor (benign)	Fibroadenoma
Brown tumor'of bone	Hemorrhage causes brown color of osteolytic cysts: Hyperparathyroidism; Osteitis fibrosa cystica (von Recklinghausen's disease)
Brushfield's spots	Down syndrome

Bruton's lines	Lead poisoning
Bug in debilitated, hospitalized pneumonia patient	Klebsiella
C-ANCA	Wegerner's granulomatosis
Café au lait spots on skin	Neurofibromatosis

Calf pseudohypertrophy	Duchenne's muscular dystrophy
Call-Exner bodies	Granulosa/thecal cell tumor of the ovary
Cancer associated with AIDS	Kaposi's sarcoma
Cardiac primary tumor (adults)	Myxoma (4:1 left to right atrium; 'ball & valve')

Cardiac primary tumor (kids)	Rhabdomyoma
Cardic tumor (adults)	Mets
Cardiomegaly with apical atrophy	Cagas' disease
Cardiomyopathy	Dilated cardiomyopathy

Cerebriform nuclei	Mycosis fungoides (cutaneous T-cell lymphoma)
Chancre	Primary syphilis (not painful)
Chancroid	Haemophilus ducreyi (painful)
Charcot's triad	Multiple sclerosis (nystagmus, intention tremor,scanning speech); Cholangitis (jaundice, RUQ, fever)

Charcot-Leyden crystals	Bronchial asthma (eosinophil membranes)
Cherry-red spot on macula	Tay-Sachs, Niemann-Pick disease, central retinal artery occlusion
Chevostek's sign	Hypocalcemia (facial muscle spasm upon tapping)
Cheyne-Stokes respirations	Central apnea in CHF & increased ICP

Chocolate cysts'	Endometriosis (frequently involve both ovaries)
Chromosomal disorder	Down syndrome (associated with ALL, Alzheimer's dementia, & endocardial cushion defects)
Chronic arrhythmia	Atrial fibrillation (associated w/ high risk of emboli)
Chronic atrophic gastritis	Predisposition to gastric carcinoma

Clue cells	Gardnerella vaginitis
Codman's triangle on x-ray	Osteoasarcoma
Cold agglutinins	Mycoplasma pneumoniae; Infectious mononeucleosis
Cold intolerance	Myxedema

Condyloma lata	Secondary syphilis
Congenital adrenal hyperplasia	21-Hydroxylase deficiency
Congenital cardiac anomaly	VSD
Constrictive pericarditis	Tuberculosis

Continuous machinery murmur	Patent ductus arteriosus
Coronary artery involved in thrombosis	LAD > RCA > LCA
Cotton wool spots	Chronic hypertension
Cough, conjunctivitis, coryza + fever	Measles

Councilman bodies	Toxic or viral hepatitis
Cowdry type A bodies	Herpes virus
Crescents in Bowman's capsule	Rapidly progressive crescentic glomerulonephritis
Cretinism	Hypothyroidism/iodine deficit

Currant-jelly sputum	Klebsiella
Curschmann's spirals	Bronchial asthma (whorled mucous plugs)
Cushing's syndrome	Corticosteroid therapy (second most common cause is excess ACTH secretion by pituitary)
Cyanosis (early; less common)	Tetralogy of Fallot, transposition of great vessels, truncus arteriosus

D-dimers	DIC
Death in CML	Blast crisis
Death in SLE	Lupus nephropathy
Dementia	Alzheimer's (second most common is multi-infarct)

Demyelinating disease	Multiple sclerosis
Depigmentation of neurons in substantia nigra	Parkinson's disease (basal ganglia disorder -- rigidity, resting tremor, bradykinesia)
Dermatitis, dementia, diarrhea	Pellagra (Niacin, vitamin B3 deficiency)
Diabetes insipidus + exopthalmos + lesions of skull	Hand-Schuller-Christian disease

DIC	Gram-negative sepsis, obstetric complications, cancer, burns trauma
Dietary deficit	Iron
Dog or cat bite	Pasteurella multocida
Donovan bodies	Granuloma inguinale

Ejection click	Aortic/pulmonic stenosis
Elastic skin	Ehlers-Danlos syndrome
Epiglottitis	Haemophilus influenza type B
Erythema chronicum migrans	Lyme disease

Esophageal cancer	Squamous cell carcinoma
Fat, female, forty, & fertile'	Acute cholecystitis
Fatty liver	Alcoholism
Ferruginous bodies	Asbestosis

Food poisoning	Staphylococcus aureus
Ghon complex	Secondary TB
Ghon focus	Primary TB
Glomerularnephritis (adults)	IgA nephropathy (Berger's disease)

Gower's maneuver	Duchenne's (use of patient's arms to help legs pick self off the floor)
Group affected by cystic fibrosis	Caucasians (fat-soluble vitamin deficiencies, mucous plugs/lung infections)
Gynecologic malignancy	Endometrial carcinoma
Hair on end' appearance on x-ray	Beta-thalassemia

Hampton's hump on x-ray	Pulmonary embolism
HbS	Sickle cell anemia
HCG elevated	Choriocarcinoma; Hyadatidiform mole (occurs with & without embryo)
Heart murmur	Mitral valve prolapse

Heart valve (rheumatic fever)	Mitral valve (aotric is second)
Heart valve in bacterial endocarditis	Mitral
Heart valve in bacterial endocarditis in IVDA	Tricuspid
Heberden's nodes	Osteoarthritis (DIP swelling secondary to osteophytes)

Heinz bodies	G6PD deficiency
Helminth infection (US)	Enterobius vermicularis (Ascaris lumbricoides is second most common)
Hematoma - epidural	Rupture of middle meningeal artery (arterial bleeding is fast)
Hematoma - subdural	Rupture of bridging veins (trauma; venous bleeding is slow)

Hemochromocytosis	Multiple blood transfusions (can result in CHF, and increases risk of hepatocellular carcinoma)
Hepatic cirrhosis	EtOH
Hepatocellular carcinoma	Cirrhotic liver (often associated with hepatitis B & C)
Hereditary bleeding disorder	Von Willebrand's

Heterophil antibodies	Infectious mononucleosis (EBV)
Hgb F	Thalassemia major
High output cardiac failure (dilated cardiomyopathy)	Wet beriberi (thiamine, vitamin B1 deficiency)
HLA-B27	Reiter's syndrome, ankylosing spondylitis

HLA-DR3 or DR4	DM type 1 (caused by autoimmune destruction of beta cells)
Holosystolic murmur	VSD, tricuspid regurgitation
Homer-Wright rosettes	Neuroblastoma
Honeycomb lung on x-ray	Interstitial fibrosis

Howell Jolly bodies	Splenectomy (or non-functional spleen)
Hyperphagia + hypersexuality + hyperorality + hyperdocile	Kluver-Bucy syndrome (amygdala)
Hyperpigmentation of skin	Primary adrenal insufficiency (Addison's disease)
Hypersegmented neutrophils	Macrocytic anemia

Hypertension + hypokalemia	Cushing & Conn syndromes
Hypertension, secondary	Renal disease
Hypochromic microcytosis	Iron-deficiency anemia
Hypoparathyroidism	Thyroidectomy

Hypopituitarism	Adenoma
Increase alpha-fetoprotein in amniotic fluid/maternal serum	Anencephaly; Spina bifida
Increased uric acid levels	Gout; Lesch-Nyhan; Myeloproliferative disorders; Loop & thiazide diuretics
Infection in blood transfusion	Hepatitis C

Infection in burn victims	Klebsiella
Intussesception	Adenovirus (cause hyperplasia of Peyer's patches)
Janeway lesions	Endocarditis
Jarisch-Herxheimer reaction	Syphilis; over-aggressive treatment of an symptomatic patient that causes symptoms due to rapid lysis

Kaposi's sarcoma	Homosexual AIDS patients (not associated with IVDA acquired HIV/AIDS)
Kayser-Fleischer rings	Wilson's disease
Keratin pearls	Squamous cell carcinoma
Kidney stones	Calcium = radiopaque (2nd most common is ammonium = radiolucent; formed by urease positive organisms like Proteus vulgaris or Staphylococcus)

Kimmelstiel-Wilson nodules	Diabetic nephropathy
Koilocytes	HPV
Koplik spots	Measles
Kussmaul hyperpnea	Diabetic ketoacidosis

Lens dislocation + aortic dissection + joint hyperflexibility	Marfan's disease (fibrillin deficit)
Leukemia (adults)	AML
Lewy bodies	Parkinson's disease
Lines of Zahn	Arterial thrombus

Lisch nodules	Neurofibromatosis (von Recklinghausen's disease)
Liver disease	Alcoholic liver disease
Location of brain tumors (adults)	Supratentorial
Location of brain tumors (kids)	Infratentorial

Low serum ceruloplasmin	Wilson's disease
Lucid interval	Epidural hematoma
Lumpy Bumpy' appearance of glomeruli on immunoflourescence	Poststreptococal glomerulonephritis
Lysosomal storage disease disorder	Gaucher's

Lytic bone lesions on x-ray	Multiple myeloma
Machine-like' murmur	PDA
Male cancer	Prostatic carcinoma
Malignancy associated with infectious fever	Hodgkin's

Malignant skin tumor	Basal cell carcinoma (rarely metastasizes)
Mallory bodies	Alcoholic liver disease
McBurney's sign	Appendicitis
Mental retardation	Down syndrome (Fragile X is the second most common cause)

Mets to bone	Breast, lung, thyroid, testes, prostate
Mets to brain	Lung, breast, skin (melanoma), kidney (renal cell carcinoma), GI
Mets to liver	Colon, gastric, pancreatic, breast, & lung carcinomas
MI	Atherosclerosis

Mitral valve stenosis	Rheumatic heart disease
MLF syndrome (INO)	Multiple sclerosis
Monoclonal antibody-spike	Multiple myeloma (called the M protein; usually IgG or IgA); MGUG; Waldenstrom's (M Protein = IgM) macroglobulinemia
Motor neuron disease	ALS

Myocarditis	Coxsackie B
Myxedema	Hypothyroidism
Necrotizing vasculitis (lungs) & necrotizing glomerulitis	Wegener's & Goodpasture's (hemoptysis & glomerular disease)
Needle-shaped, negatively bifringent crystals	Gout

Negri bodies	Rabies
Neoplasm (kids)	ALL (2nd most common is cerebellar medulloblastoma)
Nephritis + cataracts + hearing loss	Alport syndrome
Nephrotic syndome (kids)	Minimal change disease (associated with infections/ vaccinations; treat with corticosteroids)

Nephrotic syndrome	Membranous glomerulonephritis
Nephrotic syndrome (adults)	Membranous glomerulonephritis
Neurofibrillary tangles	Alzheimer disease
No lactation postpartum	Sheehan's syndrome

Nutmeg liver	Congestive heart failure
Obstruction of male urinary tract	BPH
Occupational exposure to asbestos	Malignant mesothelioma
Oncogene involved in cancer	p53 Suppressor

Opening snap	Mitral stenosis
Opportunistic infection in AIDS	PCP
Organ receiving mets	Adrenal glands (due to rich blood supply)
Organ sending mets	Lung > breast, stomach

Orphan Annie cells	Papillary carcinoma of the ovary
Osler's nodes	Endocarditis
Osteomyelitis	Staphylococcus aureus
Osteomyelitis in patients with sickle cell disease	Salmonella

Osteomyelitis with IVDA	Pseudomonas
Ovarian tumor (benign)	Hamartoma
Ovarian tumor (malignant)	Serous cystadenoma
Owl's eye	CMV

P-ANCA	Polyarteritis nodosa
Painless jaundice	Pancreatic cancer (head)
Palpable purpura on legs & buttocks	Henoch-Schonlein purpura
Pancreatic tumor	Adenocarcinoma (head of pancreas)

Pancreatitus (acute)	EtOH and gallstones
Pancreatitus (chronic)	EtOH (adults), cystic fibrosis (kids)
Pannus	Rheumatiod arthritis
Patient with ALL/CLL/AML/ CML	ALL – Child / CLL – Adult over 60 / AML – Adult over 60 / CML – Adult 35–50

Patient with Hodgkin's	Young male (except nodular sclerosis type - female)
Patient with minimal change disease	Young child
Patient with Reiter's	Male
Peau d'orange	Carcinoma of the breast

Pelvic inflammatory disease	Neisseria gonorrhoeae (monoarticular arthritis)
Periosteal elevation on x-ray	Pyogenic osteomyelitis
Philadelphia chromosome (bcr;abl)	CML (may sometimes be associated with AML)
Pick bodies	Pick's disease

Pink puffer'	Emphysema (centroacinar (smoking), panacinar (alpha1-antitrypsin deficiency))
Pituitary tumor	Prolactinoma (2nd - somatotropic 'acidophilic' adenoma)
Pneumonia, hospital-acquired	Klebsiella
Pneumonia, in CF, burn infection	Pseudomonas aeruginosa

Podagra	Gout (MP joint of hallux)
Podocyte fusion	Minimal change disease
Polyneuropathy preceded by GI or respiratory infection	Guillian-Barre syndrome
Polyneuropathy, cardiac pathology, & edema	Dry beriberi (thiamine, vitamine B1 deficiency)

Port-wine stain	Hemangioma
Posterior anterior 'drawer sign'	Anterior cruciate ligament injury
Preventable blindness	Chlamydia
Preventable cancer	Lung cancer

Primary amenorrhea	Turner's (XO)
Primary bone tumor (adults)	Multiple myeloma
Primary hyperaldosteronism	Adenoma of adrenal cortex
Primary hyperparathyroidism	Adenomas (followed by: hyperplasia, then carcinoma)

Primary hyperparathyroidism	Adenoma
Primary liver tumor	Hepatoma
Psammoma bodies	Caused by apoptosis of tumor cells with dystrophic calcification & found in: Papillary adenocarcinoma of the thyroid (most common cancer of the thyroid); Serous papillary cystadenocarcinoma of the ovary; Meningioma, Mesothelioma
Pseudopalisade tumor cell arrangement	Glioblastoma multiforme

Pseudorosettes	Ewing's sarcoma
Ptosis, miosis, anhidrosis	Horner's syndrome (Pancoast's tumor)
Pulmonary hypertension	COPD
Pus, empyema, abscess	Staphylococcus aureus

Rash on palms & soles	Secondary syphilis; Rocky Mountain Spotted Fever
RBC's in urine	Bladder carcinoma
RBC casts in urine	Acute glomerulonephritis
Recurrent pulmonary Pseudomonas and Staphylococcus aureus infections	Cystic fibrosis

Red urine in the morning	Paroxysmal nocturnal hemoglobinuria
Reed-Sternberg cells	Hodgkin's lymphoma
Reid index (increased)	Chronic bronchitis
Reinke crystals	Leydig cell tumor

Renal cell carcinoma + cavernous hemangiomas + adenomas	Von Hippel - Lindau disease
Renal epithelial casts in urine	Acute toxic/viral nephrosis
Renal tumor	Renal cell carcinoma - associated with von Hippel-Lindau & acquired polycystic kidney disease; paraneoplastic syndromes (erythropoietin, renin, PTH, ACTH)
Rhomboid crystals, positively bifringent	Pseudogout

Rib notching	Coarctation of aorta
Right-sided heart faulure	Left-sided heart failure
Right heart failure due to a pulmonary cause	Cor pulmonale
Roth spots in retina	Endocarditis

Rouleaux formation (RBC's)	Multiple myeloma
Russell bodies	Multiple myeloma
S3	Left to right shunt (VSD, PDA, ASD); Mitral regurgitation; LV failure (CHF)
S4	Aortic stenosis, hypertrophic subaortic stenosis

Schiller-Duval bodies	Yolk sac tumor
Schwarzman reaction	Neisseria meningitidis
Secondary hyperparathyroidism	Hypocalcemia of chronic renal failure
Senile plaques	Alzheimer's disease

Sexually transmitted disease	Chlamydia
Sheehan's syndrome	Postpartum pituitary infarction
SIADH	Small cell carcinoma of the lung
Signet ring cells	Gastric carcinoma

Simian crease	Down syndrome
Site of diverticula	Sigmoid colon
Site of metastasis	Regional lymph nodes
Site of metastasis (2nd most commond)	Liver

Sites of atherosclerosis	Abdominal aorta > coronary > popliteal > carotid
Skin cancer	Basal cell carcinoma
Skip lesions	Crohn's
Slapped cheeks	Erythema infectiosum (fifth disease)'

Smith antigen	SLE
Smudge' cell	CLL
Soap bubble on x-ray	Giant cell tumor or bone
Spike & dome on EM	Membranous glomerulonephritis

Splinter hemorrhages in fingernails	Endocarditis
Starry-sky pattern	Burkitt's lymphoma
Stomach cancer	Adenocarcinoma
Strawberry tongue'	Scarlet fever

Streaky ovaries	Turner's syndrome
String sign on x-ray	Crohn's disease
Subepithelial humps on EM	Poststreptococal glomerulonephritis
Suboccipital lymphadenopathy	Rubella

Sulfur granules	Actinomyces israelii
Surgical wound	Staphylococcus aureus
Swollen gums, bruising, poor wound healing, anemia	Scurvy (ascorbic acid, vitamin C deficiency) - vitamin C is necessary for hydroxylation of proline & lysine in collagen synthesis
Systolic ejection murmur (crescendo-decrescendo)	Aortic valve stenosis

t(14; 18)	Follicular lymphomas (bcl-2 activation)
t(8;14)	Burkitt's lymphoma (c-myc activation)
t(9;22)	Philadelphia chromosome, CML (bcr-abl hybrid)
Tabes dorsalis	Tertiary syphilis

Target cells	Thalassemia
Tendon xanthomas (classically Achilles)	Familial hypercholesterolemia
Testicular tumor	Seminoma
Thumb sign on lateral x-ray	Epiglottitis

Thymoma	Myasthenia gravis (present in 20% of those with MG)
Thyroid cancer	Papillary carcinoma
Thyroidization of kidney	Chronic bacterial pyelonephritis
Tophi	Gout

Tracheoesophageal fistula	Lower esophagus joins trachea/upper esophagus - blind pouch
Tram-track' appearance on LM	Membranoproliferative glomerulonephritis
Traumatic open wound	Clostridium perfringens
Trousseau's sign	Visceral cancer; pancreatic adeneocarcinoma (migratory thrombophlebitis); Hypocalcemia (carpal spasm)

Tumor in men	Prostate carcinoma
Tumor in women	Leiomyoma (estrogen dependent)
Tumor of infancy	Hemangioma
Tumor of the adrenal medulla (adults)	Pheochromocytoma (benign)

Tumor of the adrenal medulla (kids)	Neuroblastoma (malignant)
Type of Hodgkin's	Mixed cellularity (versus: lymphocytic predominance, lymphocytic depletion, nodular sclerosis)
Type of non-Hodgkin's	Follicular, small cleaved
Type of pituitary adenoma	Prolactinoma

UTI	Escherichia coli
UTI (young women)	Staphylococcus saprophyticus
Vasculitis	Temporal arteritis (risk of ipsilateral blindness due to thrombosis of ophthalmic artery)
Viral encephalitis	HSV

Virchow's node	Left supraclavicular node enlargement from metastatic carcinoma of the stomach
Virchow's triad	Pulmonary embolism (triad = blood stasis, endothelial damage, hypercoag.)
Vitamin deficiency (US)	Folic acid (pregnant women are at high risk; body stores only 3-4 month supply)
Waxy casts	Chronic end-stage renal disease

WBC's in urine	Acute cystitis
WBC casts in urine	Acute pyelonephritis
Wire loop' appearance on LM	Lupus nephropathy
Worst headache of my life'	Berry aneurysm - associated with adult polycystic kidney disease

Xanthochromia (CSF)	Subacrachnoid hemorrhage
Xerostomia + arthritis + keratoconjunctivitis sicca	Sjogren's syndrome