Earl's Pearls (ROUGH DRAFT) last updated 5/01 → this is just some word associations, a few esoteric, but still fun

ID (a small and incomplete list...):
- recurrent catalase-positive (staph aureus) infections → chronic granulomatous disease
- salmonella osteomyelitis → sickle cell anemia
- sexually active with arthritis → neisseria gonorrhoea
- pseudomonas → cystic fibrosis or burns
- bradycardia, fever, and leukocytosis → typhoid fever
- bacterial infection in child with peripheral lymphocytosis → bordetella pertussis
- infection with marked lymphocytosis or leukemoid reaction → TB
- sore throat, fever, and enlarged cervical nodes in young adult → infectious mono
- atypical lymphocytosis → infectious mono
- squamous cell carcinoma of bladder → schistosoma
- polycystic nodosa → hepatitis B (surface antigen in blood)
- diabetic with nasal infection → mucor
- immunosuppressed patient with white plaques → candida
- child with white plaques → thrush (candida)
- pseudomembranes:
  - larynx → C. diphtheriae
  - colon → C. difficile
- bacterial toxins (inhibitors of):
  - glycine → C. tetani
  - acetylcholine release → C. botulinum (CNS paralysis)
  - Gs → cholera
  - Gi → bordetella pertussis (whooping cough)
  - EL-2 → Corynebacterium diphtheriae
  - ADP ribosylation → cholera, pertussis, diphtheria
  - alpha toxin (lecithinase) → C. perfringens (gas gangrene)
- Schick test → test for antibodies to diphtheria toxin
- Dick test → susceptibility to erythrogenic toxin
- Schutz-Chartlton test → rash present, give Ab to erythrotoxin, etc.
- Frei test → lymphogranuloma venereum (chlamydia)
- Weil-Felix reaction → rickettsia
- superantigen → staph aureus (toxic shock syndrome)
- fever, chills, rusty sputum → pneumococcal pneumonia
- smelly fatty stools after trip (or camping) → giardia
- child at day care center with diarrhea → giardia
- fatty, foamy, foul-smelling feces → giardia
- India ink prep of CSF → cryptococcus
- malignant pustule → anthrax
- urea breath → helicobacter pylori
- peptic ulcers → helicobacter pylori (curved rod on gastric surface)
- watery diarrhea at the coast → cholera
- handle (or cat) brains → spongiform encephalitis (CJ disease, kuru)
- prions → CJ disease (rapid progressive dementia), kuru, scrapie (sheep)
- mad cow disease (bad hamburger in England), fatal familial insomnia
- fake appendicitis (signs of appendicitis, appendix normal, enlarged lymph nodes around appendix) → yersinia enterocolitica
- gardener (or rose grower) → sporotrichosis
- kid with anal itching → enterobius vermicularis (dx with Scotch tape test)
- cecaseating granulomas → TB (note: non-cecaseating granulomas → sarcoid)
- Ghon complex → subpleural TB lung lesion + enlarged hilar lymph nodes
- TB of spine is Pot's disease; TB of cervical lymph nodes is scrofula
- iron deficiency → hookworm
- B12 deficiency → fish tapeworm (diphylobothrium)
- sulfa granules → actinomycetes
- elementary bodies (or reticular bodies) → chlamydiae
- endotoxin (especially lipid A) → gram-negative
- Thayer-Martin → neisseria
- bile soluble → strep pneumonia
- "clue cells" in FAP smear → gardnerella vaginitis
- "walking pneumonia" (insidious onset, headache, nonproductive cough) → mycoplasma pneumonia
- whooping cough → bordetella pertussis
- water aerosols → legionella
- erythrocyte-ingesting trophozoite → entamoeba histolytica (ameba)
- syphilis (treponema pallidum)
  - primary syphilis → painless chancre
  - secondary syphilis → maculopapular rash (also on palms and soles)
  - tertiary syphilis → gummaz, aortitis (aneurysm of ascending aorta), neurosyphilis, tabes dorsalis
- gram stains:
  - G+ grape-like clusters → staph aureus
  - Lancet shaped → strep pneumonia
  - boxcars → anthrax
  - safety pins → yersinia pestis
- acid fast organisms:
  - sputum (or anywhere) → mycobacteria (TB)
  - stool → cryptosporidia
  - partial acid fast → nocardia (not actinomyces)
- birds or bats → histoplasmosis
- cats → toxoplasmosis or cat-scratch
- cat or dog bite → pasturella
- broad based budding → blasto
- narrow based budding → cryptococcus
- pseudohyphae (germ tubes) → candida
- broad non-septate hyphae with right angle branching → mucor
- narrow septate hyphae with acute angle branching → aspergillus
- ground-glass nuclei → herpes
- ground-glass cytoplasm → hepatitis B
- cancer of cervix → HPV (HPV causes koilocytosis)
- warts (verruca vulgaris) → HPV
- condyloma acuminate → HPV (note: condyloma lata is syphilis)
- infectious mono → EBV (next is CMV → heterophile negative IM)
- rubella → measles
- rubella → German measles
- SSPE → measles
- PML → JC virus (more likely) or SV40
- child with diarrhea → rotavirus
- hemagglutination (surface protein for attachment) → influenza virus
- erythema infectiousum (red rashes) of childhood:
  - first → rubella (measles) → measles virus (paramyxovirus)
  - second → rubella (3 day measles or German measles) → rubella virus
  - third → roseola → HHV-6
  - fourth → chickenpox (varicella) → herpes varicella zoster
  - fifth disease (slapped cheek) → parvovirus B19
- infection in BRC precursors → parvovirus (B19)
- rubella → toga virus
- HIV → retrovirus
- respiratory syncytial virus → paramyxovirus
- HSVG-2 → herpes genitalis (STD)
- HHV-8 → Kaposis's (AIDS)
- EBV → B lymphocytes (atypical lymphocytes are reactive T cells)
- CMV → retinitis
- HTLV-1 → adult T-cell leukemia/lymphoma
- RNA viruses → reverse transcriptase (similar to DNA-virus HBV)
- giant cells → measles (hungs and appendix), herpes
- antigenic variation
- borrelia → relapsing fever
- influenza virus
  - major → antigenic shift (pandemics)
  - minor → drift
- AIDS infections (opportunistic):
  - CSF → cryptococcus
  - diarrhea → cryptosporidia
  - pneumonia → pneumocystis
  - atypical lymphs → EBV
  - chorioretinitis → CMV
lymph nodes → AIC
mouth → candida
haired leukoplakia → mixed infection with EBV, etc

bodies and cells:
psammoma bodies:
   papillary carcinoma of the thyroid
   papillary tumors of the ovary
   meningioma
   (mesothelioma)
Russel body → immunoglobulin
Dutcher body → immunoglobulin in nucleus (Waldenstrom's)
Councilman body (apoptotic hepatocyte) → viral hepatitis
Mallory body (perisinusoidal intermediate filaments) → alcoholic hyaline
Cowdry A body → herpes
apoptotic body → apoptosis
Aschoff body → rheumatoid fever
ferruginous body (covered by iron) → asbestos
asteroid body → sarcoid
Auer body (rod) → AML
Negri body → rabies
Levy body → Lewy body diseases
   nigrostriatal → Parkinson's
   sympathetic neurons → Shy-Drager syndrome
Hirano body → Alzheimer's
Call-Exner body → granulosa cell tumor of ovary
RBC inclusions
   Howell-Jolly bodies (nuclear chromatin) → splenectomy
   Pappenheimer bodies (iron) → splenectomy
   Heinz bodies (denatured hemoglobin) → G6PD deficiency
oval fat bodies (Malpighian bodies) → nephrotic syndrome
ketone bodies (urea) → diabetes mellitus (think DKA)
Dohle bodies → slate-gray inclusions in reactive neutrophils
mamillary bodies (lesions) → Wernicke's (decreased B1)
Barr body → number of X chromosomes minus one
Donovan bodies → granuloma inguinale
Alder-Reilly bodies (in WBC) → MPS (mucopolysaccharidoses)
hematoxylin body → SLE
Schiller-Duval body → endodermal sinus tumor (yolk sac tumor)
Micheals-Gutman body → malakoplasia
prismatic bodies → metachromatic leukodystrophy

smudged cells (parachute cells) → CLL
"stack of coins " RBCs (rouleaux) → myeloma

calcifications
   brain tumor (cortex) → oligodendroglioma
   suprasellar → craniopharyngioma or germinoma
   periventricular → toxo or CMV
   within muscle → myositis ossificans

colors:
   white plaque on a mucosal surface → candida (thrush)
   white pupil (leukocoria) → retinoblastoma
   white plaque right side of heart → carcinoid
   white muscle fiber → type II (fast)
   white infarct → organs with single arterial supply
   white than blue then red fingers → Raynaud's
   white surface of brain → bacterial meningitis (neutrophils)
   white spots (multiple) on lung → miliary TB
   white spots (multiple) on kidney → acute pyelonephritis
   white spots (very small) on spleen → Hodgkin's
   white spots on retina (Roth spots) → SBE
   black urine and cartilage → alkaptonuria
   black liver → Dubin-Johnson syndrome
   black death → plague (yersinia)
   blackwater fever → malaria (plasmodium falciparum) (transmitted by anopheles mosquito)
   black spots around mouth (lips) → Peutz-Jeghers syndrome
   black gallstones → pigment (bilirubin)
   black fly → transmits onchocerca
   brown tumor (of bone) → hyperparathyroidism (think renal disease)

brown fat tumor → hibernoma (brown fat normally uncouples ox-phos to produce heat)
brown atrophy → atrophy + lipofuscin (heart)
yellow gallstones → cholesterol (fat fertile forty flatulent female)
yellow skin → jaundice
yellow sclera → icterus
yellow eyelids → xanthelasma (foamy histiocytes in dermis)
yellow fever (high fever, black vomit, jaundice) → flavivirus
yellow pigment → staphylococcus aureus
yellow tumors
   small intestine → carcinoid
   ovary → thecoma (secretes steroids)
   urinary bladder → malakoplasia (proteus infection)
   orange skin → increased vitamin A
   green pus → pseudomonas
   blue-green pigment → pseudomonas aeruginosa
   blue sclera → osteogenesis imperfecta
   blue baby → TOF
   blue bloater → chronic bronchitis
   blue nevus → dendritic cells deep in dermis
   blue dome cyst → fibrocystic change of breast
   blue stain (prussian blue) → hemosiderin (iron)
   blue-gray spots on buccal mucosa (Koplik spots) → measles
   apple-green birefringence → amyloid
   congo red stain → amyloid
   oil red O (ORO) stain → fat stain
   cherry red macula → Neiman-Pick, Tay-Sachs, Sandhoff's
   cherry red skin → carbon monoxide, cyanide, cold
   red plaque of distal esophagus → Barrett's (intestinal metaplasia)
   red muscle fiber → type I (slow)
   red infarct → organs with double circulation
   red urine → Rifampin
   red knuckles → Grotton's sign (dermatomysitis)
   red raised lesions on fingers or toes (Osler nodes) → SBE
   ragged red fibers → mitochondrial myopathies
   red pigment → sororia marrecessens
   scarlet fever → strep
   pink eye → adenovirus conjunctivitis
   pink puffer → emphysema
   pink cells (lots of mitochondria) → oncocyes or Hurthle cells
   salivary gland → Warthin's tumor
   thyroid (Hurthle cells) → Hashimoto's thyroiditis
   heliotrope (lilac) eyelids → dermatomysitis
   silver stains (GMS) → pneumocystis, helicobacter pylori, spirochales, fungi
   copper rings in cornea → Keiser-Fleischer rings (Wilson's disease)
   copper-colored pennies → chromomysitis
   rusty sputum → bacterial pneumonia
   bronze diabetes → hemochromatosis (cirrhosis, bronze skin, DM)
   bronze skin → due to MSH effects of POMC (4 cortisol) → ACTH
   (hemochromatosis and Addisons)

foods:
   fava beans → G6PD deficiency (Mediterranean)
   gluten sensitive → celiac sprue (non-tropical)
   moldy peanuts → liver cancer (asbestos from Aspergillus flavus)
   gluten sensitivity → celiac (non-tropical) sprue
   aspartame (Nutrasweet) → don't use in PKU patient (no diet Dew for PKU)
   amanita mushroom → liver necrosis
   milk sensitive (lactose intolerance) → decreased lactase
   strawberries, shellfish or raw oysters → hepatitis A
   shellfish → cholera
   "bad" potato salad, custard → staph aureus
   reheated rice → bacillus cereus
   raw oysters → vibrio paraohemolyticus
   hamburger → E. coli or mad cow disease (England)
   undercooked pork → trichina or taenia solium
   too many eggs → biotin deficiency
   cabbage or cassava → hypothyroidism

food-like lesions:
   nutmeg liver → congestive heart failure
   chocolate cysts of ovary (or fallopian tubes) → endometriosis
grape-like masses:
  vagina → sarcoma botryoides
  endometrial cavity → hydatidiform mole
currant jelly:
  blood clots → post-mortem
  sputum (bacteria) → klebsiella
  feces (GI disease) → intussusception
anchovy paste → anemic abscess of liver
strawberry
tongue → scarlet fever
  gallbladder → cholesterolosis
strawberry hemangioma → benign lesion in kids (will go away by itself)
blueberry muffin rash → congenital rubella
rice-water stools → cholera
apple-green bile-stained → amyloid
  salty skin → CF
egg-shell calcifications in lung → silicosis
  potato hilar lymph nodes → sarcoid
coffee-ground vomit → hematemesis
cafe au lait spots → NF1
Swiss-cheese hyperplasia → simple endometrial hyperplasia
fried-egg cells → oligodendroglioma
apple-core lesion → colon cancer (left side)
maple syrup urine → branched chain amino acids
beefy glosis (tongue) → PA (decreased B12) (atrophic glosis is decreased iron)
mushroom-shaped ulcer in colon → pseudomembranous colitis (C. difficile)
bitter almond smell (breath) → cyanide
"onion-skin" thickening → malignant hypertension (malignant
  nephrosclerosis; hyperplastic arteriopathy)
pcau d'orange → skin change with breast cancer
banana-shaped gametocytes → plasmodium falciparum
string of popcorn in kidney → MGN
coffee-bean nucleus → Brenner tumor of ovary
pear-shaped → giardia

animals
  birds or bats → histoplasmosis
  parrots → psittacosis (chlamydia psittaci)
  cats → toxoplasmosis or cat-scratch disease
  cat or dog bite → pasteurella
  rabbits → franciscella tularensis (tularemia)
skunks and bats (solitary silver-eared bat) → rabies
aquariums → mycobacterium marinum
black widow spider → abdominal cramps and convulsions
brown recluse spider (violin shape on belly) → black eschar on skin
sheepdog → echinococcus
tse tse fly → trypanosoma (sleeping sickness)
poultry, snakes, lizards → salmonella
snails → schistosoma (cercariae penetrate skin)

animal-like lesions
butterfly rash on face → SLE
cat cry → 5p- (cri du chat)
owl-eye nuclei → Reed-Sternberg cell (Hodgkin's disease) or giardia
  spider cell → rhabdomyoma
  lion face → leprosy
Simonian crease → trisomy 21
gram-negative "school of fish" → haemophilus ducreyi
  bird (parrot) beak nose → Bloom's syndrome
bird-beak barium study of esophagus → achalasia
chimpanzee face → severe beta thalassemia (Cooley's anemia)
pitted-frog appearance → infant with decreased vitamin C (scurvy) due to
  peristomal hemorrhage
elephantiasis → microfilaria (Wuchereria bancrofti)
bat-wing ventricles in brain → Huntington's

GYN
  Bartholin cyst
chromosomes (and karyotypes)
  trisomy 21 (aneuploidy) → Down's syndrome
  triploidy → partial mole (1 ovum and 2 sperm ("menage a trois"))
  trisomy 13 → Patau's (cyclops and holoprosencephaly)
  trisomy 18 → Edward's (overlapping fingers)
  one X (XO) → Turner's
  XXX → Klinefelters
  XXY → double Y (tall males with cystic acne, ??antisocial)
  5p- → cri du chat
  11p- → WAGR syndrome (Wilms tumor and aniridia)
deletion maternal 15q- (maternal imprinting) → Angelman ("happy puppet")
deletion paternal 15q- (maternal imprinting) → Prader-Willi
  22p- → DiGeorge syndrome (CATCH-22)
  chromosome 7 → CFTR (chloride channel) → CF

trinucleotide repeat disorders:
  long face, everted ears, large testes → fragile X (repeat CGG, think
  see giant gonads)
  Huntington's disease
  myotonic dystrophy (difficult releasing grip) with handshake

chromosome instability syndromes
xeroderma pigmentosa → defective repair of pyrimidine (thiamine) dimers
  (sensitive to UV light, UVB causes skin cancer)
ataxia telangiectasia
Faconi's anemia (absent radii, "Faconi no boni")
Bloom's syndrome → increased sister chromatid exchange
rib notching → coarctation of aorta
rib masses in child → vitamin D deficiency (rickets)
neuro:
social indifference (loss of social judgment) → frontal lobe
broken speech → Broca’s aphasia
wordy speech → Wernicke’s aphasia
scanning speech → MS
Donald Duck speech → pseudobulbar (subnuclear) palsy
lower extremity signs (SCDSC) and megaloblastic anemia → decreased B12
abnormal sleep-wake cycle → pineal gland tumor
mass at cerebellopontine angle (CN 8 and 7) → acoustic neuroma (schwannoma); bilateral seen in neurofibromatosis type 2
ascending paralysis → Guillain-Barré
mad, fat cat → destruction of ventromedial nucleus of hypothalamus
poliomyelitis → destruction of posterior hypothalamus (anterior hypothalamic coordinates cooling; sets temperature set point)
bilateral loss of pain and temp in arms → syring (syringomyelia)
hemisection of spinal cord → Brown-Sequard syndrome
rage and aggression → stimulation of amygdala
decile and hypersexual → bilateral destruction of amygdala (Kulver-Bucy)
(think herpes)
paralysis of facial muscles → Bell’s palsy (peripheral CN VII)
sudden loss of vision like “window-shade closing” → amaurosis fugax (carotid artery disease)
right/left confusion, finger agnosia, dysgraphia, dyscalculia, and right hemianopia → Gerstmann’s syndrome (lesion of dominant parietal lobe)
loss of sensory (more) but with pain → Dejerine-Roussy (thalamic infarct)
ippoint pupils + coma = pontine lesion (or opium overdose)
lobar hemorrhage in non-hypertensive elderly → cerebral amyloid angiopathy
worst headache ever → subarachnoid hemorrhage
lots of autonomic signs → Shy-Drager syndrome
Parkinson-like sx (slurred speech) with outbursts of laughter → pseudobulbar (subnuclear) palsy
INO = lesion of MLF = MS
circumscribed cystic lesion in kid’s brain → juvenile pilocytic astrocytoma
partial seizure → may be hippocampal (ammon’s horn) sclerosis
atrophy (“knife-blade”) of frontal and temporal lobes → Pick disease
intention tremor → cerebellum
resting tremor → basal ganglia (Parkinson’s)

abnormality of:
androgen receptor → testicular feminization
beta-myosin → hypertrophic cardiomyopathy (AD)
chloride channel protein (CFTR) → CF
collagen (many defects possible) → Ehlers-Danlos syndrome
dynein arms of cilia → Kartagener syndrome
dystrophin → Duchenne’s (XR) or Beckers
fibrinin → Marfan’s (AD)
FMRI-1 gene → fragile X syndrome
Gs α subunit → pseudohypoparathyroidism
IL-2 receptor → SCID (X-linked)
LDL receptor → familial hypercholesterolemia type 2 (AD)
merlin → NF-2
myotonin protein kinase → myotonic dystrophy
neurofibromin → NF-1
polycystin → adult polycystic renal disease
spectrin (RBC) → hereditary spherocytosis
tuberin → tuberous sclerosis
type I collagen → osteogenesis imperfecta

chromosomes:
Philadelphia (9:22) → CML
(8;14) → Burkitts
t(14;18) → follicular lymphoma
t(15;17) → acute promyelocytic leukemia
t(11;14) → mantle cell lymphoma
double minutes → neuroblastoma and breast cancer

oncogenes
myc → Burkitts (chrom 8)
N-myc (amplification) → neuroblastoma
L-myc (amplification) → lung cancer (small cell carcinoma)

bcl-2 → nodular lymphoma (chrom 18)
 erb-B1 → gliomas
 erb-B2 → breast and ovarian cancer
 ret → medullary carcinoma of thyroid (MEN II and III)

anti-oncogenes (deletions)
Rb (chromosome 13) → retinoblastoma and osteogenic sarcoma
p53 → Li-Fraumeni syndrome (multiple tumors)
NF-1 → neurofibromatosis type 1
NF-2 → neurofibromatosis type 2
her2-neu → breast cancer

numbers
2’s → Meckell’s (most likely complication is volvulus)
2% population
2 inches long
2 feet from ileocecal valve
2 types of epithelium → gastric or pancreas
2’s for 2nd week development
2 germ layers → epiblast, hypoblast
2 cavities → amniotic cavity, yolk sac
2 parts to placenta → cytotrophoblasts, syncytiotrophoblasts
3’s for 3rd week development
3 germ layers → ectoderm, mesoderm, endoderm
9 + 2 = arrangement of microtubules in cilia
10% tumor → pheochromocytoma
vit K dependent factors → 2,7,9,10, protein C, protein S
parasympathetic cranial nerves → 3,7,9,10
calories (kcalories) per gram
fat → 9
alcohol → 7
protein → 4
CHO → 4

collagen types:
I → bone, skin, etc (late wound repair) (defect is OI)
II → cartilage (defect is Stickler syndrome)
III → skin, blood vessels, etc (early wound repair)
IV → basement membrane (Ab’s against seen in Goodpastures, lack of in glomerulus seen in Alport’s)

letters
fat soluble vitamins → ADEK
deficiency A → night blindness
excess A → alopecia (etc); is teratogenic
deficiency B1 (thiamine) → beriberi and Wernicke-Korsakoff
deficiency B2 (niacin) → pellagra: 3 D’s (diarrhea, dementia, dermatitis, and death)
deficiency C → scurvy (bleeding gums, cork-screw hairs)
rule of 3’s (cruiz, cone-nose bug, chaga’s disease, cardiac failure, C-shape)
3 C’s of measles → cough, coryza, conjunctivitis
deficiency of D → osteomalacia (adults) or rickets (kids)
I-cell disease → can’t add mannose-6-phosphate to lysosomal proteins
F’s with cholesterol gallstones: fat fertile female fories fifties (flatulence)
F’s with limbic system: feeding, fighting, feeling, flight, and sex
M spike → myeloma
P’s → pressure (increased BP), pain (headaches), perspiration, palpitations, pallor → pheochromocytoma
Q fever → Coxiella burnetii
3 T’s of cyanote (R to L) congenital heart disease → tetralogy of Fallot), transposition of great vessels, truncus arteriosus

autoantibodies
ANA
diffuse (homogenous):
DNA → many
histones → drug-induced SLE
rim (peripheral): double-stranded DNA → SLE
speckled: nonDNA extractable nuclear proteins → many including:
Smith → SLE
SS-A and SS-B → Sjogren’s syndrome
ScI-70 → progressive systemic sclerosis (PSS)
nucleolar: RNA → many (think PSS)
-centromere → CREST syndrome
ANCA
- ANCA (cytoplasmic) → proteinase 3 → Wegener’s granulomatosis
- ANCA (perinuclear) → myeloperoxidase → microscopic polyarteritis
mitochondria → primary biliary cirrhosis
smooth muscle → lupoid hepatitis (autoimmune chronic active hepatitis)
neutrophils → Wegener’s granulomatosis and microscopic polyarteritis
pial cell and intrinsic factor → pernicious anemia
microvasculature of muscle → dermatomyositis
immunoglobulin (rheumatoid factor) → rheumatoid arthritis
thyroglobulin → Hashimoto’s thyroiditis
lung and glomerular basement membranes → Goodpasture’s disease
intercellular space of epidermis → pemphigus vulgaris
epidermal basement membrane → bullous pemphigoid
acetylcholine receptor → myasthenia gravis
thyroid hormone receptor → Grave’s disease
insulin receptor → diabetes mellitus
cardiolipin → SLE (also Libman-Sachs endocarditis → cardiolipin antibody)

tyrosinase → albinism
UDP-glucuronyl transferase (UGT)
- mildly decreased (patient without sx) → Gilbert’s
- absent → Crigler-Najjar syndrome type I

increased enzymes, etc
ACE → think sarcoïd (or Gauchers)
ASO titer → streptococcus
acid phosphatase → Gauchers
alkaline phosphatase
- serum (marked) → Paget’s disease
- leukocyte (LAP) → reactive leukemoid reaction (CML has decreased LAP)
aminotransferase
- ALT (SGPT) > AST → viral hepatitis
- AST (SGOT) > ALT → alcohol hepatitis
periodic elevations → hepatitis C
alcohol causes ↑ NADH/NAD ratio
amylose → pancreatitis (and mumps)
lipase → pancreatitis
GOT → liver disease (especially alcohol)
CPK → muscle disease (MM fraction and MI (MB fraction)
troponin → MI (early [first few hours] lab test)
LDH1 > LDH2 (flipped LDH) → MI

FSP (fibrin split products) or FDP → DIC
D-dimers → DIC
PT → extrinsic coagulation path
PTT → intrinsic coagulation path
cortisol → Cushings’s syndrome (disease is pituitary)
aldosterone → Conn’s syndrome
serum lysosomes → l-cell disease
hemoglobin A2 → beta thalassemia
urine ALA → lead
FEP (free erythrocyte protoporphyrin) → lead
osmotic fragility (of red cells) → hereditary spherocytosis
TIBC → iron deficiency
hemoglobin A2 → β-thalassemia

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increased sodium (hyponatremia)
decreased ADH → DI
with hypokalemic alkalosis
- renal artery stenosis (increased blood pressure in young female)
- 17-hydroxylation deficiency
- increased aldosterone (Conn syndrome) → ↓ renin
decreased sodium (hyponatremia)
- increased ADH → SIADH
- lung tumors or CNS disease
- hyperkalemic acidosis
- decreased aldosterone (Addisons disease)

increased serum calcium → think “CHIMPS”
cancer (paraneoplastic)
hyperparathyroidism
iatrogenic (drugs)
multiple myeloma (OAF)
primary (too much milk or vitamin D)
sarcoïd
tumor markers
PSA → prostate
AFP
- liver cell cancer
germ cell tumors (yolk sack tumor or endodermal sinus tumor)
nodal tube defects (due to decreased folate)
HCG
- pregnancy
- mole (hydatidiform mole)
- choriocarcinoma
- male → seminoma (10% of cases)
CA-125 → ovarian tumors
stains
H&E → routine histology
  hematoxylin → basic cationic dyes (nucleic acids with negative charge)
  eosin → acidic anionic dyes (stains positive charge)
trichrome → collagen (fibrosis)
prussian blue → iron (hemosiderin)
congo red → amyloid
  kidney → multiple myeloma (immunoglobulin light chains)
  brain → Alzheimers (amyloid-beta)
  pancreas (islets) → diabetes
  thyroid → medullary carcinoma (procalcitonin)
India ink → cryptococcus (meningitis in AIDS)
Ziehl-Neelsen → acid-fast stain
PAS → glycogen (diastase sensitive) and basement membranes
TRAP (tartrate resistant acid phosphatase) → hairy cell leukemia
myeloperoxidase → neutrophils (think AML)
TDT → lymphoblasts (think ALL)
  Wright stain → peripheral blood
oil red O → fat
  ALL L3 or Burkitts
  ovary → thecoma
toluidine blue (material stains brown) → metachromasia (metachromatic leukodystrophy)
mitochondria
swelling → reversible injury
calcifications → flocculent densities (MI) (irreversible injury)
parking lot crystals → mitochondrial myopathies
acronyms
TORCH → toxoplasmosis, rubella, CMV, herpes
CREST → calcinosis, Raynauds, esophageal dysmotility, scleroderma, telangiectasia
WAGR → Wilms, aniridia, genital abnormalities, mental retardation
VGER → Star Trek 1:

eye stuff
subluxed lens → Marfan's or homocystinuria
dry eyes and soft corneas → vit A deficiency
eye down and out with fixed blown pupil → CN III palsy (uncal herniation)
can't walk down stairs → CN IV
can't look lateral → CN VI
can't see near at 40 → presbyopia (loss of accommodation)
tunnel vision (bihemeral hemianopia) → pituitary adenoma
  exophthalmus (proptosis) in adult → Grave's disease
  exophthalmus in child → Land-Schuller-Christian disease
  endophthalmus → Homer syndrome (lesion of sympathetics)
hand pathology
long fingers (sclerodactyly) → Marfan's
  sclerotic fingers → systemic sclerosis
  overlapping 4 and 5 fingers → trisomy 18 (Edward's)
clubbing (hypertrophic osteoarthropathy) → lung disease
  palmar crease → Down's
tumors
  under fingernail (subungual) → glomus tumor or melanoma (acral)
on finger → giant cell tumor of tendon sheath
  nodules
Bouchard's → PIP (osteoarthritis)
  Heberden's → DIP (osteoarthritis)
red knuckles → Grotton's sign (dermatomyositis)
no thumbs (or radius) → Fanconi's
small 4 and 5 fingers → Albright's syndrome (pseudohypoparathyroidism)
gross kidney
large with multiple cysts → adult (AD)
  normal size with radial cysts → infantile (AR)
white dots on surface → acute pyelonephritis
red dots of surface ("flya-bites") → malignant nephrosclerosis
  granular surface → benign nephrosclerosis
U-shaped scars → chronic pyelonephritis (or chronic GN)
V-shaped scars → infarct
micro kidney
  nodular GS → Kimmelstiel-Wilson disease (diabetes mellitus)
  spike and dome → MGN (membranous glomerulopathy)
  tran-track → MGPN (membranoproliferative glomerulonephritis)
  wire-loop lesion → SLE
  crescents → RPN (rapidly progressive glomerulonephritis)
  hyaline arteriolosclerosis → diabetes mellitus or benign hypertension
renal papillary necrosis → diabetes mellitus or sickle cell anemia
urine:
adult develops dark urine after viral URI → Bergers disease
child develops dark urine after sore throat → post-streptococcal GN
dark urine in morning → PNH (paroxysmal nocturnal hemoglobinuria)
dark urine after taking certain drugs (sulfas drugs) or fava beans → G-6-PD
dark urine with time → alkaptonuria
  urine that glows with fluorescent light → porphyrria
  microhematuria and flank pain → kidney stone
  painless hematuria → bladder tumor
  red cell casts → nephritic syndrome
  white cell casts → pyelonephritis
  eval fat bodies (Maltese crosses) → nephrotic syndrome
  ketone bodies → diabetes mellitus (think DKA)
  HIAA → carcinoid (secretes serotonin [5HT])
  VMAN or HVA (kid) → neuroblastoma (adrenal medulla)
  VMAN or HVA (adults) → pheochromocytoma
  delta-ALA → lead or porphyrria
  crystals: hexagonal → cystine
  envelope → calcium oxalate
  coffin lid → triple phosphate
  thornapples → ammonium biurate
stones
  staghorn → triple phosphate (magnesium ammonium phosphate) → alkaline urine with urea-positive bugs (proteus vulgaris)
  ↑ serum PTH → calcium stones
  patient with tumor → urate stones
amniotic fluid
  increased (polyhydramnios) → GI (esophageal/duodenal) atresia, neural tube defects (anecephaly)
  decreased (oligohydramnios) → Potter syndrome (bilateral renal agenesis)
dilated esophagus (mega-esophagus)
  US → achalasia
  South America → Chaga's disease
dilated colon (megacolon)
  child → Hirschsprung's disease
  adult → ulcerative colitis
tumor of renal cortex → renal cell carcinoma
tumor of renal pelvis → transitional cell carcinoma
lesions:
  substantia nigra → Parkinson's disease
  caudate → Huntington's chorea
inside the alveolus:
  frothy fluid → pneumocystis
  pink fluid → pulmonary edema
  PAS positive granular pink material → PAP (pulmonary alveolar proteinosis)
lesions of nipple:
  galactorrhea in non-pregnant pt → prolactinoma
  bloody nipple discharge → intraductal (subareolar) papilloma
  scaly (eczematous) nipple → Paget's disease
  nipple retraction → ductal carcinoma
differential diagnoses of young female (age 17 to 20ish) with secondary amenorrhea → pregnancy
  primary amenorrhea (no sense of smell) → Kallmann syndrome
primary amenorrhea, short, web neck → Turner syndrome
primary amenorrhea and hypertension → 17-hydroxylase deficiency
normal menses and hypertension → renal artery stenosis
metronemorrhagia and mucosal bleeding → von Willebrand disease
infertility, hirsutism, obesity → polycystic ovarian disease (Stein-Leventhal syndrome)
causes of causes of heart pain:
Prinzmetal (atypical) angina → vasospasm
stable angina → coronary atherosclerosis
unstable (crescendo) angina → fissures and hemorrhage on coronary atherosclerosis
MI → thrombosis of coronary atherosclerosis
"starry-sky" pattern
first think → small noncleaved lymphoma (Burkitt's)
then think large cell non-Hodgkins lymphoma or lymphoblastic lymphoma
MEN
type I → pituitary, parathyroid, pancreas
type II (IIa) → parathyroid, medullary carcinoma of thyroid, pheochromocytoma
type III (IIb) → medullary carcinoma of thyroid, pheochromocytoma, mucosal neuromas
PGS (polyglandular syndromes)
type I → two of: Addison's, hypoparathyroidism, mucocutaneous candida
type II → Hashimoto's and insulin-dependent diabetes
hyperlipidemias
I = increased chylomicrons (triglyceride) due to mutation in lipoprotein lipid gene
II = increased LDL (cholesterol) due to mutation in LDL receptor
III = increased LDL and chylomicron remnants (cholesterol and triglycerides) due to mutation in apolipoprotein E (abnormal apoE4 associated with Alzheimer's)
IV = increased VLDL (triglyceride) due to mutation in lipoprotein lipase gene
V = increased chylomicrons and VLDL (triglyceride) due to mutation in apolipoprotein CII
membrane-bound dense core neurosecretory granules
small cell carcinoma of lung
carcinoid
islet cell tumors
pheochromocytoma
neuroblastoma (adrenal medulla and nose)
medulloblastoma (cerebellum)
rosettes → retinoblastoma, neuroblastoma, medulloblastoma
clear cell cancers
kidney → intracytoplasmic glycogen
ovary
vagina → think DES exposure
special cancers with mucin
stomach → signet ring carcinoma (intracellular mucin)
breast → colloid carcinoma (extracellular mucin)
parotid → mucopidermoid carcinoma
other cancer facts:
periphery of lung → adenocarcinoma
calcified pituitary tumor → craniopharyngioma
calcified cerebral cortex tumor → oligodendroglioma
geographies
China → moles and nasopharyngeal carcinoma
American Indians → cholesterol gallstones, TB
Africa → liver cancer ( aflatoxin)
South Africa → VIP
Japan → gastric cancer
Southern Japan → ATLL (HTLV1)
southwest USA (San Jacquin Valley) → coccidiomycosis
Mississippi and Ohio river valleys → histio
South America → paracoccidioid
Mormon → Alport's syndrome
odors
urine: musty → PKU
movies
Elephant man → neurofibromatosis
Lorenzo's oil → ALD (adrenoleukodystrophy)
politically incorrect path
gargoysism → Hurley/Hunter
Indian filing → infiltrating lobular carcinoma of breast (single filing)
breast puffer → emphysema; blue bloater → chronic bronchitis
X-ray findings:
double barrel aorta → dissecting aneurysm
double bubble sign → duodenal atresia
string sign → Crohn's disease
Codman's triangle → osteogenic sarcoma
bone resorption in fingers → hyperparathyroidism (renal disease)
intermediate filaments
prekeratin → alcoholic hyaline
neurofilaments
neurofibrillary tangles (hyperphosphorylated tau) → Alzheimers
Lewy bodies → Parkinson's disease
keratin (cytokeratin) → carcinomas (epithelial cells)
neurofibrillary tangles (hyperphosphorylated tau) → Alzheimers
vimentin (desmin) → sarcomas (soft tissue tumors) (mesenchymal cells), lymphomas, melanomas
vimentin and desmin (skeletal) → muscle tumors
glia fibrillary acidic protein (GFAP) → astrocytomas and ependymomas
CSF findings
blood (xanthochromia) → subarachnoid hemorrhage (ruptured berry aneurysm)
oligoclonal bands → MS
decreased glucose → bacterial meningitis
populations
Ashkenazi Jews → Neiman-Pick and Tay-Sacks
Mormons → Alport syndrome
Amish → pyruvate kinase deficiency
South Africa → VIP
other
clover-leaf lymphocyte → ATLL
cerebriform lymphocyte → Sezary cell
atypical lymphs → IM
lymphs with cytoplasmic vacuoles → Burkitts lymphoma (L-3-ALL)
Reed-Sternberg cell → Hodgkins disease
other names
Trousseau’s sign → migratory thrombophlebitis (pancreatic cancer)
Chovostek's sign → twitching of mouth by tapping facial nerve (hypocalcemia)
Foner syndrome (Pancoast tumor → apex of lung) = piosis, miosis, anhidrosis
Argyll-Robertson pupil (accomodates not reacts) → tertiary syphilis
Marcus-Gunn pupil (swimming flashlight test) → optic neuritis (lesion of optic nerve, think MS)
Reiter's syndrome (post GI or chlamydia) → arthritis, urethritis, conjunctivitis
Webster test: tuning fork on top of skull (normal equals both) → unilateral conduction deafness; vibration louder in abnormal ear
Webster test: tuning fork on top of skull (normal equals both) → unilateral conduction deafness; vibration louder in the normal ear
mine test: compares air and bone conduction; tuning fork on mastoid process until not heard, then hold in front of ear
• normal: air greater than bone
• unilateral conduction deafness: air less than bone
• unilateral partial nerve deafness: air greater than bone
Schwabach test: compare bone conduction in patient with a normal patient
• conduction deafness: bone conduction is better than normal
• nerve deafness: bone conduction is less than normal

sound-alikes or similar diseases
  apoptosis → programmed cell death (no inflammation)
  necrosis → lots inflammation

karyorrhexis → nuclear fragments
karyolysis → nucleus fades away

coagulative necrosis → ischemia (infarct, but not brain)
liquefactive necrosis → bacterial infection (and brain infarct)
caseous necrosis (granulomas) → TB
non-caseating granulomas → sarcoid (and fungi)

cryptococcus
cryptosporidia
cyclospora

don't:
  von Willebrand's disease → bleeding due to deficiency of vWF (also ↓ factor VIII)
  von Recklinghausen's disease
    bone → osteitis fibrosa cystica (hyperparathyroidism)
  tumors → neurofibromatosis type I (AD inheritance)
  von Giecke → type I glycogen storage disease
  von Hippel-Lindau disease → renal cell carcinoma, multiple cysts of kidney and pancreas, hemangioblastoma

Paget's disease
  of breast → lesion of nipple
  of extra-mammary → vulva
  of bone → mosaic osteoid seam pattern

choristoma → right tissue wrong place
chordoma → tumor from notochord

granulation tissue → proliferating blood vessels and fibroblasts
granulomas → aggregates of epithelioid cells (activated macrophages)

PNH → hemolysis at night (mediated by complement)
PCH → hemolysis with cold (mediated by Donath-Landsteiner antibody)

flask-shaped ulcer in colon → entameba histolytica (ameba)
Ehler-Lennmyer flask (x-ray) → osteoporosis

ground-glass cytoplasm → hepatitis B virus (chronic)
ground-glass nucleus → herpes

Wilson's disease → copper deposition (hepatolenticular degeneration)
Whipple's disease → PAS-positive foamy macrophages with bacteria in small intestines
Whipple's triad → ↓ glucose, signs of ↓ glucose, relieved by glucose
(insulaoma)
gout → uric acid (negative birefringent needle-shaped crystals)
pseudogout → calcium pyrophosphate

Berger's disease → IgA in mesangium (FSGN) (alternate complement pathway)
Buerger's disease → gangrene in smoker (thromboangiitis obliterans)

Charcot joint → tertiary syphilis (bad knee due to impaired proprioception due to tabs dorsalis)
Charcot-Leyden crystals → asthma (from eosinophils)
Charcot triad → cholangitis (biliary colic, jaundice, spiking fever and chills)

condyloma acuminate → HPV
conyloma lata → syphilis
tophus → gout
pannas → rheumatoid arthritis
gumma → syphilis

Meniere's disease → hearing loss, tinnitus, vertigo
Menetrier's disease → enlarged gastric rugae

GI bleeds:
  hematemesis → vomiting BRB or "coffee-ground" (bleeding proximal to ligament of Treitz)
  hematochezia → BRB or maroon stools (distal to ligament of Treitz)
  melena → black tarry stools (upper GI bleed)

Langerhan's cells → dendritic cells in epidermis
Langerhan's histiocytosis
Langhan's cells → giant cells seen in caseating granulomas of TB
islets of Langerhans → in pancreas

Schiller test → test for cervical dysplasia
Schilling test → test for pernicious anemia (uses radioactive B12)

PBC (primary biliary cirrhosis) → females, granulomas in portal tria
PSC (primary sclerosis cholangitis) → males, periductal fibrosis in portal triad

Budd-Chiari → occlusion of hepatic veins
Arnold-Chiari → small posterior cerebral cavity

infectious hepatitis → hepatitis A
serum hepatitis → hepatitis B

acanthocytes → irregular spines (abetaiolipoproteinemia)
echinocytes → regular undulations (artefact or uremia)
megaloblasts in adult → decreased B12 or folate
growth in child → artificio aciduria

thrombocytopenia → Buerger's disease (smokers)
endarteritis obliterans → tertiary syphilis

pemphigus (P. vulgaris) → intraepidermal (linear IF) bad disease
pemphigoid (bullous pemphigoid) → epidermal-dermal junction

aneurysm of abdominal aorta → atherosclerosis
aneurysm of thoracic aorta → syphilis
tree bark aorta → syphilis (leucotic aortitis)

rubella (3 day measles or German measles) → rubella virus
rubola → measles virus (paramyxovirus)

class I antigens → CD8 (think 8 x 1 = 8)
class II antigens → CD4 (think 4 x 2 = 8)
CD4 → MHCII
CD8 → MHCII

kwashiorkor → decreased protein (calories OK)
marasmus → starvation

drug reactions
  Henoch-Schonlein purpura → leukocytoclastic vasculitis
  Stevens-Johnson syndrome → hemorrhagic crustated lesions skin and mucous membranes (variant of erythema multiforme)

increased osteoid (decreased mineralization) → decreased vit D (rickets)
decreased osteoid (mineralization OK) → decreased vit C (scurvy)

Gaucher cells → "crumpled tissue paper" macrophages
Neimann Pick cells → lipid laden macrophages

grade → pathologist (microscopic appearance)
stage → clinician (clinical extent of tumor) → best indicator of prognosis
monoclonal → neoplastic proliferation (single clone of cells)
polyclonal → reactive proliferation

Arias-Stella reaction → hypersecretory endometrium (pregnancy)
Ashermann's syndrome → endometrial stenosis (too vigorous D&C)
Bernard-Soulier syndrome → lack of gpIB on platelets
Glanzmann's thrombasthenia → lack of gpIIb/IIIa on platelets

Boerhaave's syndrome → rupture of esophagus
Angelman syndrome → deletion of maternal 15q
Prader-Willi syndrome → deletion of paternal 15q
euchromatin → light (open) chromatin (transcriptionally active)
heterochromatin → dark (condensed) chromatin (inactive genes)
facultative heterochromatin → X chromosome (Barr body)

type I hypersensitivity reactions → IgE on mast cells and basophils (initial step is antigen cross-linking previously bound IgE)
type II hypersensitivity reactions → in-situ antigens (Goodpasture, transfusion reactions)
type III hypersensitivity reactions → immune complex deposition (serum sickness, Arthus reaction, SLE)
type IV hypersensitivity reactions → delayed hypersensitivity or cell-mediated cytotoxicity

adenosis (vagina) → exposure to DES (an estrogen)
adenomyosis → endometrial tissue in wall of uterus
endometriosis → endometrial tissue outside of uterus

transition zone → between endocervix and ectocervix
transformation zone → squamous metaplasia after endocervical ectropion

lymphogranuloma venereum (LGV) → chlamydia
granuloma inguinale → Calymmatobacterium granulomatis
chancroid → Hemophilus ducreyi

hemophilia A → increased PTT, normal PT
vWD → increased bleeding time (may have increased PTT due to ↓ VIII)

epidural hematoma → ruptured middle meningeal artery (trauma, dangerous)
subdural hematoma → ruptured veins (elderly)
subarachnoid hemorrhage → ruptured berry aneurysm (circle of Willis, blood in CSF)
anisocytosis → varying size of RBCs
poikilocytosis → varying shape of RBCs

sliding hiatal hernia
rolling (paraesophageal) hiatal hernia (may become strangulated)

prevalence → total number of cases in a population at a given time
incidence → number of new cases in a population per unit time
prevalence = incidence times disease duration

transition → substituting purine for purine or pyrimidine for pyrimidine
tranversion → substituting purine for pyrimidine or vice versa
transduction → bacterial DNA transfer via bacteriophage vector
transformation → bacterial uptake of naked DNA from environment

southern blot → DNA sample and DNA probe (DNA-DNA hybridization)
northern blot → RNA sample and DNA probe (DNA-RNA hybridization)
western blot → protein sample and antibody (antibody-protein hybridization)
western blot → protein sample and DNA probe (DNA-protein interaction) → examine transcription factors

Vinchow's triad (risk factors for thrombosis) → blood stasis, endothelial damage, hypercoagulable states
Vinchow's (sentinel) node (enlarged left suprachlavicular node) → metastatic gastric carcinoma

schwannoma → eccentric to nerve (can save nerve)

neurofibroma → in nerve (can't save nerve)
Wernicke → acute confusion with ataxia and eye abnormalities
Korsakoff → chronic memory disorder with confabulations

Kawasaki → mucocutaneous lymph node syndrome in Japanese kid (coronary artery aneurysm can cause MI)
Takayasu → pulsless disease due to thickening of aortic arch vessels

R to L shunts (cyanotic) → “T’s” = TOF, TOGA, truncus
L to R shunts (acyanotic) → VSD (MC), ASD, PDA

base of cochlea (closest to oval window) → high frequencies
 apex of cochlea → low frequency

drugs (a very partial list...)
aspirin → inhibit cyclooxygenase (rx fever, dysmenorrhea, osteoid osteom, MI)
dindomethacin → inhibit cyclooxygenase (close PDA) (PGE2 keeps ductus open)
corticosteroids → inhibit PLA2

nitroprusside → converted to nitric oxide → increase cGMP
colchicine → rx gout (inhibits microtubules and stabilizes lysosome membranes)

phenylephrine → α 1 only (vasoconstrict, reflex bradycardia, increase BP)
norepi → intense α 1, weak beta1 > beta2 (vasoconstrict, reflex bradycardia, increase BP)
edrophonium → cholinesterase inhibitor (MG diagnosis)
quimidine toxicity → prolonged QT intervals
furosemide (loop) → inhibits Na/K/Cl cotransport
chlorothiazide (thiazide) → inhibits NaCl resorption, gets calcium out urine

Warfarin (coumadin) → inhibits vit K factors (screening test is PT)
heparin → activates ATIII (prolonged PTT)

enzymes and other chemicals:
ACE → converts angiotensin I to angiotensin II
ACE → degrades bradykinin (ACE inhibitors increase bradykinin levels)
angiotensin II → stimulates aldosterone production
DA → inhibits prolactin release
GH → positive nitrogen balance

behavioral
decreased serotonin receptors → increased aggression
hearing voices → schizophrenia
homosexuality is biologic
erectile dysfunction → diabetes

formulas:
sensitivity = true positives/people with disease (screening test needs ↑ sensitivity)
specificity = true negatives/people without disease (confirmatory test needs ↑ specificity)
predictive value of a positive test = true positives/(true positives + false positives)
predictive value of a negative test = true negatives/(true negatives + false negatives)
Hardy-Weinberg:
\[ p^2 + 2pq + q^2 = 1 \]
\[ 2pq = \text{heterozygous prevalence (carriers)} \]
cardiac output = heart rate x stroke volume
mean arterial pressure = (2/3 of diastolic pressure) + (1/3 of systolic pressure)
mean arterial pressure = cardiac output x total peripheral resistance
Fick's principle:
organ oxygen consumption = (AO2 - VC2)/total organ blood flow
Poiseuille's equation:
\[ Q = \frac{pL}{8x} \text{ (change in pressure)} \times \text{radius}^4 \times L \times n \]
Starling:
flow = k((Pi + Oo) - (Po + Oi))  
flow = k((pressure in + oncotic out) - (pressure out + oncotic in)) 

La Place: 
P = T/pi 
pressure = wall tension/pi 

Henderson-Hasselbalch: 
pH = pKa + log [HCO3]/0.03PCO2 

A-a gradient: 
= PAO2 - PaO2 
PAO2 = [(1 - fract inspired O2 x (barometric pressure - water vapor pressure)] - PaCO2/R 
PAO2 = [.21 x (760 - 47)] - .8 
anion gap = Na - (Cl + HCO3) 

oxygen content of blood 
= oxygen bound to hemoglobin (20) + dissolved oxygen (0.3) 
= (1.34 x hemoglobin concentration x saturation) + (.0031 x PO2) 

minute ventilation = tidal volume x respiratory rate 
renal clearance = UV/P 
LDL = cholesterol - HDL - TG/5 

people with disease 
Lou Gehrig, Stephen Hawking, Catfish Hunter → ALS 
Mohammad Ali, Billy Graham, Janet Reno, Michael J. Fox → Parkinsons 
Andy Kaufman → lung cancer (died age 37) 
Walter Payton → PSC and bile duct cancer 
Steve McQueen → malignant mesothelioma 
Elizabeth Taylor → meningioma 
Gilda Radner → ovarian cancer 
Bill Bixby, Jim Valvano (many) → prostate cancer 
Johnny Cash → Shy-Drager syndrome 
Dudley Moore → supranuclear palsy 
Jamie Lee Curtis → ???testicular feminization 
John F. Kennedy → ?Addison’s disease 
Abraham Lincoln → ?Marfan syndrome 
Van Gogh → ?porphyria, cataracts 
Beethoven → ???Paget disease of bone