OUT PATIENT NOTES 12/18/16

Topic	Page #
Acid/base	8
Acne	16
A Fib	15, 25
Alopecia	2
Amitriptyline:	10,11,12
Anticholinergics	2
Anticoag & surg	15
Anticoagulants	25
Anxiety	20
Arthritis, mono	28
Aspirin	7
Asthma	21
Back Pain	12
Bell's	2
Benzos	3
Bioterror	2
BPH	5
Butterfly rash	8
Cellulitis & erysipelas	2
C diff	3
CHF	2,24
Cirrhosis	18
Compression Fctrs	11
Contraception	18
Constipation	3
COPD	22,23
Cough	5
Cymbalta	6,12
Cystitis	6
Dementia & cogn dis	3
Depression	9
Diabetes	24, 26
Diarrhea, DDx	3
DISH	28
Dizziness	4
DVT	17
Dysmenhorrhea	13
Dysuria	5, 6
Ear wax	4
Edema	3
Endocarditis	18
Erysipelas	2
Estrogens in smokers	8
Fatigue	4
Fibromyalgia	12
Fungal infections	16,17
Gabapentin	11,12,17
Galactorrhea	29
Genitourinary	6
GERD	6
Gilbert's syndrome	18
Gluten enteropathy	8
Gout	6
H Pylori	10
Hand & wrist pain	10
Headache	10
Health maintenance	7
Hearing loss	5
Hematuria	6
Hemochromatosis	
Hepatitis C	7
HIV	7
Hypertension	14
Hypogonadism	7
IBS	11
Iliotibia band syndr	8
Impetigo	2
Incontinence	6
Insulin	26
Kidney stones	9
Knee pain	27
Leg edema	2
Lipid	27
Lyrica	12,12
Menopause	11
Menstrual disorders	29
Menses, heavy	29
Migraine	10
Nephrolithiasis	9
Neuropathic pain	12
Obesity	20
OCPs	18
Odds of disease	9
Onychomycosis	16
Osteoarthritis	11
Osteoporosis&D&Ca	11
Otawa ankle & foot	8
Otitis externa	5
PAD	9
Pain	12
Parasites of body etc	28
Parathyroidism	13
PCOS	8
Pelvic pain	13,19
Pericarditis	18
Pharyngitis	4
Pneumonia hosp'n	9
Polyuria	13
Potassium mngmnt	14
Pregabalin	12,17
Preop eval	13
Preop med mngmnt	14
Probability	9
Prolactinemia	16
Prostatitis	6
Pruritis	16
Psoriasis	8
Red eye	5
Restless syndrome	5
Retinal detachment	15
Rheumatoid arthritis	20
Rhinitis	5
Rosacea	8
Rx for COPD	23
Seborrheic dermatitis	8,16
Seizures	15
Shoulder	27
Sinusitis	5
Skin	16
Skin steroids	17
Smoking cessation	3
Somatization DO	8
Statin Rx	27
STDs (screening & rx)	19
Syncope	14
Tapering meds	20
TB screen	7
Testicular pain	6
Thyroid disease	9
TIA	25
Trigeminal neuralgia	12
Ulcers	20
Ulnar nerve entrapped	8
Urethritis in men	5
Uterine bleeding	6
UTI	6
Vaccines, pneumonia	7
Vaccines, live	9
Vaccines, flu	7
Vaginal dryness	11
Vaginitis	20
Vitamin B12 deficiency	3
Vitamin D deficiency	11
Warts	
Weight gain meds	20
Weight loss	20
Withdrawing meds	3
Women childbearing	20
Test 2	

George Roush. See roushmedicine.com

ALOPECIA:

Gender: Female pattern baldness: thinning on top. Minox 2%. 1 ml BID

Male pattern baldness: receding hairline. Minox 5% 1 ml BID & finasteride 1mg.

Diffuse: a) Telogen effluvium: stress, post partum, rapid weight loss, b) auto-immune (hypothyroidism etc), c) meds: "LID" (lithium, iron, depakote)

Focal:

a) **non-scarring**: 1) bacterial: syphilis, 2)fungal: tinea capitis 3) autoimmune: hypothyroidism, pernicious anemia (exclamation pnt hairs, +ve pull test), 4) keratinization disorder: psoriasis, 5) Trichtilomania

b) **scarring**: SLE, TB, zoster, trauma

ANTI-CHOLINERGICS. (flushing, dry skin and mucous membranes, mydriasis, altered mental status (decreased cognition), increased heart rate)

Anti-cholinergics: Ipratropium, tiotropium, atropine, scopalamine (anti-emetic).

Tricyclics: Amitriptyline (migraine, fibromyalgia, depression, pruritis of systemica etiology).

Safer ones are Nortriptyline and desipramine.

Muscle Relaxants: Cyclobenzaprine (Flexeril)5 or 10 tid

GU anti-spasmodics: oxybutynin, tolterodine (Detrol).

Benadryl, chlorpheniramine.

Antipsychogics & antiepileptics.

BELL=S PALSY:

CM's: Sudden onset over hours. Facial nerve, including forehead bilaterally. ± loss of taste in anterior 2/3 of tongue, v tearing, salivation, and dysacusis (abnormal sound perception).

Image brain, temporal bone and parotid if worsening if no improvement in 3 weeks (most improve by then).

TREATABLE CAUSES

Lyme disease, syphilis, HIV, otitis media, parotid gland tumor,

Untreatable causes: acute demyelinating poly neuropathy (GBS), herpes Simplex: causes the majority, herpes zoster (Ramsey Hunt: Cr N 5, 7, & 8; auditory & visual sx=s.), and other viruses.

ATYPICAL "BELL'S PALSEY":

(A) **TREATABLE CAUSES**: **CVA, tumor**, inner ear infection, DM, or (B) untreatable causes: sarcoid, cholesteatoma, Sjogren's, MS, flu vaccine or AIDP.

Labs: Lyme titer, VDRL, blood glucose, HIV ½.

*Image only if atypical sx's or no improvement at 3 wks. (Image the temporal bone & parotid.)

*Components of severity: (1) Asymmetry at rest and, with exertion; (2) eye closure, (3) forehead wrinkling, & mouth musculature. and (4) mouth musculature.

RX: eye patch; prednisone 60-80 mg X 1 wk if symptoms have been present for ≤ 3 days. If the palsy is very severe, add valacyclovir 1gm TID x 1 wk.

*Follow up at 3 weeks and at 6 months for resolution.

BONE PAIN: Osteomalacia,paget=s,tumor (MM)

BIOTERROR AGENTS:

Pneumonias

Anthrax*

Yersinia (Plague). Droplet precautions.*

Franciscella tularensis (Tularemia)*

Ricin inhaled.

Mustard gas. Decontaminate.

Ventilatory paralysis

Botulism: 5 day latency, with Descending paralysis*

Sarin gas: Cholinergic crisis. Give atropine and pralodoxime.

Cyanide poisoning. Almond odor, ENT irritation, Metabolic acidosis. Give IV Sodium nitrite, then sodium thiosulfate

Ricin ingested: Bleeding, Liver & kidney failure.

Viral

Marburg virus. 7-10 ds, then flu, then V, D, Abd pain, hemorrhage. Aerosol & fomites.*

Small pox: 7 - 10 days latent period, then URI, then rash, then pustules in same stage. Aerosol. Vaccine if < 3ds post exposure.*

*Category 1 bioterror agents.

CELLULITIS

DDx of **cellulitis (deeper dermis)**: Lyme disease, necrotizing fasciitis. Rx: **classic cellulitis (MSSA & strep)** cephalexin 500 QID x 5 ds, evaluate on day 3. **Purulent cellulitis** >> Staph: TMP/SMX DS bid or clindamycin 300 qid or doxy 100 bid.

Erysipelas (upper dermis): Raised, well demarcated red lesion (Looks like Lyme dis or SLE.) Cause: Strep pyogenes. Rx=Keflex

Erythema infectiosum (Parvo B19)

Impetigo: Yellow excrescences. Staph.

Human or animal bite: amoxicillin/clavulanate (Augmentin) 875/125 BID.

Fish tank: M marinum.

Necrotizing fasciitis: swollen, warm, exquisitely tender, woody appearance… followed by fever and systemic toxicity.

CHF: NY Ht 3&4: spironolactone. Eplerenone 25 or 50 mg is given for NYHt2+EF<30% OR (EF≤35% & QRS>130ms) OR Post MI3-14 days & EF≤40% & CHF sx's and/or DM.

All CHF gets an ACEI and a BB.

Entresto (sacubitril-valsartan): If BNP 150+ or chf hosp'n & BNP100-140

Constipation: Causes: CA, hypothyrodism or Meds (anticholinergics, antipsychotics, opiods, Fe, Ca, verapamil, diuretics)

Rx: **½ cup of ALL Bran.** Apple, grapefruit, carrot, cabbagge,, bran muffin. Psyllium (metamucil:

3.4gm/packet, 1 to 3/day). **lactulose (15-30 cc/day),** or **polyethylene glycol (miralax) 1 heaping TBS in glass of water/day**. Senna 25mg (Exlax Maximum strength)/tab 1-2 tabs/d <8 days.
Dulcolax (bisacodyl) 1-2 tabs/day
Diarrhea: Sm bowel overgrowth: hydrogen breath testt
DEMENTIA
Minicog: 3 item recall, clock drawing. Dementia=0 of 3 recalled, or 1 or 2 recalled and abnormal clock drawing (numbers not in sequence or hands on clock incorrect).
<24 cognitive impairment; 24, 25=mild cognitive impairment; 26-30=normal.
Reversible causes of cognitive dysfunction:
Depression, Syphilis, Lyme, hypothyroidism, B12 deficiency, HIV, Drugs (Anticholinergics), gaba-pentin, copper deficiency

Metabolic: Lytes, Ca, LFTs, Creat, Cu, CBC, B12 level, **TSH** (ask about indoor heating for CO).
B12 (methylmalonic acid, homocysteine)

Infections: **Lyme titer, VDRL**, **HIV**, ESR.
(Whipple's disease: arthralgias, abdominal pain, fatty diarrhea, & weight loss)
Autoimmune: ESR.
CNS: **CT scan w/o contrast. (Normopressure hydrocephalus; subdural)**
Acetylcholinesterase inhibitor: Donepezil (Aricept): 5 mg/d >1 month> 10mg/d
NMDA receptor antagonist: Memantine (Namenda): 5 mg/d > 2 months > 10mg BID.

EDEMA: CAUSES OF BILATERAL LEG EDEMA
Hydrostatic: CHF, constrictive pericarditis, restrictive CM, renal failure, chronic venous insufficiency. Osmotic: Nephrotic synd. Local: Neoplasm (Abdominal or retroperitoneal). Meds: dihydropyridine CCBs, Actos, and estrogens.

Mild cognitive impairment: MMSE scoere = 24-25.

Multi-infarct dementia
Parkinsonism (rigidity, resting tremor, retarded movement, festinating gait, non-response to Rx [Age 65+: levodopa/carbidopa 10/100,25/100,25/250. Age<65: Mirapex (pramipexo) 0.375 mg/d >> 0.75/d >> 4.5/d.
DWLB: hallucinations /parkinsonian/ sensitivity to anti-cholinergics & neuroleptics
Fronto-termporal dementia: Neglect of person, behavior to others, no insight, emotional blunting.
Prion disease: rapid onset. Myoclonus, akinetic mutism, extra and pyramidal signs, ataxia and visual changes.
Protein 13-3-3-1 (palindrome). EEG:Periodic Sharp Waves.
Extrapyramidal signs: dystonia, bradykinesia, akathisia, rigidity, tremor.
Alzheimers (ApoE e4): Agnosia, aphasia, apraxia, executive functioning, abnormal clock drawing
Extrapyramidal symptoms: dysregulation of posture and muscle tone: Parkinsonism, akathisia, dystonia.

Chronic or subacute diarrhea etiology: lactose intolerance, IBS, gluten-enteropathy, IBD, HIV (CMV, isospora, microsporidia), giardiasis, C Diff: GDH antigen (glutamate dehydrogenase) (sensitive but not specific), Toxins A&B. Both tests negative > no C Diff. Both positive > C Diff, If 1 + and the other -, do PCR. Rx metronidazole 500 TID x 14 days (sever vancomycin).cancer

Albumin: urine micro-albuminuria: 300 – 500 mg/ gm. Albumin/Creatinine ratio.

Ativan (lorazepam) 0.5, 1, 2 mg. 1 to 4 mg BID. Xanax (alprazolam), forms identical to Ativan. 0.5-1 TID.

Smoking cessation: Begin meds 1 week before quit date. Chantix (varenicline) 0.5 and 1 mg forms. 0.5/d >> 0.5 bid >> 1 bid. **Contraindication: seizure disorder**. Zyban XR (bupropion): 150 mg 1 tab/d >> 1 tab BID.
Nicotine gum: 4 mg dose for 1PPD+ smokers; 2 mg for lighter smokers. Chew every 1 – 2 hours for urge.
Nicotine patch: 7, 14, and 21 mg. For ½+ ppd smoker: 21 x 6wks, 14 x 2wks, 7 x 2 wks or longer. Patch can be removed at night if vivid dreams occur. For < ½ ppd, 14 then 7 mg.

Withdrawing meds … must taper these: Beta-blockers, clonidine, benzos, TCAs, gabapentin over 1 week, any antiepileptic.

DIZZINESS: 4types:1VERTIGO. 2 PRE-SYNCOPE. 3DISEQUILIBRIUM ("off balance, wobbly"), and 4LIGHTHEADED (vague sx's) . Also consider (1) postural hypotension, (2) chronic unilateral vestibular hypofunction (rapid head turning elicits vertigo with duration less than 3 seconds), (3) migrainous vertigo, (4) drugs, (5) fistula. Balance: the Labyrinth contains the semicircular canals and the vestibule (near the cochlea). Sound>external ear>tympanic membrane>maleus>incus & stapes>oval window > cochlea (hair cells) > 8th nerve.

	Focal neuro	Nystag-mus	Tinni-tus	Hear Ing v	Other
BPPV	no	Yes	No	No	Sx's: see 1 & 2. Up & torsional nystagmus is positional, latency of 3-20s, transience (<60s). Severe but walks OK. Resolves spontaneously. Episodic
Vestibular neuritis, vestibular neuronitis, labyrinthitis	no	Yes	No	No	Disabling,sustained, w/ imbalance, nystagmus is spontaneous, suppressed w/ visual fixation, +Head thrust test$. Constant attacks last 3-7 days & do not recur. Rx= methyl-prednisolone:100mg/d divided, taper after 3ds; stop after 22ds.
Cochlear neuritis (above with hearing v)	no	Yes	No	yes	Vestibular neuronitis & chochlear neuritis (hearing loss) constant; head thrust$
Meniere=s	no	No	Yes	Yes	Fullness in the ear. Lasts 3 hours to 2 days. Episodic
Acoustic neuroma Pseudo-tumor cereb	Yes/no	Yes (no latency)	63%	No	Speaking, swallowing and ataxia are sometimes found. For pseudo-tumor: 6th n paralysis, papilledema.
Vertebroba-silar TIA or infarct or cerebellar hemorrhage	Yes	no	no	no	Downbeat nystagmus is instantaneous, lasts >60sec, non-fatiguing (constant). Less severe but falls when walking. Not suppressed with visual fixation. Negative head thrust test.

$ AKA "Head Impulse Test": Patient looks straight ahead and asked to maintain same gaze while head is turned to side of the lesion. A positive test=a saccade (abrupt rapid movement) is required to maintain straight ahead fixation.

(1) The positions can be looking up, lying down, getting up out of bed, or rolling over in bed. Resolves over months.
(2) Posterior semicircular canals, (D=Diagnosis) **D**ix-Hallpike: Sitting>Head 45d to affected side (e.g., right)>patient supine with head over end of bed 20d down. Maintain x 30secs. Nystagmus w/ latency of 3-20 sec=s and last 30 secs. Sitting patient up gives further nystagmus. Repeat maneuver leads to fatigability.

Rx=either habituation exercises (reproduce dizziness), 10 sets, QID or the **E**ply maneuver: Dix-Halpike > Head 90d to unaffected side >head face down>sit up off left side of bed. For horizontal semicircular canal: Supine Head Roll: Patient supine>head turned 90d to each side. Rx=Supine head roll to effected side>rotate head in 3 90d increments from affected ear down to supine to unaffected ear down to prone (Kim J-S. NEJM 2014;370:1138.)
Motion sickness: Benadryl or anti vert 25, 50 mg 1 hr prior to motion.

Systemic Exertion Intolerance Disorder (previous chronic fatigue syndrome): A) Major criteria (all 3 required): (1) profound fatigue w/ limitation, (2) post exertional malaise (physical, cognitive, or emotional), (3) unrefreshing sleep. B) Minor criteria (1 required): (1) cognitive decline or (2) orthostatic intolerance. Rx: graded exercise, methylphenidate (Ritalin)

ADULT ACUTE PHARYNGITIS, FLU & COMMON COLD July 15, 2005

*HIV: oral ulcers, n, v, PM truncal rash, spleen, CNS (6%), Strep criteria.
*Infectious mono: No cough, rash, spleen, GBS, Avoid exercise, give steroids.
*Beta Hemolytic Strep: fever, exudate, anterior cervical adenopathy and no cough.
*Chronic pharyngitis: Mycoplasma, Chlamydia, N Gonorrhea, Pertussis
*peritonsilar abscess, necrotizing gingivo stomatitis, septic thrombophlebitis of the internal jugular vein
*Influenza/ HSV1/ Adeno virus/ Rhino or corona virus.

OTITIS EXTERNA (Q 60, MKSAP 13). Can be bacterial or fungal.

Treatment	Fever	Lymph Nodes	Pinna & Mastoid	Cranial nerves
Steroid+anti-biotic, 4 ggts TID x 10 days(1)	no	No	non-tender	intact
Outpatient, amoxicillin clavulanate.	yes	small or none	non-tender	intact
Rx: 1) clean ear canal, 2) antibiotic, 3) protect ear when bathing (cotton ball covered with Vaseline)				

(1) Cortisporin OTIC (steroid+polymyxin & Neomycin).
Ear wax Debrox: 10 drops BID x4ds
Otitis media with effusion: no antibiotics.
Acute onset OM: antibiotics.

RED EYE 20/60=sign visual loss**.** 20/200=blindness
>**Viral** conjunctivitis. **Hand hygiene** (highly contagious)
>**Allergic conjunctivitis**: Itching, watery d/c. Rx: artificial tears to dilute allergen. Naphcon (otc) 1 drop QID x 4 days; Claritin 1 tab/day. Cold compresses.
>**Chlamydia** (Chronic red eye in sexually active adult). Systemic antibiotics. Referral.
>**GC:** Profusely purulent d/c. Systemic Ab'cs & Referral.
>**Other bacterial**: Purulent d/c. Erythro ointment: ½ inch QID x 5 days & referral.
Other:
>Zoster to nose tip: emergency referral.
>Uveitis ciliary flush, eye pain, v vision.
>Acute angle closure glaucoma: Severe pain, halo around objects, v vision, dilated pupil.
>Endophthalmitis: hypopyon= pus in anterior chamber. Suspect in immuno-suppressed.
>Constitutional symptoms: consider CT disease.

RHINITIS: Allergic/ Inflammatory/ Hormonal/ Rhinitis medicamentosa/ Irritants
Rhinitis-viral: Atrovent nasal 2 sprays QID. Dristan 2 sprays BID PRNx3days only. Sudafed 12 hr
Rhinitis-allergic: Flonase (fluticasone nasal) 1 spray BID; decrease to 1 spray daily when possible. Benadryl. Claritin, OTC 1 tab/d. Azelastine (scrip) 2 sprays bid. Remove carpets etc; humidity < 40%.
Rhinitis-vasomotor: Atroven (Ipratroprium nasal) 2 qid

ACUTE COUGH
Proven effective:
*Naproxen (Aleve) 220 mg, 2 tabs BID,
*Ipratropium (Atrovent) (Contraindications: peanut or soy allergy, narrow angle glau.., BPH, myasthenia gravis).
*Guafenesin (Robitussin)

CHRONIC COUGH.
Don't miss: malignancy, TB or CHF
? Chronic bronchitis
1. Post nasal drip: Distran 2 sprays BID. Atrovent nasal 2 sprays QID (not in peanut or soy allergy). Flonase qid
2. Asthma
3. GERD
4. CHF
5. ACEI: Starts in 1-2 wks (up to 6 months). Stops in 1-4 days (up to 1 month).
6. Pertussis (Azithro 500 x 1, then 250/d x 5 ds.
7. Non-tuberculous mycobacteria (MAC)
Immunocompetent: elderly women, fatigue, malaise, SOB. Tree-in-bud CT. Obtain sputum culture. Rx=INH (or clarithro or azithro), rifamipin, ethambutol.
8. Non-asthmatic eosinophilic bronchitis: fluticasone.
^ sputum eos; -ve methacholine challenge

SINUSITIS. Remember: Chronic sinusitis could be Wegener=s or in youth, it could be cystic fibrosis.
Acute sinusitis, indications for anti-biotic (any of these):
(1)Temp 102+ + [purulent nasal discharge or facial pain] or (2) duration longer than 7 days, or (3)worsening sx=s after initial improvement. Anti-biotic choice:
1) no comorbidities: amoxicillin-clavulanate (Augmentin) 875/125 BID.
2) comorbidities: Double this dose.
Otherwise give Claritin, Pseudafed 12 hr, atrovent nasal (2 sprays QID, and Flonase BID (chronically if necsry)
Complication: meningitis & central vein thrombosis.
For diagnosis of sinusitis in average risk patients, imaging is rarely necessary.

BPH: Rx:1) alpha 1 antagonist, tamulosin .4mg (Flomax), 2) 5 alpha reductase inhibitors, finasteride 5mg (Propecia, Proscar) 5 mg, or dutasteride (Avodart) 0.5mg (more potent… v prostate ca: NEJM 2010;362:1192). Both types are equally effective in reducing rate of progression. The 2 together are more effective than 1 alone.

DX OF DYSURIA in women: UTI, bacterial vaginosis, STDs, trichomonas, interstitial cystitis

Interstitial cystitis = symptoms with a negative U/A. Rx=Elmiron, 1tab TID with water 1 hour before or 2 hours after meals, amitriptyline (25, 50, 75 mg) and Vistaril 50, 100 QID.

Urethritis (men) Ddx epididymitis, prostatitis;
Causes: chlamydia & GC. Dx: NAAT.
Rx:ceftriazone 250 im x 1, azithro 1gm x1

Restless leg syndrome. Urge to move legs, near rest, relieved by movement.
Aggravating factors: diphenhydramine, antipsychotics, TCAs, mirtazapine.
Rx: Cabergoline (dopamine agonist), TCAs

Prostatitis, acute: CM's: fever, myalgias, dysuria, pelvic, penile pain, & very tender.

Prostatitis, chronic: CM's: dysuria, perineal discomfort, lower abdominal pain, genitals and on ejaculation. ± fever. PE: frequently nl prostate. Obtain 2 step prostatic massage: urine then massage 1 minute, then urine. Post massage urine > pre-massage urine for bacteria.

Rx for 6 weeks: Sexually active **with associated urethritis**: Cover for chlamydia & GC as per STD (cefexime 400 x1 or ceftriaxone 250 im x 1 plus azithromycin 1 gm x 1. Gram negatives: Treat as for UTI: Bactrim DS bid or cipro 500 bid x 6 weeks.

URINARY INCONTINENCE
Reversible causes:
1) Meds: Anticholinergics (TCAs, cyclobenzaprine, ipratrium, tiotropium, sedatives, sedatives) Diuretics, alcohol
2) UTI, atrophic urethritis, excess urination,
2) Restricted mobility, stool impaction, Ca.

Urge incontinence: Behavioral. Do timed voids. Kegel exercises, tolteradine (Detrol) 2 mg bid ($4 med) OR Tolteradine XR 4mg qd (May cause cognitive problems), Not in gastric retention, glaucoma, or vHR.
Stress incontinence: Kegel exercises.

UTI: NO cipro (JAMA 2016;316:1404 tendonitis, NS effects)!
Nitrofurantoin (B) (macrobid) 100 bid x 7ds,
or Fosfomycin (Mononural) 3gm x 1; Bactrim DS (D) x 3ds UTI during pregnancy

HEMATURIA. Causes of red urine: Hgb, porphyrin, myoglobin, beets, INH, phenazopyridine
Ddx: Bladder Cancer/Cystitis/Renal Cell Ca/Glomerulo-nephritis/Renal Stones/ BPH/AVM.

TESTICULAR PAIN OR MASSES:
Non-acute: **ALWAYS AN ULTRASOUND**.
Varicocele (varicose veins of testes). Dull ache, increased with standing. Bag of worms around spermatocord, Transilluminates. R/O renal cell ca OR IVC obstruction if unilateral. Surgery if sx=s. Check semen Q2y.
Hydroceole. Gradual onset. Fluid. Transilluminates. Drain & instill sclerosing agent.
Testicular CA. Painless, non-tender, firm. Doesn't transilluminate.
TB Epididymitis: solid mass separate from testicle.
Epididymal cysts: cysts are separate from the testis.

Acute testicular pain
1) Testicular torsion: 15-30 yo, acute very severe pain, difficulty walking, abd pain, n, v. Exam: Severe pain. Bell clapper abnormality. With elevation of testis, pain worsens or gives no relief. Lab: US. Immediate surgery.
2) Epididymitis. Includes systemic symptoms. May have hydrocele. Improvement of pain with elevation of testis. U.S. if question.
Rx: < 35 y.o. treat as if for chlamydia and gonorrhea. ceftriaxone 250 im or cefixime (Suprax) 400mg PO. Azithromycin 1gm or DOXY 100bid x 7ds

GERD:
Ddx: CAD, Cancer, DES, non-ulcer dyspepsia, PUD, infectious esophagitis (HIV>> candida, CMV, herpes), pill esophagitis, eosinophilic esophagitis, achalasia
Red flags for an EGD: no response to a PPI for 2 months.

Breath test or stool antigen for H Pylori: no PPI for 2 wks.

PPI: **Give this on an empty stomach**; it predisposes to B12 def, C diff, & hip fracture.
Prilosec (omeprazole) 20, nexium 20 mg, protonix 40 mg, prevacid 15 or 30 mg
If symptoms are refractory and w/u is negative, try PPI BID or MOM 1 TBS QID.
Possibly one would do impedance & pH testing.

Gout: Ddx: **septic arthritis**, pseudo-gout (calcium pyrophosphate deposition disease=chondrocalcinosis), RA, seronegative spondylo-arthropathies (reactive arthritis, psoriasis, IBD associated, ankylosing spondylitis), osteoarthritis.
Early x-rays possibly show chondrocalcinosis; Late in the course, x-rays show erosive changes.
Rx: Acute gouty flare: 1st choice if no CKD: **NSAID**: Naprosyn (naproxen) 500 mg or Aleve (otc) 220 mg, 2 tabs BID x 5 days. 2nd choice: **Colchicine** (not with statins or apple juice) 1.2 mg, then in 1 hr: 0.6 mg, then BID: 0.6 mg. 3rd choice or 1st choice if GFR<30: **Prednisone:** 50 mg x 2 days then taper.

Prophylaxis: NO renal insufficiency: allopurinol (100 or 300 mg tabs), then increase Q 2 weeks to 600. If renal insufficiency, reduce dose. Target < 6 mg/dL. Max 800 mg. Renal insufficiency: Febuxostat 40 or 80 mg (10 x more expensive). To prevent flare use Naproxyn 500 BID

HEALTH MAINTENANCE

Screening: <Age 65 and CV risk:

*Lipids: risk factors: women 35+, men 35+; no risk factors 45+, 35+

*DM: Age 45+ or Hypertension or hyperlipidemia; Age 40+ & overweight + RF (inac-tive, +FH, hi risk enthnicity, HDL<35, TGs 250+). Repeat Q 3 yrs

Age 65-74:AAA, abdominal US in smoking h/o.

Vit D screening: see below.

*Aspirin in 1) diabetic or 2) increased CV risk:

Age	Men MI prevention Minimum 10 year risk	Women CVA prevention Minimum 10 year risk
45-59	4%+	3%+
60-69	9%+	8%+
70-79	12%+	11%+

Cancer screening

PSA benefit at 10-20 ng/ml. Not at <10 ng/ml.

Breast Q 2 yrs: at age 50+;If age 40-49, discuss.

Cervical: begin at age 21. Pap Q 3 years; PAP + HPV q 5 years.

CR colonoscopy Q 10 years, age 50+

CT lung annually: age 55-74 & 30 pack year smoking in past 15 years.

Infectious disease screening:

Hep B: SE asia, STD risk, HIV, IVDU

Hep C: ESRD, HIV, born 1945-1965.

STDs: see STDs page 19.

TB: 1) Any age: (a) new infection: close contact under treatment, casual contact untreated, IVDU, resident or employee of homeless shelter or prison; (b) reactivation: 1) HIV, transplant, lymphoma, 2) < 65 y.o.: DM, steroids; 3) < 50 y.o. Hi prevalence country. (Africa, Asia, India, Pakistan)

TB, PPD interpretation:

PPD +ve at 5 mm+: Hi risk areas (developing countries, E. Europe), immunosuppressed, close contact with a treated, non-coughing patient, casual contact with a coughing untreated TB patient, CXR with fibrotic features, silicosis.

PPD +ve at 10 mm+: Workers and institution resident, DM, ESRD, bariatric surgery, IVDU.

PPD is +ve at 15 mm+: other patients.

*TB isolation in AII (airborne infection isolation): Cough 2+ weeks and (fever, weight loss, unexplained respiratory sx's, HIV).

*3 sputums, 1 early AM, spaced 8 hours apart, 1 NAAT

*INH, rifampin, & pyrazinamide cause hepatitis. Discontinue if bili > 3 or Ast/Alt > 5x ulnrml Monitor hepatitis after baseline by history.

Ethambutol : monitor monthly for retinopathy.

Vaccination:

*TDAP x 1; TD q 10 yrs

*HPV: men ≤ 21

≤ 26:women, MSWM, immunosuppressed, HIV

*Zoster at age 60+ (**LIVE Vaccine**)

*Meningococcal vaccine: dormitory

*Hep B: IVDU or multiple sex partners

*Flu annually. Eats eggs: any vaccine. Hives w/ eggs: RIV3

*PNEUMOVAX:

<age 65, intermediate risk (DM, CAD, COPD): PPSV23

<age 65, high risk (ESRD, organ transplant, other immune suppression, lymphoma or leukemia): PPSV 13 >> 2 months >> PPSV 23

Age 65+ without prior vaccination: PPSV 13 >> 2 months >> PPSV 23.

Age 65+ and vaccinated prior to age 65, 5 years earlier, give PPSV 23.

*Flu vaccine: Patient is < 65: standard dose. Patient is 65+: Hi dose if available. vaccine-induced symptoms: cold symptoms and diarrhea.

*Flu infection: Shedding ceases after 1 week (could affect whether patient is in negative air flow room).

*Live vaccines: Zoster, MMR.

Hypogonadism in adult male

Sx's: Decreased libido, hot flashes, infertility. PE: Gynecomastia & decreased hair & muscle mass.

Diagnosis: 8AM **total** testosterone. If obese or aged (increased T binding), T will be spuriously low. Measure **free T** by a specialty lab. Free T is usually calculated from Total T, SHBG, and albumin.

If T is low, repeat and measure LH and FSH.

Loss of libido is the most specific symptom.

Erectile dysfunction, weakness, and muscle mass loss occurs when T is less than 200.

Administering T increases the PSA by 0.5 mg/dL

CAUSES OF HYPOGONADISM:

2) Secondary: LH and/or FSH are normal or low.

Increased prolactin, hypothyroidism, infiltrative causes (hemochromatosis, sarcoid, eosinophilic granuloma), renal & liver disease & HIV

1) Primary: LH and/or FSH are high: renal & liver disease & HIV, Klinefelter's and cryptorchidism

Klinefelter's syndrome: increase leg length, decreased virilization (small, firm testes, gynecomastia), decreased language understanding.

Treatment:

*The role of testosterone replacement in men age 60+ is uncertain.

*Screen for prostate ca in men age 50+ or in blacks.

*Measure Hgb at baseline, at 3 months, then yearly.

*Measure T at 3 months and then Q 6-12 months.

*Treat underlying disease.

*Testosterone enthenate injections 150 to 200 mg

every other week (best price). Self administered. *Androgel 1%, 50 -100 mg to shoulder and either upper arms or abdomen QAM. (most expensive).

E.D.: sildenafil 25, 50, 100 mg, $18/tablet.

Polycystic Ovary Syndrome (PCOS)
Criteria, Rotterdam criteria (2003): amenorrhea or oligomenorrhea, clinical or laboratory hyperandrogenism, PCOs on imaging.
NIH criteria replaces the last with **rule outs: Tumor, pregnancy**, hypothyroidism, hyperprolactinemia, Cushings, and CAH.
Mechanism: ^ LH/FSH>>blocks conversion of androgens to estradiol>decreases negative feedback of estradiol on LH release from hypothalamus >> ^LH/FSH. Also ^LH/FSH >> v insulin response.
Labs: Pregnancy test. DHEA, total and free T, androstenedione, prolactin, tsh, fbs, lipids, LH, FSH. HS salivary cortisol to r/o Cushings.
Treatment:
No pregnancy desired
*Improve regular menses & reduce androgenicity: Loestrin (1.5/30: estradiol/norethindrone)
*Spironolactone 50 – 200 mg/day (contraceptive required because of feminization of male babies.)
*Eflornithine topical BID. (anti-androgen)
Pregnancy desired, induction of ovulation:
*Pregnancy test
*Clomiphene (Clomid) 50 mg/day x 5 days. May repeat after 30 days.
*Metformin: decreases insulin resistance, improves Clomiphene response & menstrual regularity.

DDx butterfly rash: SLE, erysipelas (strep) (Keflex), rosacea, erythematous: mirvasa (brimonidine) pea size over face, pustular: topical metronidazole 1%; or doxy 100 bid, demodex (mite) infestation (permethrin cream, ivermectin). Less common: periorbital dermatitis (stop steroid), seborrheic dermatitis (topical ketoconazole cream bid or shampoo 2x/week x 4 weeks+1% hydrocortisone cream). Erythema infectiosum.

Psoriasis: (30% have poly arthritis). DDx: Eczema, lichen planus simplex, tinea, seborrheic dermatitis, mycosis fungoides. Oncholysis from psoriasis vs onychomycosis.

Psoriasis, mild-moderate, treatment:
1) emollients (petroleum jelly)
2) steroid topical (see skin)
shampoo: clobetasol .05%, apply thin film, QAM, leave on for 15 min's, add water, lather, rinse x 2 weeks only.
2) Anthralin cream rub gently into skin and wash off in 5-10 minutes; shampoo QOD, leave on 30 min's.
3) Vit D analog=Dovonex cream 60 or 120 gm BID.
4) Retinoid=Tazorac (tazarotene) **(X, pregnancy test).** HS: initial: 0.05%; Burns. If tolerated increase to 0.1% cream. No more than 20% of BSA. 60 gm.
5) Calcineurin inhibitor=Tacrolimus ointment 0.03% to 0.1% (Protopic), 30 or 60 gm tube). Burns. This may be used carefully on the face or groin.
Psoriasis, severe, treatment: = phototherapy and/or topical methotrexate.

Pneumonia CURB65: confusion, urea >20 mg/dL, Respiratory rate > 30/ minute, BP < 90/60, Age 65+.
Rx: No comorbities or prior antibiotics: azithro 500 x1, then 250/day x 5 days. or doxy 100 bid.

*Ottawa ankle rules for imaging: 1) inability to bear weight or 2) tenderness on medial or lateral malleolus.
*Ottawa foot rules for imaging: tenderness at base of 5th metatarsal or Navicular bone.
*Ilio-tibial band syndrome has worse pain walking up or down steps.
*Morton's neuroma occurs between 3rd & 4th toes.
*Ulnar nerve entrapment: Elbow pain with flexion of the arm.

*Estrogen use in a smoker causes DVT or PE. Use progresterone OCP (norethindrone)
*IUDs have the lowest failure rate and cost.

Somatization disorder: Sx's prior to age 30, occurring over 4-9 years: 1) 4 pain sx's, 2) 2 GI sx's, 3) pseudoneurologic sx's, 4) sexual sx's.

Gluten enteropathy: Onset of Sx's = weeks to yrs. CMs: diarrhea, wt loss, abdominal bloating. Less common: Psychosis, v memory, depression, HA, dermatitis herpetiformis, oral ulcers, peripheral neuropathy, Fe and vitamin D deficiency, osteoporosis. ^ AST/ALT
Similar symptoms:
Gluten sensitivity: no enteropathy. Interval hrs to days'
Wheat allergy: onset interval minutes to days)
Rx: No wheat, oats, rye, barley, beer. Rice & corn are o.k.

Autoimmune hepatitis: anti smooth muscle ab.
Primary biliary cirrhosis: anti mitochondrial ab.

Acid-base: metabolic alkalosis: differentiate caused by vomiting from diuretic: urinare chloride < 20 vs 20+

P=prevalence. Odds of disease=P(1-P)
Positive Likelihood ratio, test +ve = Sens/(1-Spec).
Negative likelihood ratio: test –ve: 1-Sens/Spec
For post test odds of disease:
Test +ve: OR = (P/(1-P)) * (Sens/(1-Spec))
For post test odds of disease:
Test –ve: OR = (P/(1-P)) * ((1-Sens)/Spec).
For disease probability: OR/(1+OR).

Glaucoma meds cause systemic sx's (syncope w/timolol)
Shoulder exam:
AC impingement: Neer Test (pronate arm in front of body and raise overhead.)
Supraspinatus impingement: Hawkins test: elbow forward at 90 degrees with forearm at 90 degrees and internally rotate. Empty can test.
Infraspinatus: elbow at side bent at 90 degrees and rotate externally against resistance.
Subscapularis: hand over back at about T8 and attempt to "lift off" against examiner.

Depression: PHQ9: up to 27. Score of 10+ = depression. r/o hypothyroidism. Consider mirtazapine (remeron); trazadone (oleptro).
Celexa 10,20,40; Lexapro 5,10,20,, Prozac 20,40

PERIPHERAL ARTERIAL DISEASE
Signs: LE "peripheral neuropathy", limb fatigue, heaviness, ED, LE hair loss
ABI: 0.9-1.3 = normal, > 1.3 = stiff vessel, Do Toe/Brachial (TBI).
0.89-0.60, 0.59-0.4+; <0.39 = mild, moderate, severe, respectively.
If ABI is normal, what is the DDx: DVT, Arterial (aneurysm, dissection, embolus, thrombo-angiitis obliterans), Nerve (peripheral neuropathy), Skeletal (OA, spinal stenosis, entrapment syndrome)
Rx: Smoking cessation; exercise as tolerated; Antiplatelets: aspirin, ACEIs (HOPE … improves pain and walking time).
Pletal (cilostazol) 50 then 100 bid **(not in chf).**

Renal stones. CT scan is gold standard. Xray detects stone > 5mm. Will only detect calcium stones. Labs: Ca, phosphate, U/A: No hematuria does not exclude renal stones. Hypocitraturia. (must replace with potassium citrate for urate stones and will form crystals with calcium). Stone size: < 5 mm will pass; 5-9 mm frequently passes, 10+ mm never. Facilitate passage: tamsulosin 0.4mg; nifedipine XR 30 or 60.
Prevention: 2 L/d, low sodium, thiazide, K citrate 30 mg BID. Uric acid stones: allopurinol.

Subclinical **hypo**thyroidism (TSH hid (>4.5), FT4 normal, no symptoms). **If symptoms, then Treat!**

TSH	Age	Treat
4.5-6.9		No
7.0-9.9	70+	No*
7.0-9.9	< 70	Yes
10+		Yes

*Because normal TSH in the elderly is higher than the normal TSH **in youth.**

Subclinical **hyper**thyroidism (TSH Lo (<0.5), FT4 normal). **If symptoms, then treat! (methimazole 5, 10 mg, 1 to 2 TID)**

Risk factors	Age 70+	TSH	RX
Yes			Yes
	Yes	< 0.1	Yes

*Risk factors = cardiovascular disease risk factors or osteoporosis risk factors or those diseases

Thyroid nodules >> TSH & U.S..
TSH nl or hi & Suspicious nodules (irregular +/- calcification, 1+CM): Biopsy.
TSH nl or hi & no suspicious nodules: Biopsy the largest.
TSH lo. Radio-iodine scan: 1 or more non-functioning nodule, suspicious: biopsy
TSH lo Radio-iodine scan: functioning nodule, FT4 hi: treat.
TSH lo Radio-iodine scan: functioning nodule, FT4 nl: manage subclinical hyperthyroidism

If TPO antibodies are present, treat this patient because it suggests progression to overt hypothyroidism.
At age 80+, normal TSH is < 7.5 mU/L. Thus, dose of synthroid is lower in the elderly.

Take synthroid 1 hour pre meal.

Start 1.6 mcg/kg/day (e.g., 125 mcg), regardless of magnitude of TSH. 80% of that in the elderly.

PAIN: hand, wrist, HA, IBS, chronic pain, fibromyalgia, back pain.

Hand & wrist pain

Entity	Symptoms	Sign	RX
1st carpo-metacarpal degenerative arthritis (pain at base of thumb)	women 30 to 60 y.o.	Crepitus. Watson=s test: rest hand palm up fingers & thumb extended; downward pressure causes pain	Splinting& NSAIDS, possibly inject steroids
DeQuervain=s tenosynovitis: radial styloid proximal to anatomic snuff box.	Post pregnancy, repetitive hand work	Grasp thumb under fingers and passively deviate the wrist to ulnar side>> pain over radial styloid.	Splinting & NSAIDS. Steroid injections.
Carpal tunnel (JAMA 2000;283:310.) Best signs: Katz Hand diagram(1), thenar abduction, hypoalgesia.(2)	Tingling or pain of palmar digits 1-4, thenar eminence, dorsal finger tips1-4.	Phalen=s:One minute of wrist flexion. S&S:68&73 Carpal pressure x 30 sec=s: S&S:64&83%. Tinnel: S&S 50 & 77%. Square wrist sign and closed fist sign. Nerve conduction studies are used to confirm.	Splinting & NSAIDs. Steroid injections. Steroid PO.(1) If no effect, then refer to surgeon.

(1) Katz classic: 2 of digits 1, 2 & 3 but no palmar or dorsal sx=s. Probable: Palm symptoms allowed unless confined to ulnar aspect. (2) Co-morbidities: Fracture 13%, RA etc 6.5%, Menopause 6.4%, DM 6.1%, OA 5.3%, hypothyroid 1.4%. Other: amyloid, acromegaly.

HEADACHE

1.Migraine simple Dx:NFL (Nausea, Functional limitation, Light sensitivity.

1. Migraine (research). 5 attacks:
1) 4-72 hours.
2) 2+ of severity that is moderate-to-severe/ unilateral/ throbbing/ decreased activity
3) 1+ of N&V/ phono and photophobia.

With Aura: 2+ attacks:
1) All reversible, and 1 or more: sensory/ visual/ speech/ brainstem/ motor/ retinal.
2) 2 or more of the following:
a. unilateral sensory or visual
b. Onset takes 5+ minutes
c. duration 5- 60 minutes
d. HA within 60 minutes
3) No other disorder.

Image only if abnormal neuro exam. Triggers are chocolate, caffeine withdrawal, red wine, cheese, MSG and fatty foods. Image only if abnl neuro.ASA & metoclopramide
Rx: sumatriptan 50 mg tabs (9 tabs).
Sumatriptan nasal: 20mg 1 spray, (6 doses).
Compazine (prochlorperazine) 5, 10 mg.
Migraine Prophylaxis:
***Vitamin B2 riboflavin, 100 mg tabs * 4 (400 mg) D**ysmenorrhea=B1 (thiamine), **H**=B2 **(riboflavin)**
*Metoprolol 50-100 BID,
*Trokendi XR 25, 50, 100, 25 to 100/d (topiramate)
*Depakote DR 500 tbs, 1-2x/d
*Amitriptyline 25 or 50 HS

2. Tension
3. Medication overuse: >15ds/mo x 3mos.
4. Cluster: Autonomics including Horner=s: Rx: Acute: O2 inhalation 7L/min. Subcu sumatriptain. Prophylaxis: Verapamil, lithium, prednisone PO, valproate.
5. Hemicrania: Autonomics. Rx = Indomethacin.
6. Trigeminal neuralgia

DON'T MISS DIAGNOSES:

7. Giant Cell Arteritis (Temporal arteritis) (S&S = 90%+ when there are 3 of these 5: age50+, localized new HA, jaw claudication, TA tenderness, or ^ESR>50 (99% sensitive). The gold standard is biopsy. One can see fever, malaise, peripheral synovitis, hematuria(1/3), bruits of axilla, brachial, carotid arteries**),**
8. Vascular: SAH, Subdural hematoma, CVA (intra-parenchymal hemorrhage or ischemia), carotid artery dissection, vasculitis, aneurysm.
9. Mass lesions: tumor, idiopathic intracranial hypertension (pseudo-tumor cerebri)(HA increased with cough or lying down, visual chngs, tinnitus, 6th n palsy, papilledema), normal pressure hydro-cephalus.
10. CNS Infections: Abscess, encephalitis, Meningitis
11. CO poisoning.

DANGER SIGNS FOR HEADACHE:
Abrupt onset, Thunder clap HA.
Worsening HA.
Worse with valsalva, cough, or exertion.
Wakes at night.
New HA in elderly or on anti-coagulant or anti-platelet agent or NSAID
Systemic symptoms.
Neurologic symptoms.
Infection, HIV, rash, pregnancy, head trauma.

Hearing loss: 1. Idiopathic (majority); 2. Tumor, CVA, MS. 3. Less common: Meniere's, autoimmune, Lyme dis, peri-lymphatic fistula. **Rx (must start in 2 wks)**: Prednisone 60 x 4ds; taper over 12 days (10mg/2 days). (Rauch SD. NEJM2008;359:833)

H Pylori Rx x 2 wks: 4 med rx: **Pylera** (subsalicylate 262 mg, metronidazole, tetracycline) 3 tabs QID x 14 days + Prilosec20x2. Or: Bismuth,

metronidazole 500, tetracycline 500 TID. PPI BID x 14 days. Prevpac 1 bid 14 ds (chlarithromycin, amoxicillin)

IBS (irritable bowel syndrome): Criteria: 1) The pain is for at least 3 days/month with onset of any symptom for at least 6 months. 2) Pain is associated with a) a decrease in pain with defecation, b) a change in stool frequency, and/or c) a change in stool appearance. With 2 of 3 of these the +PV=98%.
r/o gluten enteropathy & lactose intolerance.
RX: **Diarrhea predominant:**
1) BRAT:Banana, Rice, Applesauce, Toast
2) Anti-tissue transglutaminase (ATTG), 2 week trial of gluten free diet (no wheat, rye, or barley).
(may also have gluten sensitivity occurs in hrs to days of gluten intake rather than wks to yrs)
3) Trial of Lactose free diet.
4) D/C caffeine, estrone, or estradiol).
5) Loperamide (Immodium) 2 mg after each unformed stool to a max of 8x daily, PRN
6) Amitriptyline 10, 25, 50, or 100 HS.
7) Other:
Lotronex (Alosetron)
Viberzi (eluxadoline)

Constipation predominant: (JAMA 2006;295:925.) See page 3.
R/o ca, anticholinergics.

Pain predominant:
Tricyclics.
Bentyl (Dicyclomine) 10, 20 mg forms, 20-40 mg QID (anti-cholinergic, dizziness in 40%)
Levsin (Hyoscyamine)
Xifaxan (rifaximin)

Motion sickness: diphenydramine; meclizine (antivert) 25-50 mg 1 hr prior. Warnings: drowsiness; BPH; glaucoma; pud; elderly.

Menopause (Dx: ^FSH & LH): median age of onset 48. If suspicious, rule out pregnancy, hypothyroidism, and hyperprolactinemia..

HOT FLASHES: Gabapentin 300 tabs, 300-600 TID; as good or better than paroxetine 12.5mg or 25mg (JAMA 2006;395:2063).
*OCPs: lowest dose: Estrogen/Progesterone combos:
Femhrt OR Jevantique lo THEN Jenteli
Estrogen only: Premerin OR Cenestin THEN Estrace 0.5 then 1mg
*Women with a uterus: Prempro (estrogen/mpa 0.625/5) Prempro is contraindicated in CAD, CVA, VTE history, & breast cancer, or risk of 10%+.
*Women without a uterus: Premarin 0.625.

Vaginal dryness:
*Vagifem Estradiol tablets,
insert 1 tab/day x 2 weeks, then 2x/week.
*Estring ring 2 mg per 90 days
These will have no systemic absorption.
*Vaginal moisturizers (Me Again 2 to 3 days before intercourse.)
*Astroglide is used just before intercourse.

Vitamin D deficiency and calcium:
CM's (long duration & severe): muscle weakness, tenderness, difficulty walking, fractures.
Whom to test: postmenopausal women, men age 70+, NH residents, dark skin, obesity, fractrs, malabsorption.
If Vitamin D deficiency found (< 20 IOM, <30 endo societies), r/o gluten enteropathy: Anti-tissue transglutaminase or anti-endomesial antibody, 2ndary hyperparathyroidism.
Rx: 50,000 IU D3/wk x 6 weeks; then 1,000 IU/day.
If obese, give 2 x usual dose.
*Citracal Maximum 1 tab bid (1260 mg & 1,000 IU).
*Calcium Carbonate (TUMS) 2 tabs tid=1200 mg elemental Ca / day plus Cholecalciferol 1,000 IU/day.
*Calcium will block absorption of T4.

Osteoarthritis: Dx by H & P. Ddx: RA, seronegative spondyloarthropathies (IBD, reactive arthritis, psoriasis, ankylosing spondylitis), gout, hemochromatosis (hook like osteophytes at MCP joints, C282Y gene)

Osteoporosis:
*Screening and diagnosis: Dexa for **(a)** women age 65+, (b) women < age 65 & high risk, & (c) men with evidence of osteopenia (low trauma fractures, osteopenia on x-ray, loss of 1.5" in height) or at very high risk (e.g., steroids).
A Z score $\leq$ -2.5 = osteoporosis; - 2.5 to -1.0 = osteopenia; $\geq$ -1 = normal.
If osteopenia, do FRAX. If high score, then bisphosph.
*If osteoporosis or osteopenia is identified, r/o vitamin D deficiency, hyperparathyroidism, gluten enteropathy, hyperthyroidism, & multiple myeloma: Cr and Ca in serum & urine; PTH, 25 Ho-D, TSH, anti-tissue transglutaminase, anti-endomesial antibody. If elderly and Calcium is increased, consider MM ("A BIRCH")

Prevention of fractures:
If osteoporosis or high fracture risk (FRAX=20%+ or hip fx risk=3%+) then bisphosphanate.
*Vitamin D and calcium testing & repletion (above)
*Alendronate (Fosomax) (35 mg tabs) 35 to 70 mg/week or 5 to 10 mg/day (5mg tabs) OR
*Risedronate (Actonel) 35 mg/week (35 mg tabs) or 5 mg/day (5 mg tabs). Give for 5 years then 1 year off.
*Ibandronate (Boniva) 150 mg **Q month**.
*Zoledronic acid (Reclast) 5 mg iv/year
Contraindicated for Cr Clearance <35. Take 1 hour before eating; remain upright for 1 hour.
*Evista (raloxifine) will increase bone density & is given if a) intolerance to bisphosphonates or b) there is a concomitant need to prevent breast cancer (e.g., h/o breast cancer or family h/o early breast cancer) but no h/o DVT or propensity to clotting.
Compression Fx's: calcitonin nasal spray, 1 each notstril

PAIN:

MEDICATIONS:
*Naproxen 500 BID (Naprosyn, prescription)
*Naproxen 220 mg (Aleve, OTC)
*Acetaminophen (Like Naprosyn) 500 BID (325 OTC) or 500 x2 in AM and 500 x1 HS

*Ibuprofen in elderly (Advil, Motrin) OTC 200mg up to 4 Tabs QID, or scrip: 400, 800., 1-2 QID. Max 3200/day
*Reduce dosage in elderly, renal or liver disease.
*Topical NSAID: diclofenac topical gel (Solaraze 3%, 100 gm tube). Apply QID.
*Constipation is a nearly universal side effect opioids. Fecal impaction may present with diarrhea, urinary retention or delirium.

Herpetic neuralgia: topical lidocaine cream
Trigeminal neuralgia: carbamazepine (Tegretol)

Urine tox screen does not detect methadone.

Begin the new opioid at 2/3 the equianalgesic dose
Oral rescue doses are 10% of the total daily opioid dose
Lower the starting opioid dose by 25-50% in elderly
Daily bowel regimen with stimulant laxatives

Fentanyl is not recommended for the opioid naive.
12 hr delay in onset.
MSIR (15,30mg): 10-30 mg Q4H.
MS CONTIN(15,30,60,100,200mg): 30mg Q12Hr or Q8Hr.
Hydromorphone (Dilaudid) 7.5 mg Q 4 hr.
Oxycodone (Percodan) 30mg Q6hr
Methadone 20 mg Q 6 hr :**avoid in 1st degree AV blck**
Fentanyl (Duragesic) patch: 50 mcg/hour: 1 patch Q72 hours. (25, 50, 100). These interact with CYP3A4 metabolized meds such as azoles and diltiazem.

Fibromyalgia:
DX: Chronic myalgia and arthralgia but no other dx.
Some of the pressure points (N=18).
Anterior: SCM, 2nd CC jnctn, lat epicondyle, greater trochanter, medial knee. Posterior: sub occipital, mid-upper trapezius, supraspinatus, upper outer buttock.
***Do not use NSAIDs**Ψ no better than placebo.
*Exercise training. Acetaminophen. SSRIs.
*Amytriptyline (25, 50, 100 tabs HS)
*Lyrica (pre-gabalin) 75 & 150 mg tabs 75 to 150 BID.

(fibromyalgia, continued)
BACK PAIN (CONTINUED)
Red flags:
On history:
Pain onset age <20 or >50.
Worse on sitting
Unreleaved after 6 weeks
Nighttime pain
Systemic symptoms (e.g., wt loss, fatigue)
H/o cancer
h/o recent infectioin
h/o IVDU
Recent infection
Immunosuppressed state.
Bilateral sciatica
Cauda equina syndrome

PE:

Neuropathic pain: gabapentin (300 QD x1, BID x 1, TID; can increase to 1200 TID. Dosage forms: 300, 600 mg. (cessation taper x 1wk), pregabalin (Lyrica forms: 75 & 150) 75 bid > 150 tid, carbamazepine 200 Gabapentin 300 HS, then TID, then 600 TID. 400 BID, phenytoin 100 or 200 TID, or tricyclics. NSAIDs.
Proprionic acids IF ONE CLASS DOESN=T WORK, TRY ANOTHER CLASS.
Ibuprofen(Advil, Motrin) or Naproxen.

Take last Lyrica dose at HS (somnolence)
*Fatigue: Cymbalta (Duloxetine) 30 >> 60 tab QAM
*Savella (milnaciprin) 250, 50, 100 bid. (nor E &SSRI)
BACK PAIN: (JAMA 1992;268:760.)
DDx: 1) musculoskeletal: spasm, disc herniation, spinal stenosis, degenerative disk disease, spondylolisthesis. DISH. 2) Spinal: ca, infection. 3) Visceral: aortic or renal dissection, GI. 4) shingles. 5 compression frctrs.
Sciatica=pain in dermatome, especially below the knee.
95% of herniations are L4-5 or L5-S1 (L5-Big & S1-Little toe, respectively).
S&S of sciatica for herniation is 95% and 88%.
Cross straight leg: 95% spec for herniation.
Pain on sitting=disc disease;
Pain on bending forward=compression fracture.
Spinal stenosis: increase with standing or pain leaning backward.

Work up/ Treatment:
***PT referral** when back pain is 4+ weeks old.
*Low back pain that is better on sitting and is tolerable w/o neurologic Sx's >> Conservative Rx.
*Low back pain that is worse on sitting, intolerable, or has neurologic Sx's >> MRI.
*Spinal stenosis Dx: pain radiating below buttock (fairly sensitive), decreased pain with sitting (fairly sensitive), increased pain with lumbar extension (fairly specific), positive Rhomberg (poor sensitivity, but high specificity). Imaging is CT. Rx: NSAIDs, PT to reduce lordosis, back care pamphlet, walk to the point of pain, aquatherapy. ? laminectomy.
Lyrica ineffective for sciatica (NEJM 2017;376:1111).

Fever
Point tenderness
Neurologic deficit
Cauda equina syndrome includes:
Hx:
Incontinence of bladder and/or bowel.
Dysuria or straining at urination
PE:
Saddle anesthesia
Loss of rectal sphincter tone
Loss of anal wink: Scratch the anal skin causes reflexive closure of the anus.
Loss of bulbo cavernosus reflex: squeezing the penis or clitoris causes anal wink
Increased post void residual

Rx: Tylenol preferred to NSAIDs (not clinically inferior

to NSAIDs)
Indications for surgery:
Severe intractable pain
Progressive neurologic deficit

Waddell's signs include:
Over reaction to stimuli.
Superficial diffuse tenderness.
Axial loading leads to pain.
Rotating the trunk at the hips leads to pain.
Straight leg raise on sitting is negative but positive on lying.
Pain not corresponding to nerve distribution.

Compression fracture: Intra-nasal calcitonin (Miacalcin s.c.) (inhibits osteoclasts). ^ Ca risk. V Calcium.

Pelvic pain diagnoses:
1) Ruptured corpus luteum occurs before menses and has red fluid on culdocentesis.
2) Ruptured ectopic pregnancy would have an elevated or marginally elevated beta HCG and positive ultrasound. This can exist even with apparent menstruation and positive stool for guiac (see Q 130, MKSAP 12).
3) Ruptured endometrioma has history of chronic dysmenorrhea, negative pregnancy test, and chocolate brown fluid on culdocentesis.
4) PID
6) Dysmenorrhea (idiopathic, IUD, endometriosis, uterine lyomyoma, endometrial polyps)

OPIOD USE: Criteria are 1) specific diagnosis. 2) No H/O drug or alcohol abuse. 3)Negative urine tox screen. 4) Disabling pain. 5) Good adherence history. 6) Medical failure of other medicine.

Mastalgia: Danazol 100 BID x 4-6mos. (dvt risk)

Fluid retention & bloating: spironolactone 100/d.
Overall sx=s: fluoxetine: 20-60/d.

Secondary Dysmenorrhea:
1) **Endometriosis**: (1) Hx: dysmenorrhea, dyspareunia, abnormal bleeding. (2) Pelvic exam: Tenderness; (3) Diagnosis: (a) **Transvaginal ultrasound is 100% S&S**. (b) Laparoscopy to confirm and evaluate the extent. **(4) RX:** (a) **Loestrin**. (suppresses ovulation and thins endometrial tissue); (b) **Synarel (Nafarelin) (X) intranasal spray (GnRH agonist)**. AEs: pituitary apoplexy, ovarian cysts
2) **Other causes**: PID, IUD, uterine leiomyoma, and endometrial polyps.

Primary Dysmenohrrnea: Rx:
***B1 (thiamine) 100 mg has RCT evidence.**
*Loestrin

Parathyroid, hyperparathyroidism: ^ Ca, v PO4, nl or ^PTH. A fractional excretion of calcium= FECa=(Uca/Ucr)/(Sca/Scr)
FECa >1% confirms hyperparathyroidism.
Indications for surgery: < age 50, renal stones, increased creatinine, osteopenia/osteoporosis.
Obtain DEXA scan

PREOP EVAL:
FOR APPARENTLY HEALTHY PERSON: **ASK THESE QUESTIONS**:
For major surgery, get Hgb. For patient on diuretic or hypertensive, get lytes+. For age > 50 or for major surgery, get Creatinine. For age >60 or pulmonary disease, get CXR. Get EKG for men & women age >40 & >50 respectively, CAD equivalent, CAD risk factors, diuretic use, or Major surgery. Pregnancy test.

Cardiac Risk:
Very high risk patient requires delay of surgery and modification of risk. 4 conditions: 1) Recent MI, UA, recent PCI. 2) Serious arrythmias, 3) Decompensated CHF 4) Severe valvular heart disease.
SURGICAL RISK:
High: Major vascular surgery (aorta, PVD, valvular) or prolonged surgery with large fluid or blood shifts or loss/
Intermediate: CEA, ENT, intra-peritoneal or thoracic, orthopedic, or prostate./
Low: endoscopic, superficial, cataract, breast surgery.
PATIENT RISK:
The following are considered Aminor predictors≅ when occurring alone: age, low functional status, irregular rhythm, stroke history, and uncontrolled hypertension. By themselves they do not predict operative risk.
Assign Goldman risk factors: Mnemonic device: HI4Cs:
Hi Risk surgery, **I**nsulin for DM, **C**AD, **C**HF, **C**VA or TIA, **C**reat>2mg/dL.
These go straight to OR:
*Low risk surgery/
*4+ mets regardless of RCRI score.
*Goldman 0 + intermediate risk surgery (regardless of METs)/
*Goldman 3+ and Negative Stress Test in Last 2 years
These go for stress testing:
>(Any Goldman) High risk surgery + <4 mets.
>(Goldman 1 or 2) + (High Risk Surgery OR <4 mets OR CAD)
>Goldman 3+
>CABAG for 3 vessel disease and Left main coronary.

Pulmonary risk: Proven effective pulmonary interventions: lung expansion maneuvers (deep breathing exercises), chest PT, and incentive spirometry.

Polyuria:
Primary polydipsia: gradual onset, psych sx's
Nephrogenic diabetes insipidus: Increase ADH with no increase in urinary osmolality.
Central DI: Increase in serum osmolality with no increase in serum ADH.

Preop Medication management:

Meds	**Before surgery discontinuation**
Statins, PPIs, H2 blockers, anti-Psychotics, valproate, seizure meds	Continue
Htn meds, benzos, allopurinol,Oral hypoglycemic*	Morning of surgery
ACEIs & ARBs	1 day
NSAIDs	3 days
Antiplatelets, TCAs, herbals	7 days
SSRIs	3 weeks

Insulin: Long acting : ½ dose AM of surgery.
Short and intermediate: omit AM of surgery.

HYPERTENSION

Pheo: 24 hr urinary fractionated metanephrines and catecholamines; plasma free metanephrines.

Feature	MEN I	MEN IIa	MEN IIb
H: Pituitary adenoma	66%		
N: Parathyroid hyperplasia	90%	50%	
Abd: (**P**ancreatic*) neoplasm	70%		
Angiofibroma	65%		
N: Medullary thyroid ca		100%	85%
Abd: Pheo (adrenals)		33%	50%
Marfanoid habitus			80%
Mucosal neuroma[@]			**100%**

*insulinoma, glucagonoma, gastrinoma.
[@]Risk marker for MEN IIb

In ACCORD (NEJM 2010) in DM, the <120vs<140 12% v CVEs, P=0.2) & v CVA 41%, P<0.05.

Prior goal of <130/80 from the HOT trial (Lancet 1998;351:1555), DBP<80 better.

SPRINT trial (stopped at 3.3 years), age 50+ w/ no DM Target SBP <120 BP target of < 140, TM decrease = 27%, CVE decrease = 25%). NEJM 2015; 373: 2103.

AHA/ACC guidelines (Whelton PK 2017):
1.Initiate drug rx: bp 130/80 plus either 10 yr rsk 10%+ or CVD; Others at BP 140/90.
2. Targets: <130/80 for above hi risk groups.
Target <130/80 "may be reasonable" for others.

Acei	lo	med	Hi
Lisinopril*	10	20	40
Enalapril	5	10	20
Ramipril**	2.5	5	10

*Also benazepril. ** also in 1.25.

In blacks, if treatment is optimal and the patient is still symptomatic, add hydralazine 25QID & isosorbid dinitrate, XR 40 mg, 1 to 2 tabs/day.

Target <120/75 if proteinuria
In DM, No BBs (v response to v glucose)
Losartan(Cozaar): 50 or 100/d <24 hr effect
Valsartan (diovan) 80, 160, 320/d
Telmisartan (Micardis) 20, 40, 80/d
Candasartan (Atacand) 4,8,16,32

Insomnia: zolpidem (ambien) 5 or 10 mg.
Lunesta: 1, 2 or 3 mg

SYNCOPE:

1. METABOLIC: Hypoglycemia, hyperthyroidism
2. NEUROLOGIC: seizure, migraine.
3. NEURALLY MEDIATED: neurogenic orthostatic hhypotension**/ Vasovagal / Situational/ Carotid sinus/
4. CARDIAC: Obstruction to flow/ Pump Failure (MI) / Arrhythmias.
5. VASCULAR: TIA, vertobrobasilar insufficiency, Subclavian steal
6. Medications

**Neurogenic orthostatic hypotension (Freeman R. NEJM 2008;358:625). Normally, a fall in aortic pressure is sensed by the baroreceptors of the carotid sinus and aortic arch which reduce vagal charge to the sinus node and stimulate sympathetic responses of the peripheral blood vessels and release of vasopressin from the pituitary.

Causes: Peripheral autonomic disorders: diabetes; amyloidosis, immune mediated; Sjogren=s, paraneoplastic)

Primary autonomic disorders: multisystem atrophy (Shy-Drager: Parkinsonism, cerebellar dysfunction); putaminal atrophy on MRI, Parkinsons disease, Lewy Body dementia; pure autonomic failure.

Treatment:

Non-pharmacologic: Gradual postural change; leg crossing, head of bed at 12-20 degrees; minimize anti-hypertensives (trade off); increased fluid and salt intake. Pharmacologic: fludrocortisone 0.05-0.3 mg; midodrine 2.5 - 10 mg 2- 4x/day; pseudo-ephedrine 30-60mg tid.

Hyperkalemia:

Causes: drugs: NSAIDs, non-selective BB, RASIs, MRAs/ Addison's disease
Renal failure., Hyporeninemic hypo-aldo (DM)
Rx: Kayexalate, 1 heaping TBS, 1-4x/day

Hypokalemia:

Causes:: alkalosis (H+ comes out of the cell and K+ goes into the cell,
GI loss, renal loss (diuretics)
Renovascular disease,
Cushings syndrome.
Hyperaldosteronism (Conn's syndr)
Glucocorticoid remedial hyperaldo ACTH receptor tied to aldosterone synthesis.

Liddle syndr: ^ENac, Rx=amiloride
AME: can't metabolize cortisol to cortisone.
Give K+ & lo Na diet. Add progesterone
PRN
KCl 10-20 mEq QID.
Amiloride 5 mg tabs, 1-2 tabs/day ($130).

Prolactinemia (blocks GnRH):
CM's, premenopausal: a- or oligo-menorrhea, galactorrhea. **CM's, postmenopause:** HA, visual loss; men: v libido, ED, gynecomastia. Co-existing endocrinopathies: acrogmegaly (^ IGF1), Cushings, hyperthyroidism.
Causes, physiologic: breast or nipple stimulation, stress. **Causes, pathologic:** prolactinoma, hypothyroidism (TSH stimulates prolactin release), ESRD, and chest wall injury. Antipsychotics, opioids, TCAs, and verapamil decrease dopamine in the hypophysis, which usually inhibits prolactin secretion from the pituitary.
Prolactin concentration: Normal=5-20 ng/ml, idiopathic: 20-100, a significant prolactinoma: > 200 ng/ml
Rx: cabergoline (dopamine agonist) lowest dose and increase. Adverse effects: bipolar sx's, v bp, seizures, somnolence. **Transphenoidal surgery**.
If seeking pregnancy, induce menstruation with clomiphene (clomid) 50 mg x 5 ds.

SEIZURES:
DDx: TSSH: TIA, seizures, syncope, hypoglycemia.
Causes of provoked seizures: Lo sodium, drugs, alcohol, lo glucose, hyperthyroidism, porphyria.
Start meds if 2+ seizures and monitor.
Give folate 0.8 mg in women.
Seizure meds: ^ suicides & v OCP efficacy
For driving in NYS, patient must be w/o szrs x 1 year.

Szr: increased w/ tramadol, buproprion, TCAs, Chantix, cabergoline, & sudden withdrawal from benzos

RETINAL DETACHMENT: Refer in 24 hrs: Flashing lights, floaters, side visual loss, central visual loss

Chronic anticoagulation management in patients going to surgery: Two questions are answered:

a) How soon before surgery is the chronic anticoagulant stopped?
b) Should bridging be used?

High bleeding risk occurs in CABAG or surgery lasting more than 45 minutes.

1. For patients on non-warfarin oral anticoagulants: **No bridging is necessary** due to rapid onset & offset.
Sequence:
*Hi bleeding risk: stop 3 days pre op & resume 2-3 days post op.
*Lo bleeding risk: stop 2 days pre op & resume 1 day post op.

2. For patients on warfarin, one must balance the bleeding risk and thrombotic risk.

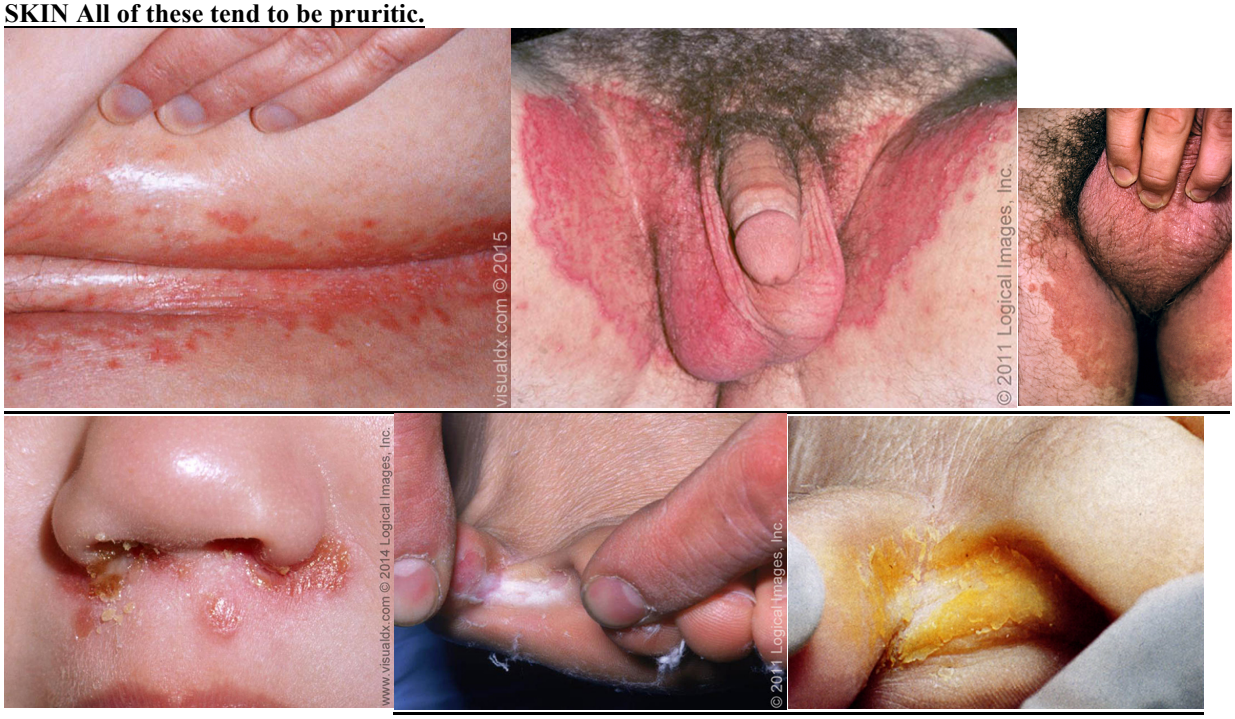
Thrombotic Risk occurs in patients with a mechanical heart value, A Fib, or prior VTE:

Risk	Mechanical heart valve AND:	A FIB AND:	VTE AND:
Very hi***	*A CVA or TIA in last 3 ms OR $*Any mitral valve OR *A cage or tilting valve.	Cva or tia in last 3 months OR $CHA2DS2-vasc 6+	VTE within 3 months OR Severe thrombophilia*$
Hi	Bileaflet aortic valve AND either Afib,Chf, cva, htn, dm, or age75+$	CHA2DS2-vasc 4-5	VTE within 3-12 months, recurrent VTE, heterozygous FV leiden OR prothrombin gene mutation.$
moderate	Bileaflet aortic, no risk factors	CHA2DS2-vasc 2-3	VTE 12+ months

***These are the patients who are bridged.
*Protein C or S deficiency, antiphospholipid ABs, antithrombin 3 defiency, OR homozygous F V L
$Bridging for warfarin, generally with LMWH

Sequence:
*5 days pre op stop warfarin
*2 days pre op give LMWH (not in renal insufficiency)
*1 day pre op, check INR. If INR > 1.5, give vitamin K. Otherwise proceed.

SKIN All of these tend to be pruritic.



Top, left: Candida intertrigo (red): Clotrimazole (Lotrimin) cream: 30, 45 gm tube.
Top, middle: Tinea cruris (red): Ditto
Top right: erythrasma (Corynebacterium) (brown plaques). Topical erythro gel BID 60 gm or Keflex500qid
Bottom left: impetigo (Staph) Bactrobain (mupirocin) TID, Keflex, clindamycin 300 QID
Bottom middle: tinea pedis (white macerated skin) Clotrimazole (Lotrimin) cream.
Bottom right: erythrasma (Corynebacterium) (interdigital yellow excrescences) Rx: same as in groin.

Non-pruritic
(1) Seborrheic dermatitis (can have mild pruritis): ketoconazole cream BID, ketoconazole shampoo twice weekly x 4 weeks plus topical 1% hydrocortisone. DDx:syphilis, psoriasis, pityriasis rosea (heral patch, abrupt onset), Tinea
(2) Tinea versicolor: Clotrimazole (Lotrimin) cream BID. If widespread: Oral terbinafine 250/d x 6 weeks.
(3) Onychomycosis: terbinafine 250 mg x 12 wks for toes, x 6 wks for fingers.
(4) Molluscum contagiosum (spread as an STD or in wrestlers) skin colored, dome shaped papules, may have dimple or surrounding erythemia, may be on penis, resolves in 9 months, but may be treated with pidofilox.
(5) Periorbital dermatitis
(6) erythema infectiosum, Parvo virus b19.
(7) Granuloma anulare: central clearing, wrists, angkles, dorsal hands & feet, < 5 cm in diameter.
(8) syphilis
(9) hidradenitis supperativa: topical clindamycin 1% solution BID x 4 months.
(10) Folliculitis (staph, fungal). Bacterial: staph: topical clinda & mucopiricin. If no response, oral. No response fluconazole 150 x1.

Acne
*Use non-comedogenic skin products.
*Drying agent: Benzoyl peroxide gel BID.
*Keratinization: tazorac (tazarotene) 0.05% then 0.1% gel **(X)** HS.
*Antibiotic: Erythromycin topical gel BID; Clindamycin topical gel BID
*For androgen state: Loestrin OCPs and Spironolactone, as for PCOS, for 3 to 6 months.

Pruritis: Causes of:

1) Allergic: Contact dermatitis; **Urticaria**: Evanescent rash arms & trunk.

2) Primary skin disorders:
No etiology:
Atopic dermatitis (eczema): Rx: Topical steroids; Protopic (tacrolimus) BID,
Xerosis (dry skin)
Pityriasis Rosea (Herald Patch)
Lichen simplex chronicus (paroxysms of pruritis on lateral arm & calf, posterior neck.)

Lichen planus (flat tyopped, shiny, violaceous polygonal pruritic papules 1-15 cm in diameter on ankles, wrists, and
Psoriasis
Bullous pemphigoid

3) Viral: HIV, hepatitis C

4) Fungal:
a) Tinea Corporis, Tinea Cruris, Tinea pedis, or Tinea Capitis.
b) Candida intertrigo: red, raised, (+pustules): clotrimazol cream (lotrimin) 15, 30 or 45 gm tube. apply BID
c) seborrheic dermatitis

5) Bacterial: Erythrasma (**Corynebacterium)** brown scaly patches sharply demarcated. Rx=Keflex 500 QID or topical erythromycin TID.

6) Infestations: Scabies**; Flees,** Body Lice: Pediculosis corporis and pediculosis pubis, Cimex (bedbugs)

7) Malignancy: Hodgin's disease, lymphoma, mycosis fungoides, polycythemia vera.

8) Other systemic: Iron Deficiency anemia, celiac disease, cholestasis, primary biliary cirrhosis, Renal failure, PCV

General treatment of puritis: Vistaril (hydroxyzine) 25 QID, diphenhydramine 25 mg, gabapentin (300, 600 tabs) up to 1200 mg TID, pregabalin 75 to 150 mg BID, amitriptyline 25, 50, 100 HS. (same as for peripheral neuropathy)

SKIN STEROIDS:
Potency (OCLG): Ointment>cream>lotion>gel>shampoo.
Relative absorption: Genitalia 42. Mandible 13. Forehead 6. Scalp 4. Forearm 1. Palm 0.8. Sole 0.14.
Give ointments of

I.	Clobetasol 30 gm	(0.05%)
III.	Betamethasone 45 gm	(0.05%)
V.	Triamcinolone 30 gm	(0.1%)
VII.	Hydrocortisone (OK for eyelids & groin). 30 gm	(1%)

Pituitary-Adrenal Axis suppression occurs in 3 weeks with high potency and/or high absorption.

DVT AND PE: acp guidelines (Qaseem A et al. Ann Int Med 2007;146:454)
1. Use prediction rules
2. For low pretest probability of DVT or PE obtain high sensitivity D dimer. A negative tests, rules out DVT and PE.
Positive D dimer: repeat US in 1 week.
3. US is used for medium to high pretest probability

Wells prediction rule for DVT:
Each gets 1:
Hx: Cancer/ Immobilization/ Bedridden for 3+ days or major surgery within 3 months
PE: Local tenderness of deep vein/ Swollen leg/ pitting edema/ Calf 3 cm > other leg 10 cm below tibial tuberosity.

Negative 2 for Alternative diagnosis at least as likely as PE.

Low is ≤0/ Intermediate is 1 – 2 / Hi 3+
If score is low or intermediate , do D Dimer.
Wells prediction rule for PE:
Evidence of DVT = 3
Alternative diagnosis less likely than PE = 3
HIP: 1.5 each for **H**eart rate>100/ **I**mmmobilization/ **P**rior DVT or PE
HM:1.0 each for **H**emoptysis/ **M**alignancy.
Low 0-1/Intermediate 2-6/Hi 7+

Candida:
Oropharyngeal, HIV negative: RX: clotrimazole 1 troche dissolved. 5x/day.
Oropharyngeal, HIV Positive and mild & 1st episode: as above.
Oropharyngeal, HIV positive and moderate-to-sever, then Fluconazole 400 on day 1, then 200/d x 14 days.
Esophageal: Fluconazole 800 on day 1, then 400/d x 21 days.

Pericarditis criteria: 1) chest pain (decreased by leaning forward), 2) rub, 3) ECG changes, 4) effusion on imaging.

Endocarditis prophylaxis: Both procedure & Patient history must be present.

Procedure: dental manipulate, or incision of respiratory mucosa.
Patient h/o:
*Prior endocarditis,
*prosthetic heart value,
*congenital valve abnormality;
*cyanotic heart disease, repair within past 6 months,
*MVP with auscultatory regurg

Amoxicillin 2 gm 1 hr before procedure. Penicillin allergy: clindamycin 600 mg

Hepatic fibrosis: non-invasive determination: Fibrosure test (accuracy 95%), Actitest, or ultrasound elastography. For hepatitis C chronic infection, LFTs are normal in 30%

Fatigue: Meds, Heart (CHF), lung (OSA, COPD), liver & renal disease, anemia, hypothyroidism, infections (SBE, HIV).

Contraception:
Injection:
Depo provera (depo medroxyprogesterone acetate, inhibits FHS, LH)
*R/o pregnancy at time of injection
*Dosing: The ideal time is 7 days before the time of anticipated menses; repeat Q 3 months.
(back up contraception is unnecessary & the patient is less likely to be pregnant at time of injection.)

OCPs
Get pregnancy test if last menses is > 1 week ago.
Loestrin 1.5/30 (estradiol/norethindrone) . Always use progesterone (norethindrone 0.35 mg tabs/d) in those with history of DVT, PE or CVD.

Cinacalcet intensifies calcium sensing in the parathyroid gland, decreasing parathyroid hormone.

Gilbert's syndrome: increased indirect bilirubin with fasting, exercise, or stress.

STDs

Disease	Hallmark	Rx
HIV	Flu syndrome, no cough, oral ulcers, rash (70%), spleen (30%). HIV 1&2. If indeterminate obtain viral load. NA copies >2,000 to 10,000/ml likely not false positive.**	
Gonorrhea &Chlamydia	Cervicitis, urethritis, arthritis, skin pustules. PCR on urine. Chlamydia: 75% of women & 50% of men w/o sx's. GC: 15-50% of men & women w/o sx's.(Aptima throat swab)	(Ceftriaxone 250 IM or Cefixime (suprax) 400 PO x1) + (Azithro 1gm PO x 1 or doxy **(D)** 100 BIDx 7ds)** Treat sex partner empirically.
Syphilis	Solitary painless ulcer. Inguinal nodes. VDRL; FTA-Abs	2.4 MU Benzathine PEN Q week x3 OR Doxy 100 BID x 2 wks. Monitor VDRL for a 4 fold drop in titer
Chancroid	Painful multiple ulcers/ PCR on urine.	Azithro 1gm PO x 1 or Ceftriaxone 250 x1.
HSV	Painful multiple vesicles. Fever. Incub 2 - 7 ds. Reactive lymph nodes common. PCR.	Valtrex (Valacyclovir) 1gm tab, 1 BID x 10 ds.
Warts	Send for HPV typing & Cervical ca screen	Podofilex BID x 3days/week for up to 4 weeks (avoid skin)
PID	Lower abdominal pain + uterine, adnexal or cervical motion tenderness; B-HCG	Ceftriaxone 250 im x1, doxy **(D)** 100 bid x 2weeks

*Remember Hep C and Hep B co-infect with HIV. HPV warts: Podofilex BID x 3ds for up to 4 wks. **In PEN allegic: 2gm azithromycin x 1 treats both.

****HIV: Hiv ½ immunoassay S&S=99%+. If positive, obtain HIV 1 vs 2 determination. If indeterminate, perform RNA level.**

Chlamydophila > Chancroid; Calymatobacter (Donovanosis) > lymphogranuloma venerium (LGV); Haemophylus ducrei > Granuloma inguinale

For HSV2 the initial infection may be accompanied by systemic symptoms. Chronic suppressive RX reduces transmission by 75%

ENITAL LESSIONS: Warts (condyloma accuminata, hi risk 16,18,52,56), Fordyce spots, pearly penile papules, SK, skin tags (acrocordons)

TD screening

Group	Screen for	frequency
Women < 25	GC & chlamydia	Annually
Women in High risk groups*	HIV, GC, chlamydia, Syphilis, trichomonas, hepatitis B & C	Annually
HIV infected (women)	GC, chlamydia, Syphilis, trichomonas, hepatitis B & C	Annually
Adult man or woman	HIV	Once
21-65 (women)	PAP Q3 years or PAP+HPV Q 5 years	
High risk countries for Hep B	Hep B	X1
MSWM not HIV infected	HIV, GC & Chlamydia (genital, rectal & pharangeal(if exposed)), Syph, Hep B, C,	Annually
MSWM, HIV infected.	GC & Chlamydia (genital, rectal & pharangeal(if exposed)), Syph, Hep B, C	Annually
MSWW, HIV infected	GC & Chlamydia, Syph, Hep B, C	Annually

*hi risk groups: prior STD, multiple sex partners, new sex partner in past 3 months, inconsistent condom use.

@FTA-ABS (fluorescent treponemal antibody) or new treponemal test: TP-EIA

ULCERS:
Arterial ulcer: **Painful** with claudication, distal to angle, absent pulses, dependent rubor, necrotic base, no granulation; RX: d/c smoking, exercise, **avoid elevation**.
Venous ulcer: **Painful**. Maleoli, distal leg, dorsal foot, leg edema, weeping brawny; present pulses. Rx: **Elevation,** Gell occlusive dressings, compression stockings..
Diabetic ulcer: **Painless**, pressure spots, within callus, punched out. **Avoid elevation** and avoid compression. Rx: Debride necrotic tissue, reduce edema; dry non-occlusive dressing, Custom shoes. Inspect feet daily, dilantin (?)
VAGINITIS

Condition	Clinical	Rx
Yeast	Pruritis, burning, Cheesy. Hyphae on KOH prep	Clotrimazole cream intravaginal HS x 3 ds. Fluconazol (Diflucan) 150mg x 1 **
Bacteria	Painless, Yellow, frothy. Pos. Whiff test with KOH prep. Wet prep: clue cells	Metronidazole gel 0.75% intravag x 5days Metronidazole 500 mg BID x 7days.
Trichomonas	Burning, pruritis, grey d/c, dysprareunia., motile org=ms on wet prep.	Metronidazole 2 gm x 1.

**Contraindicated in pregnancy. If concerns abut pregnancy, use clotrimazole. 2% cream intra-vaginal x 3ds.

Weight gain causes: Meds causing weight gain: steroids, anti-diabetics, and all psychoactive meds (e.g., seizures: Depakote; anti-psychotics: quetipiane; Anti-depressants:paroxetine, TCAs).
PCOS, Cushings, hypothyroidism. Testing: DHEA, TSH, LH, FSH; salivary cortisol at night.
WEIGHT LOSS: Goal: 5% reduction (will v risk for Ht dis & DM).
Weight neutral = 1600 kcal for a 70 kg man (+ 20%). Reduce 500 kcal/day to cause loss of 1b per week.
Those with HTN, CV dis, hyperlipidemia, SSRIs, MAOs, erythromycin, or azoles:

Orlistsat (Xenical) 120 mg tid. Alli (OTC) 60 mg (2 Tabs TID). **(X).** Blocks lipase. Causes ADEK deficiency and ^ INR. Fecal incontinence.

Phentermine-topiramate (Qsymia) 3.75/23-15/92/d. **(X)**. AEs: Suicidality, v Cognition, sedation, CVD, ^ P, renal stones, ^ Creatinine.
Bariatric surgery: BMI 40+ or BMI 35+ with comorbidities.

Women of child bearing age: avoid statins, ACEIs, ARBs, weight loss drugs [orlistat (Xenical or Alli), phentermine topiramate (Qsymia)].

Generalized Anxiety disorder criteria: 1) **excessive anxiety** most days for 6+ months, 2) **can't control worrying,** 3) **Impaired functioning,** 4) **3+ of these 6**: fatigue, muscle tension, hyper sx's: irritability, restlessness, difficulty concentrating, insomnia, 5) Organic causes are ruled out (hyperthyroidism, medication, street drugs). 6) Rule out other anxiety disorders (phobias, ptsd, ocd, psychosis, adjustment disorder).

Rheumatoid arthritis, new criteria, requires a score of 6+:
(1) joint involvement: multiple medium & large joints=1/ 1-3 small joints=2/ 4-10 small joints=3/ >10 joints=5
(2) serology RF or anti-citrulanated peptide antibody (anti-CCP): a) low titer = 2 points/ high titer = 3 points.
(3) acute phase reactants (ESR or CRP) elevated = 1 point ;
(4) Duration: 6+ weeks of these symptoms = 1

Old criteria: 4 of 1) multiple joints, 2) bilateral joints, 3) hands, wrists, involved, 4) morning stiffness, 5) rheumatoid nodules, 6) hand film erosions, 7) ^ RF.

DDx: **erythema infectiosum (ELISA IgM), rubella, Hep B,** seronegative spondyloarthropapthies (IBD, psoriasis, ankylosing spondylitis, reactive arthritis), SLE

Ddx of asthma: Exclusion: methacholine challenge. Hi sensitivity. Confirmation: FEV1 12%+ after bronchodilator OR FEV1 variability at home > 10%.
DDx: **Chronic PE (loud P2), CHF**, GERD, bronchiectasis, CF, hypersensitivity pneumonitis.

RX FOR ASTHMA **(No NSAIDs.. blocks dilation.. or beta blockers)** September 23, 2004

Severity	Albuterol (ventolin)	Low dose inhaled STEROID	Beta agonist long acting	Luekotriene receptor antagonist	Other
Mild intermittent **Sxs < 2 x/wk** and <2 **x/mo** at night.; FEV1, PEF 80%+; PEF variability20%	Y	no	(1)	no	R/o Stridor (upper respirtory obstruction), GERD & sinusitis. Avoid NSAIDs and ASA.
Mild Persistent **Sxs 3-6 x/wk but not daily** ; Night: 3-4x/mo FEV1orPEF 80%+; PEF variability20-30%.	Y	Low dose: Fluticasone (Flovent)	(1)	Alt: Monteleukast (Singulair)	Ditto Aternative is cromolyn or sustained release theophylline
Moderate Persistent **Sx=s daily**, Night: >4x/mo. FEV1orPEF 60-80%, PEF variability30%+	Y	Medium dose.	Salmetrol (Serventdisc)	Alt: Ditto	Ditto Theophylline.
Severe Persistent, Continual Sx=s Limited physical activity, FEV1 or PEF <60%	Y	High Dose; + oral steroid if needed	Ditto	yes	Ditto

	Drug	Trade	dose	Advantages	Disadvantages, Side Effects
Beta Agonist	Albuterol Metoproteronol	Ventolin, Proventil Alupent	MDI 2-3 puffs Q3hr. MDI: metered dose inhaler. (PO med: XR 4 or 8mg BID, but MDI preferred)	Bronchodilation, v hyperinflation, ^exercise cap, Q of life.	Tremor, tachycardia, SVT, v K
Steroid	Fluticasone	Flovent diskus	**DPI 1-2 puffs BID. 50, 100, or 250 mcg/blister**		.
Anti-cholinergic	Tiotropium	Spiriva	One inhalation/day	(similar to salmeterol)	Upper resp inf=n
leukotriene recept antagonist,	monteleukast	Singulair	PO qpm	**v airway inflammation, very safe, use in ASA sensitivity and for singers.	ALower potency≅ Weak broncho-dilation. Rarely eosinohilic vasculitis.
Combo	Fluticasone & Salmetrol	Advair	1 puff DPI BID. Available doses are: 100/50 or 250/50 or 500mcg/50mcg. MDI 2PffsBID.		Salmeterol: ^ QT.
Combo	Budesonide/ formoterol	Symbicort	2 puffs BID, 80/4.5 and 160/4.5		
Combo	Albuterol & ipratropium	Combi-vent Duoneb (nebulized)	1 puff Q4Hr	Combo is synergistic	
Monoclonal ab	Omalizumab	Xolair	<89 KG: 150 mg or 90+ KG: 300 mg. both Q4 weeks		

(1) For asthma, never give a long acting beta agonist alone, but always with fluticasone (NEJM2009;360:1592). In African Americans, salmeterol by itself may increase mortality.
(2) Patients controlled using BID fluticasone can be switched to once daily fluticasone plus salmeterol (Am. Lung Association. NEJM 2007;356:2027).
(3) Powder is preferred over spray because it is used more effect

**use in place of an inhaled steroid or added to inhaled steroid rather than a LABA.

COPD, Diagnosis: (1) Give bronchodilator, (2) FEV1 < 80% and FEV1/VC < 70% = COPD.
DDx: chronic PE, lung ca, TB, CHF, asthma, cystic fibrosis, Alpha 1 anti-trypsin def: +FH, age < 50, CXR: lung bases, abnl LFTs.

COPD Exacerbations:
Cardinal sx's: ^dyspnea, sputum purulence, and sputum volume. RFs: Age 65+, FEV1≤ 50%, 3+exacerbations/yr, cardiac disease.

COPD exacerbation, Indications for hospitalization: Age >65, comorbidities, marked increase in sx's (^^ SOB), h/o frequent exacerbations, h/o prior intubation, poor home support, arrhythmia, no response to therapy.

RX: (1) 1 symptom, increase the bronchodilator but do not give an antibiotic.
(2) 2 - 3 cardinal sx's, Rx: a) no comorbidities: Azithromycin; b) comorbidities: Augmentin 875/125 BID. If patient is at risk for pseudomonas (Rx 4+ in past year; hospitalization in last 90 days; severe COPD): Cipro 500 bid (warn regarding tendon tear).

COPD THERAPY BY STAGE OF SEVERITY

Gold	MRC[@]	FEV1	Exacerbns/yr	hospitalizations	RX	
A	0,1	50%+	0 or 1		Albuterol or ipratropium	
B	2+	''	''		Tiotropium[1] or salmeterol**	2
C	0,1	<50%	2+	Or 1+	Tiotropium[1] + salmeterol	2
D	2+	"	"	"	Tiotropium[1]+salmeterol+ICS Or Salmeterol+ICS+roflumilast (Daliresp)*	2

[@]MRC: 1=SOB with strenuous exercise. 2+ is anything above that.
Tiotropium replaces fluticasone in asthma.
[1]Tiotropium better than salmeterol in preventing exacerbations in mod-severe COPD (Vogelmeier. NEJM 2011; 364: 1093;
[2]Pulmonary rehab slows the rate of decline in pulmonary function.

*A phosphodiesterase 4 inhibitor; Reduces airway inflammation and may promote airway relaxation.

**Spiriva or Servent Diskus.

RX FOR COPD
Indications for antibiotics: Increased dyspnea, sputum volume, or sputum purulence.
Indications for oral steroids: FEV1 < 50% predicted.

Category	Drug	Trade	dose	Advantages	Disadvantages, side effects
Beta Agonist	Beta Agonist, Albuterol	Ventolin, Proventil	MDI 2puffs Q4-6hr prn [1 form only:90mcg]	v hyperinflation, improve exercise, improve QOL.	tremor, tachycardia, SVT, v K.
Steroid	Fluticasone	Flovent Diskus	DPI 1-2 puffs BID. 100, 250 mcg (3)		Cushings begins at 1,000 mcg/day.
Beta agonist	Salmeterol (a)	Servent Diskus	1 puff BID (use only w/ steroid)	longer acting	
Anticholinergic(1) (3)	Ipratropium	Atrovent	2-3 puffs qid	Improve exercise, decrease mucus. Safe.	Acute narrow angle glaucoma, bladder neck obstruction, **BPH,** anaphylaxis, dry cough, paradoxical bronchospasm.
	Tiotropium(1)	spiriva	Inhaled QD. Avoid eye contact.	Daily administration. Selective antagonist(2)	Acute narrow angle glaucoma, bladder neck obstruction, **BPH**, anaphylaxis, dry cough, paradoxical bronchospasm.
Combination	Albuterol & ipratropium	Duoneb aerosol	1 puff 4 to 12 x/day 3ml Q6Hr	Combo is synergistic	**Ditto**
		Daliresp			
O2			Shown to prolong life.	Indications (4)	

For FEV1<60%, give 1 of : long acting B agonist, steroid, or anti-cholinergic. Give O2 for resting PA02<55..
(a) ADVAIR doses 50/100, 50/250, and 50/500. Given BID.
(1). Tiotropium is better than salmeterol (Vogelmeier C. NEJM 2011;364:1093).. For severe disease with frequent exacerbations, give combo therapy with fluticasone + salmeterol (NEJM 2007;356:775).
(2) Tiotropium selectively blocks M1 and M3 receptors; M2 blocks M1 and M3 via negative feedback.
(3) Singh S. Inhaled anticholinergics increase risk for CV death, MI or CVA. RR=1.6 (1.2,2.1). Metanalysis of 17 trials & 14,783 patients. JAMA 2008;300:1434.
(4) Indication: p02< 55 OR O2%< 88% OR p02 < 59 with RH failure as shown by ^HCT, pedal edema, or EKG OR. Deoxygenation to < 87% on exercise.

PROPER SPACER TECHNIQUE
*Remove cap from the MDI & spacer and shake well.
*Insert the MDI into the open end of the spacer (opposite the mouthpiece).
*Place the mouthpiece of the spacer between your teeth and seal your lips around it tightly.
*Breathe out completely.
*Press the canister once.
*Breathe in slowly and completely through your mouth. If you hear a horn-like sound, you are breathing too quickly... slow down.
*Hold your breath for at least 10 seconds to allow the medication to deposit in your lungs.
*Wait at least 1 minute and repeat the above steps. Some MDIs require more than 2 puffs.
*Replace the cap on your MDI when done.
*If you are using a steroid MDI, gargle and rinse your mouth with water or mouthwash after each use.

ALL DIABETICS: 1) Aspirin for those with a) CVD or b) CV risk 5%+; & 2) no beta-blocker.

AGENTS FOR DIABETES type 2.** 11/10/2016

Class, mechanism	Drug	advantages/ 2indications	disadvantages	Dosing
Incretin analogue (glucagon like peptide)[1]	Liraglutide (Victoza) (exenatide[byetta])	V Weight; V HbA1c1%. No dose Adjustment for ^ creatinine	n,v,d. Contraindicated in DM1 & cc <30. Contraindicated in gastroparesis.	0.6mg SC/f x 1 wk; then 1.2 mg, then to1.8 mg if needed
Incretin effect; blocks DPP-IV[2]	Sitagliptin (Januvia) Linagliptin (Trajenta)	Weight neutral. V 0.7% HgbA1c	For DM2 only d, abd pn, nausea; pregnancyB	25,50, 100. V when ^ creatinine 5 mg /day. Excreted in feces
Thiazolidine-dione (insulin sensitizer)	pioglitazone(Actos)	Improves lipid profile. No hypoglycemia.	More wt gain. **May ^ CHF** & LFTs(stopif2xnl). (Rltve contraind). 2 to 10 weeks to have an effect.	QD or Divided.Pioglitazone: 15 -45 mg. 15,30,45 mg tabs
increase insulin release	Prandin (repaglanide)			0.5, 1, 2 with all 3 meals.
Blocks glucose absorp'n	Glyset (meglitol)	X's alpha glucosidase	Abd pain. diarrhea	25 >> 50 with all 3 melas
Blocks glucose absorp'n	Precose (acarbose)	X's amylase & glucosidase	Flatulence, diarrhea, stool incontinence	25, 50, 100 with all 3 meals.
SGLT2 inhibitor	Jardiance (empagliflozind	No hypoglycemia	UTIs, BV, candida, balanitis, scrotal abscess	10 or 25 mg tabs.

Symlin (an amylin agonist decreasing glucagon etc) is very hi risk and should not be used.

[1]Decreases glucagon secretion, increases insulin secretion, increases b-cell growth & replication, & slows gastric emptying.

[2]This allows persistence of incretin.

GLIMEPERIDE (Amaryl): 1,2, OR 4 MG QAM/ GLIPIZIDE (glucotrol): 5, 10, up to 40/day. (Glucotrol XL same doses); glyburide 2.5 & 5

ASA 81 mg in DM if (1) CAD, CVA, PVD OR (2) 50+ and other risk factors.

Diabetes points:

Diagnose diabetes if 1) symptoms + random glucose 200+, 2) Fasting glucose 126+, 3) 2 hr GTT 200+, 4) Hgb A1c 6.5%+.

Diagnose pre diabetes if 1) Random glucose 140-199. 2) Fasting glucose 100-125. 3) HgbA1c 5.7-6.4%.

1) When starting insulin, stop sulfonylurea and pioglitazone. (Actose).

2) Start insulin if HgbA1c at 10%+ or FBS = 240+.

5) HgbA1c is **Increased** by increased RBC age (e.g., splenectomy) and by Fe deficiency. HgbA1c is **decreased** by decreased RBC age (hemolysis, dialysis)

Repeat at 3 year intervals.

Do not prescribe sulfonurea's in those age 70+.

ATRIAL FIBRILLATION, anticoagulation. CHA_2DS_2-VASc score Chf, htn, 75+, DM, stroke, vascular dis (CAD, PAD), 65+, sex (male)

Score	Patient	Anti-coagulate?
2+		Yes
1	DM, hypertension, or age 65-74	Yes
1	Women or age < 65	No
0		No

Do not use aspirin.
WARFARIN: Initial: 5 – 10 mg x 2 days, then monitor, then 2-7 mg/day depending on genotype.
3-4: Monitor
4-5: omit 1 dose & resume at lower dose, monitor
5-7: Omit 2 doses, monitor, when INR is therapeutic, resume at lower dose.
7-9: Omit 1 dose, give 1 to 2.5 mg K1, monitor, resume at lower dose. (K1: 1 mg/0.5 ml; therefore give 0.5 to 1 ml.)
>9: Stop Warfarin, give 2.5 to 5 mg K1. Monitor. Give more K1 if needed. Resume at a lower dose.
ANY bleeding: hold warfarin, give IV vitamin K.

The anti-coagulant is generally NOT warfarin, which might be used if:
*Patient is well controlled and reliable on warfarin.
*Cost or twice/day therapy (dabigatran or apixiban) is a problem.
*CKD, GFR < 30.
*On epileptic meds.
*HIV on a protease inhibitor.

Drug	Mechanism	Dosing#	Renal dosing	Pregnancy	Met Enzyme*	Transition if
Warfarin	Vit K antagonist	2-10 mg	**No limits**	C	(Kale etc)[$]	
Rivaroxaban (Xarelto)	Xa	Dvt: 15 bid x 7ds > **20/d. A fib: 20/d**	**Avoid if GFR < 30.**	C	CYP3a4	INR < 3.0
Apixaban (eliquis)	Xa	Dvt: 10 bid x 7ds > 5 bid ; A fib: 5 bid	½ dose if Cr 1.5 – 2.5[1]	**B**	"	INR < 2.0
Edoxaban (savaysa)	Xa	60/d	**GFR 15-50: ½ dose**	C	"	INR < 2.5
Dabigratran (Pradaxa)	Direct thrombin inhibitor	150 BID	Avoid if GFR < 30.	C	P-gp	INR < 2.0

[1]Do not use if creatinine > 2.5.
*Inhibitors of this enzyme increase the anticoagulant. *Inducers of this enzyme decrease the anticoagulant.
[$]Kale, spinach will antagonize warfarin by supplying vitamin K.
[#]When transitioning from DOAC to warfarin, start warfarin, then discontinue DOAC after 2 days.

Types of thrombophilia: Recurrence of VTE
High risk of recurrence: APLA; Antithrombin deficiency; Protein S deficiency; Homozygous for Factor 5 Leiden mutation
Low risk of recurrence: Proximal DVT; Heterozygous for Factor 5 Leiden mutation; prothombin G20-210; Hyperhomocystinuria
Duration of anticoagulation:
(A) Major Transient RF: 3 mo's; (B) Unprovoked: 6 mo's; (C) unprovoked event + high risk OR 2+ unprovoked events OR persistent high risk (e.g., cancer): indefinite.
Post DVT: compression stockings x 1 year.

TIA: Ddx: TSSH (TIA, Seizure, Syncope, Hypoglycemia) BPV, migraine. Rx: statin, ASA or Plavix (clopidogrel):300 mg tab x1, then 75mg, or Aggrenox (ASA+dipyridamole) 1 tab BID
Whom to hospitalize: no work up in 2 days, active comorbidities, prior TIA, presence of treatable condition, $ABCD^2$ = 3+.
$ABCD^2$: 1 if age 60+, 1 if BP>140/90, Unilateral weakness=2, speech abnl=1, duration >60 = 2, duration 10-59=1, DM=1
Carotid revascularization: No symptoms & Stenosis > 80%; Man with no symptoms & stenosis > 70%; Symptoms & stenosis > 50%.

TARGETS:
Hgb A1 C varies 1% with every 28 – 29 mg/dL of glucose. For example,

Hgb A1 C	Glucose (mean)	Hgb A1c	Glucose (mean)
5	100	10	240
6	125	11	270
7	150 (controlled)	12	300
8	180	(Herman WH. J Diab Sci Technol 2009;3:656).	
9	210		

BEGIN THE USE OF INSULIN AT HgbA1c > 9%.

Basically, keep the blood sugar between 90 and 180mg/dL USE THE 110/ 170/ 130 RULE(Pass,Tit,Tak,Dam)
90 mg/dl fasting
110 mg/d (± 20) before meals 200- 2, 250- 4, 300- 6, 350- 8, 400+ 10.
170 (±10) mg/d 2hr PP;
130(±20) mg/dL at bedtime.
For pre-meal of 110: usual dose.
For pre-meal 70-80: decrease dose by 1 unit.
For pre-meal < 70; no insulin
For every pre-meal 50 mg/dL above goal, give an extra unit

INSULIN PREPARATIONS

GENERIC	TRADE	ONSET, hrs	PEAK, hrs	DURATION	
Lispro	Humalog	0.25	0.5-1.5	6 - 8	L H
mn Aspart	NovoLog	0.5	1 - 3	3 - 5	A
Regular	Humulin R/ Novolin R	0.5 - 1.0	2 - 3	4 - 8	R
NPH (or protamine)	Humulin N/ Novolin N	1 - 1.5	4 - 12	10 - 18	N
Insulin Zinc	Lente	1 - 2.5	8 - 12	18 - 24	
Extended Zinc	Ultralente	4 - 8	16 - 18	> 36	
Glargine	Lantus	4 - 6	6 - 24	24	G L

NPH/Lispro combinations: Humalog 75/25 or 50/50; insulin u 100 = 100 unit/ml Humalog/Novolog/ ... in/
NPH/Aspart combinations: Novolog 70/30; NPH/Regular combination: Humulin 70/30 or 50/50 or Novolin 70/30
HgbA1c is falsely low in hemolysis & splenomegaly falsely high in iron deficiency and splenectomy.

DETERMINING DOSAGE:
Healthy person: 24 - 36 U/day; Type I DM: 0.5 - 1u/kg
Total daily dose: Lean: 0.3 - 0.5 u/kg/day/ Obese 0.5 - 1.0/ Stress: 1+

Increase insulin Q 3 days by 2 units.

GLUCOSE MONITORING:
OBTAIN A1 C INITIALLY THEN Q 3 MO=S
Home monitoring:
Oral agents & insulin QD: 1-2x/d.
BID insulin: 2 x/day
TID insulin: 3- 6x/day

SCREENING:
Average risk: Begin at age 45 then Q 3 years.
Overweight + risk factors (inactive, high risk ethnicity, HTN, CVD): begin at age 40.

Measure GAD65 (glutamic acid decarboxylase) and Abs to insulin if DM1 is unclear.

Counter regulatory hormones to insulin:
Glucagon, cortisol, epinephrine and growth hormone.

Knee Pain	Patellar/posterior@	Medial	Lateral	Other location
OA	+	++++ (bony enlargement & genu varum[1]: either is 93% spec)	+	
Tendons (or ligaments)	Extensor_tendonitis Pain on resisted extension	MCL, rapid effusion, valgus[2] stress	LCL (rapid effusion, varus stress)	ACL: "pop", pain, bloody effusion, instability.**
Meniscus		+++++ Pain with varus[3] stress or McMurray	++ (Locking: Valgus stress or McMuray)	
Other	PFPS*: ^pain with flexion; Pain on descent Laterally displaced, Apprehension test with lateral force, AP Sunrise x ray view. Prepatellar bursitis (pain & warmth)	Pes Anserine Bursitis	ITBS (Noble's test: press on lateral femoral epicondyle while flexing & extending the knee)	

[1]Bow legged. [2]Force applied to outside of knee. [3]Force applied to inside of knee.
@Baker's Cyst
**The knee "gives out". Difficulty in walking downstairs. Do Lachman test and anterior draw test.
AC joint degeneration: pain on palpation and on cross arm adduction.

LIPIDS

1. 2ndary cause of ^LDL: hypothyroidism. 2ndary cause of ^TGs: hypothyroidism, ^glucose, alcohol.
2.Lipids and LFTs at baseline, repeat these at 6 weeks. We would prefer to see a 50% decrease in LDL.
3. repeat annually.
4. Satin use (Use "pooled cohort" equation)

Category	Moderate	High intensity
Clinical ASCVD	Age > 75	Age ≤ 75
LDL > 190		Yes
DM (age 40-75)	ASCVD risk < 7.5%	ASCVD risk 7.5%+
ASCVD risk 7.5%+ and age 40-75	Yes	Yes

High intensity: rosuvastatin 20 or 40 or atorvastatin 80
Moderate intensity: rosuvastatin 10 or atorvastatin 20 or simvastatin 10 mg

5. PCSK9 inhibitors (bind to LDL receptor on liver cells): alirocumab (praluent) 75 to 150 mg Q 2weeks. Or evolocumab (Repatha) 140 mg subcu q 2 weeks. Repatha lowers ACM and CVEs. Minimal adverse effects.
6. No role for gemfibrozil unless intolerant to statins, 2) Tricor (fenofibrate) 160/day with meals 3) Lovaza. Add Vitamin E. 4) Niacin (niaspan) tabs 500 mg or 1 gm; Give 500 qhs increase to 2gm/d. Flushing, hepatotoxicity. 5) Ezetimibe 10/d bloating, cp, ha, diarrhea, abdominal pain, arthralgia.

Statin-induced myositis: 1 month on & 1 month off up to 4 mo's. If the myositis begins more than 4 months after initiation, it is unlikely to be statin-induced.
DDx: fibromyalgia, PMR, polymyositis, hypothyroidism, v vitamin D, ritonavir, alcohol.
Management: Take a statin holiday x 6 weeks and restart either fluvastatin or rosuvastatin.
PMR: age>50, proximal muscles and neck, morning stiffness, ESR ≥ 40, resolution with prednisone 15mg

Long term adherence in chronic disease = 50%.

BODY & HAIR PARASITES

Parasite	Appearance	Body area	Diagnosis	Treatment
Scabies	Delayed hypersensitivity, 3-4 weeks or 1-2 days. Burrows 2-3 mm	Webs, flexor	Scraping, Wood Lamp	Permethrin cream overnight (apply from neck to toes) or oral ivermectin, 3 mg tabs, 4 tabs x 1, repeat in 10 days
Bedbugs (Cimex)	Most are asymptomatic.*** Resolve in 1 week. Red papules in a linear pattern	Face, neck, arms & hands	Inspection of clothing or luggage with a magnifying glass and flashlight	Topical steroid
Pediculosis corporis (body lice) 1-2 mm	Regional pruritis, linear distribution	Body	Visible with naked eye: seams of clothing	Furniture & bedding (A200 Lice). Topical permethrin cream x 10 hours, or oral ivermectin as above.
Pediculosis Pubis	Ditto	Inguinal (may have lymphadenopathy)	White concretions on hair	As above
Pediculosis capitis (head lice) 3-4 mm				*
Fleas	Pruritic papules, hemorrhagic crusts	Legs, ankles	Visible with naked eye. Examine pets ("my dog has fleas")	Oral antihistamine, manual removal, treat pets, bedding & rugs.**
Demodex (mite)	Butterfly rash	Face	Fails to respond to treatment for rosacea	Permethrin cream, oral ivermectin

*Wash hair with shampoo, rinse, towel dry. Apply permethrin 1% lotion (cream rinse) to saturate hair & scalp, also behind ears & base of neck. After 10 minutes, rinse and remove nits. If lice are resistant, use 5% lotion (cream rinse) under a shower cap. Also, saturate hair with 50% water & 50% vinegar for 15 minutes, and then comb out nits.
**Wash bedding etc; treat furnishings with Advantage (including carpet). Treat Pet with Capstar.
***Hence if bed partner is asymptomatic, it doesn't exclude Cimex.

DISH (Diffuse idiopathic skeletal hyperostosis): 1) calcification and ossification of spinal ligaments & peripheral entheses. 2) M >>> W and W > blacks.
3) Thoracic spine pain in 60% and spinal cord compression, d ysphagia, & morning stiffness. Lab: flowing osteophytes acros 4 contiguous vertebrae (diagnostic). Rx = heat, ultrasound, swimming, and stretching.

Monoarticular arthritis or arthralgia: gout, septic arthritis, Hep B, Lyme, OA, Knee syndromes.

Syphilis
Exposure >3 wks> 1* syph > 1-3 mo's 2* syph (1/4 of pts) >> 3* syph
malaise, fvr, gummas,
chancre hepatitis aortitis
rash, mucosal ulcers
neurosyph
(or latent syph)

MENSTRUAL DISORDERS:

AMENORRHEA:
Primary: Turner's congenital agenesis
Secondary:
1) **Generalized**: **Pregnancy, Hypothyroidism** (TSH stimulates prolactin production inhibiting GnRH)
2) Hypothalamic: stress, heavy exercise, eating disorder.
3) Pituitary: pituitary infarct; **prolactinoma**; meds: antipsychotics, opioids, TCAs, and verapamil*
4) Ovarian: **PCOS**, Autoimmune or chemotherapy or androgens or **ovarian ca.**
5) Anatomic: Asherman's syndrome.
*Blocks dopamine release, allowing prolactin secretion, which inhibits GnRH
Work up: Beta-HCG, TSH, prolactin, FSH, LH.
IRREGULAR MENSES: Causes are the same as for amenorrhea except pregnancy and Asherman's syndrome are not causes.
HEAVY MENSES: Cancer, fibroids, endometrial polyp, or coagulopathy (e.g., von Willebrand's)

Galactorrhrea: r/o Ca or infection (unilateral, bloody, pus). Causes: As for amenorrhea; chest wall pathology.

Herpes zoster patients should avoid contact with infants & small children, pregnant women, and the immune compromised.

NYU ID: 102-9049
Woodhull, 760 Broadway at Flushing Av:
718-963-8000. Medicine: x5805 or 6
Jinette: x 8193
Dept of Med: 8A 26

Medicine clinic: 2C 120

Woodhull staff: RN Smith (flu shot) Stephens
#6 (4th car front) to Canal street. J or Z(back) to Flushing av
Greenpoint: 795 Manhattan Ave, tel 718-489-3549.
Grace, Zofia, Alicia, Maria
Take 6 (back) to 51st st, get E or M line (front) to Court sq, then G line (front) to Greenpoint. Exit Rt, turn Rt.

Williamsburg clinic, 279 Graham Ave. 718-963-7820 take 6 (front) to 14th St, L line (middle) to Grand. Exit and walk away from high school type of building towards Graham. After ~ 3 blocks, turn right on Graham Ave.

To get meds & write scrips:
Main desktop
Patient
Tab: Med Rec
eRx portal
yes
profile > GotTo > order summary > accept order.

System login: roushg, Adria123#
Quadramed userid 18559, Hannah123.
E prescribe georgerx
IT 7999; outside: 877-934-8442

For narcotics: Istop: gr622567. Problems: 866-529-1890.

Woodhulll e mail:
Webmail.nychhc.org
roushg/ Pendleton123#
my e mail is: roushg@nychhc.org
Dr. Desai: 551-689-0390
To amend a note:
1 Left panel: "correct"
2 Documentation
3 Expand