

Published by EduRad



USMLE *Help* Step 2 CK

M. Paetzel, R. Talanow
1st Edition

Foreword

The purpose of **USMLEHelp Step 2 CK** is to help medical students and medical graduates quickly review the high-yield information for the USMLE Step 2 CK. Of course, you cannot have the complete Step 2 information on a book of this size! This book will, however, allow you to quickly get an overview of the “hot-topics” that you most often quickly forget. This book is not intended to be a textbook in the traditional sense, but rather a quick reference and helpful overview for the top diseases that are tested on the USMLE Step 2 CK.

USMLEHelp Step 2 CK was started in 2001, where the author was studying for her medical boards. She kept a book of her “high-yield” topics, and eventually transferred them over to a computerized database of information. This database was further expanded, updated and added to so you have the information you need.

The concept: Since this book was initially created by a student, it has many features that students are looking for: Small (easily transportable), spiral bound (opens flat on your desk – no losing your page), color-coded, and *just the facts*. There is room on practically every page for your own notes.

Each disease that’s listed has the following information on it:

- What you **have** to know about the disease
- Symptoms
- Evaluation
- Treatment
- Extra information, helpful tips, and those “by all means, don’t forget” tidbits of information.

Furthermore, we have over 80 color images and tables to help you get the “big-picture” easier. There are overviews of disease categories, which brings many disease groups (i.e. cardiac, pulmonary, adrenal, thyroid to name a few) all on one page. Our images are in color! Pedagogically, it’s much easier to learn by colors than it is just plain black and white. The paper we use is not glossy, to prevent glare and eye strain during those late-night study marathons.

We realize that we might have forgotten a topic that you feel is important. Therefore, after every chapter, we have included 2 empty pages for you to fill out in the same format of the rest of the book. We offer to create your information in a printable format to match the book’s format, if you take advantage of our online-form at USMLEHelp.com. Also online are all the updates/additions your colleagues have added. All you need to do is register for a password, and you will have access to the information others are adding.

There is more information, than the reader might initially think. The person who knows the information in this book, is already on their way to a great USMLE Step 2 CK score! We’d also like to state that the best preparation for Step 3 is Step 2! So, with this in mind, you’ll get extra amount of information and use out of this book.

Cleveland, Ohio
2006
Authors and Publisher

:: *Tips on How to Remember*

Helpful Tips on How to Remember!

- Associate, or link, the word or thing you are trying to remember to something else.
 - For example, if Alex introduces you to Patty, you might remember them as A and P.
- Repeat what you want to remember.
- Make lists either on paper or in your head.
 - *There is plenty of room in this book to do so!*
- Try to link faces of people you know when trying to remember illnesses.
 - *Example: "I bet Farmer Fred had Cushings"*
- Read a lot if you have trouble with vocabulary. Keep a dictionary close by.
 - *We have tried to give a brief definition of everything you need for each illness*
- If you can't remember something at first, try to relax and try again.
 - *Have a cup of tea or coffee! It's just as important to relax as it is to study!*
- Take part in activities that stimulate the mind, such as crossword puzzles and board games.
 - *It will also take your mind off of your exam for a while.*
- Reduce the amount of alcohol you drink. Alcohol can make it hard to remember things.
- Take a walk, do some exercise, do something to get the blood flowing
 - *Even your brain needs some circulation! It'll make you feel better and you'll be able to look at this stuff again!*

Biostatistics:: Types of Studies

Observational study No intervention!		Experimental study Intervention!	
	↘		↙
Case report	Single subject or event	Clinical trials	Tests drugs and their efficacy
Case series	Clinical characteristic or outcome from a group of clinical subjects	Randomized controlled clinical trial (RCT)	Subjects are randomly allocated to intervention and control group.
Cross-sectional	Presence or absence of a disease. <i>Prevalence!</i>	Community trial	Same as above on a whole community or political subdivision.
Case-control	Identifies a group of people with a disease with ones without, compares them retrospectively. <i>Causality!</i>	Crossover study	All subjects receive intervention, but at different times.
Cohort	Identifies a group who has been exposed to a risk factor and follows them over time. Prospective. <i>Incidence, Causality!</i>		
Analysis		Analysis	
Relative Risk	Asks how much more likely is A than B? You Divide!!		
Attributable risk	Asks how many more cases in one group? (you do a body count) You subtract! Cohort, cross-sectional study!		
Odds ratio	Looks at the increased odds with exposure to a risk factor. Case-control!		
Tests		Tests	
X ²	Relative risk, attributable risk		
RR	Cohort studies		

Cardiovascular:: Coronary Heart Disease

1. Angiogram → bypass vs. angioplasty.
2. EKG
 - a. Can't read EKG? (Digoxin, Pacemaker, LBBB, WPW)
Stress Echo (↓ wall motion, dyskinesias)
 - b. Scintigraphy!
↓ uptake of thallium
3. Stress test (exercise tolerance test)
 - a. Can't exercise? (PAVT, COPD, Amputation, Obesity?)
Adenosine → Dipyramidol → ↓ uptake
Dobutamine → ↓ wall motion

- Hypertension
- Tobacco use
- ↑ lipid
- obesity
- Diabetes mellitus
- Family history (premature if males under 55, females under 65)

Diagnosis

Coronary Heart Disease

Risk factors?

Treatment

- Aspirin* (Clopidogrel)
 - β-blockers
 - Ca²⁺ blockers
 - Nitrates*
 - Statins* if hyperlipidemia (LDL >100)
- > 40% EF, no ACE
< 40% EF, yes ACE

***Dermatology* :: Keloids**

Def: Keloids are an overgrowth of scar tissue at the site of a healed skin injury.

PE: Skin lesions that are flesh-colored, which are located over the site of an injury or wound, it can be nodular or ridged. It may itch.

Eval: Skin biopsy to rule out other tumors.

Treatment: Surgical repair/removal is optional. Cryotherapy is an option, as well as corticosteroid injection, laser treatments.

Emergency Medicine:: Aspirin toxicity

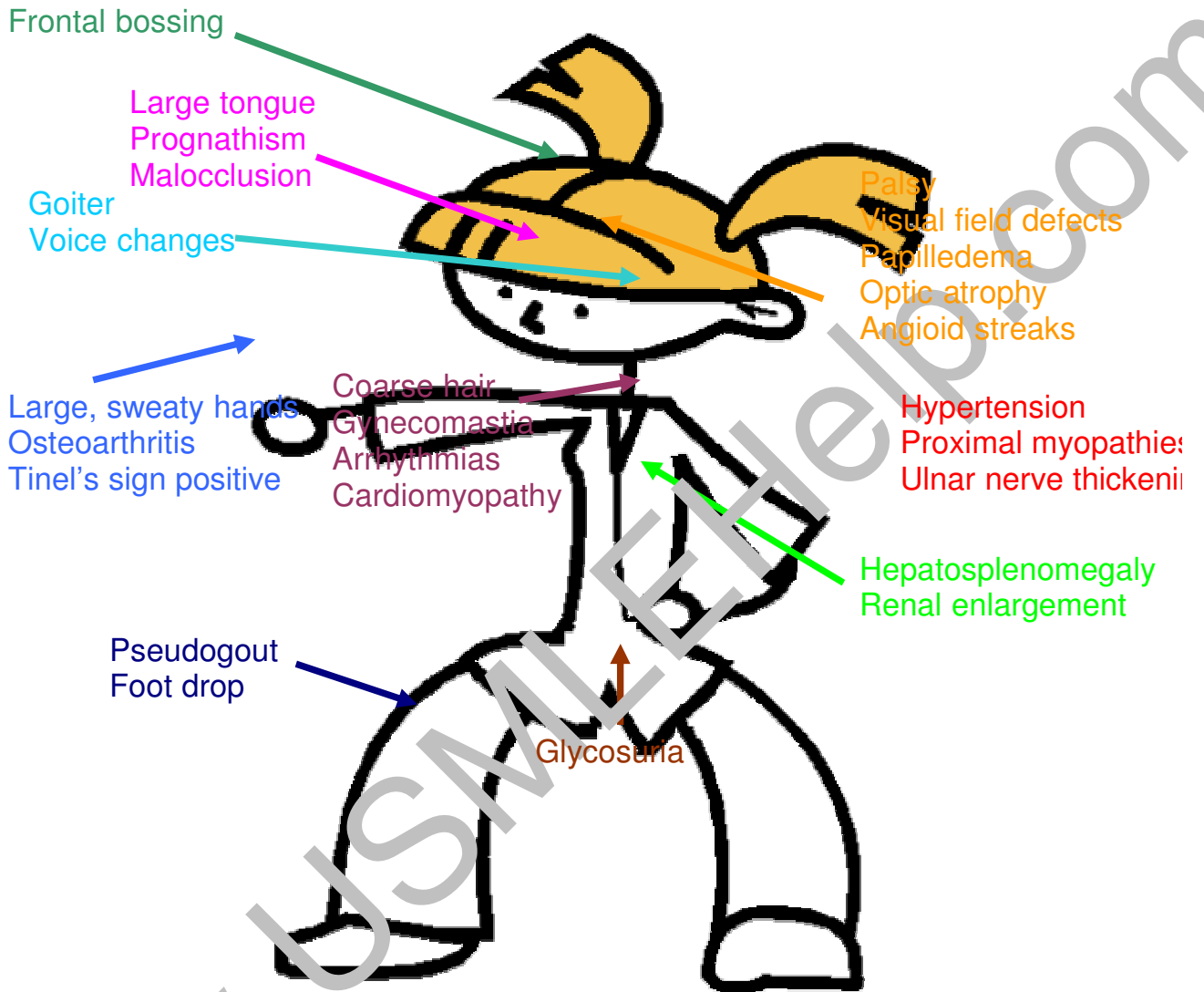
PE: Tinnitus, dyspnea, GI upset, bleeding, papillary renal necrosis

Eval: Chem12 shows an increase in Creatinine, BUN. LFTs show an increased PT.

Treatment: You need to alkalize the urine. Dialysis is an option

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Endocrinology:: Acromegaly



General:: Sleep Apnea

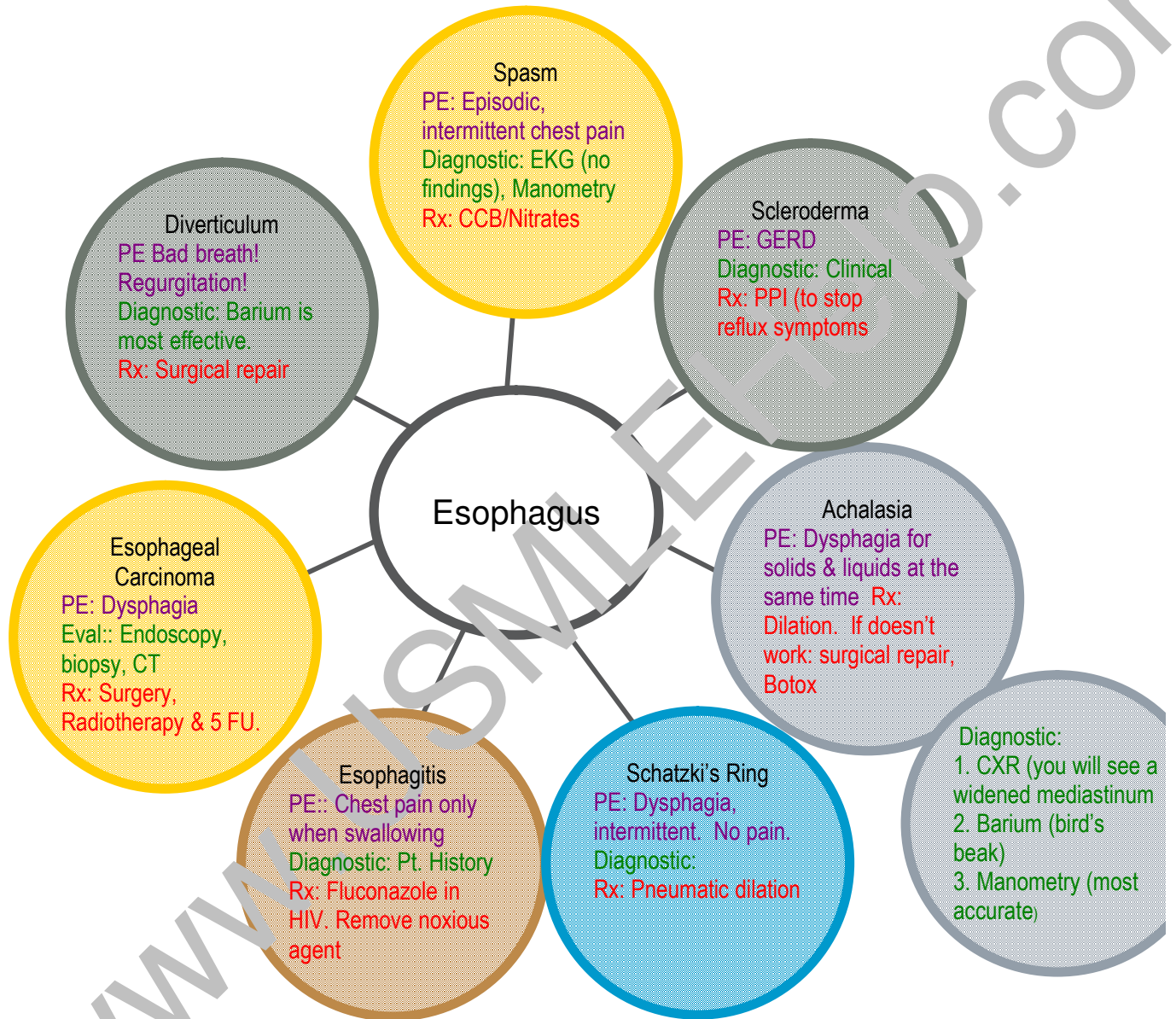
Def: Sleep apnea is a condition characterized by episodes of stopped breathing during sleep.

PE: Snoring, abnormal daytime sleepiness, headaches, weight gain, memory loss, poor judgment, lethargy

Eval: Hypertension, edema, PE usually clinches the diagnosis. Sleep studies, EKG, ABG, Echocardiogram

Treatment: CPAP ventilation, weight loss, alcohol reduction, uvulopalatopharyngoplasty. Tracheostomy may be needed if there is an anatomical problem.

GI: Esophagus: Overview



GI: Primary Biliary Cirrhosis

Def: This chronic disease is usually autoimmune in nature. 90% are women.

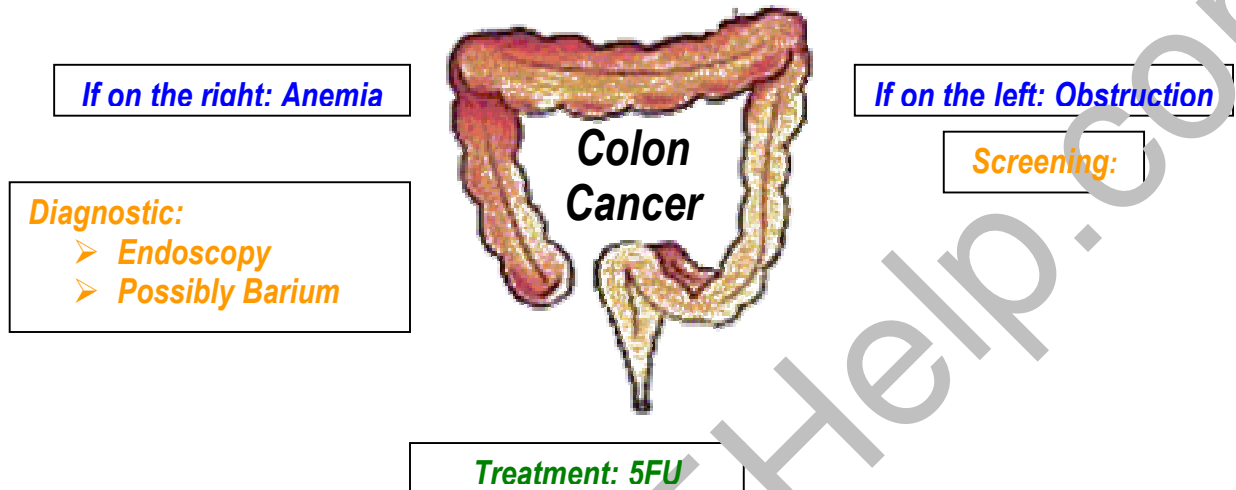
PE: Fatigue, pruritus, edema, steatorrhea, hyperlipidemia, xanthomas, hyperpigmentation of sun-exposed areas.

Eval: Alk. Phosphatase is increased. Antimitochondrial Ab (have a high sensitivity), Biopsy confirms the diagnosis.

Treatment: There is no specific treatment, but you can try Cholestyramine, ursodeoxycholic acid (slows the disease down)

Extras: These patients are at an increased risk for osteoporosis.

GI: Colon Cancer -Overview



Ø Family history

- 50 years old
- Colonoscopy every 10 years (it takes 10 years to develop from a polyp to a cancer)
- Guiac test (if positive, every year)
- Sigmoidoscopy is not very good because the cancer could be proximal. Every 3-5 years.

Family History (1 person)

- This means someone in your immediate family (parents, siblings) has it.
- Start screening at >40 years old or 10 years before the history started in the family member.
- Every 10 years a follow-up. And the rest is the same as above.

Family History (3 relatives, 2 generations, 1 premature)

- No polyps?
- Start screening >25 years
- Follow-up every 1-2 years.

Hematology:: Fanconi's Anemia

Def: Fanconi's anemia is an inherited disease that primarily affects the bone marrow, resulting in decreased production of all types of blood cells. The lack of white blood cells predisposes the patient to infections, while the lack of platelets and red blood cells may result in bleeding, and anemia.

PE: Darkened areas of the skin, cafe-au-lait spots, vitiligo, short stature, missing, extra or misshapen thumbs; underdeveloped or absent radius bone in the forearm; anomalies of the hands; abnormalities of the ulna, small testicles, congenital hip abnormality, scoliosis, spinal or rib malformations, small head, kidney malformations, deafness, gastrointestinal/cardiopulmonary malformations

Eval: CBC - low platelets (thrombocytopenia), then low neutrophils, and low hemoglobin, bone marrow biopsy, karyotype (clastogenic stress-induced chromosomal breakage analysis on blood cells of patients and their siblings), HLA tissue typing, hand x-ray, and other imaging studies (x-ray, CT scan, MRI), audiology, ultrasound of the kidneys.

Treatment: BMT. Prior to bone marrow transplantation, oxymetholone, nandrolone decanoate combined with low doses of hydrocortisone or prednisone is currently used if the patient does not have an appropriate bone marrow donor.

Infectious disease:: Lyme Disease

Def: Lyme disease is an inflammatory disease characterized by a skin rash, joint inflammation, and flu-like symptoms, caused by the bacterium *Borrelia burgdorferi* transmitted by the bite of a deer tick.

PE: Flat or slightly raised red lesion at the site of a tick bite. Fever, headache, lethargy, muscle pain, stiff neck, joint inflammation (knee), pruritus.

Eval: Basically PE and history will give you the diagnosis, but positive IFA to *borrelia burgdorferi* or ELISA tests will give you the definitive diagnosis. ELISA tests are confirmed with a western blot.

Treatment: Doxycycline, tetracycline, cefuroxime, ceftriaxone, and penicillin are some of the choices.

Extras: Don't forget: Kids don't get tetracycline!

Neurology:: Transient Ischemic Attack (TIA)

Def: A TIA is sort of a ""mini-stroke"" which is caused by a temporary disturbance of blood supply to the brain. If the symptoms resolve completely within 24 hours, it can be considered a TIA. If not, then you've got a stroke.

PE: Sudden onset of focal neurological deficits that are 100% reversible.

Eval: CT (without contrast), Holter monitor, Carotid Doppler.

Treatment: Aspirin/Clopidogrel,

Extras: In a patient with an internal carotid stenosis of 70% or more on one side, carotid endarterectomy is indicated.

OB/Gyn :: Breast Cancer Staging and Treatment

Stage	Description	Treatment
0	In Situ: Known as DCIS (ductal carcinoma in situ) or LCIS (lobular carcinoma in situ). This is a precancerous condition.	Mastectomy or lumpectomy plus radiation is the standard treatment.
I	Tumor < 2 cm in diameter, no metastases.	Lumpectomy (plus radiation) or mastectomy with at least "sentinel node" lymph node removal.
IIA	Tumor 2-5 cm in diameter without lymph node metastases, or Tumor < 2 cm in size with axillary lymph node swelling.	Lumpectomy (plus radiation) or mastectomy with at least "sentinel node" lymph node removal.
IIB	Tumor > 5 cm in diameter with spread to axillary lymph nodes	Lumpectomy (plus radiation) or mastectomy with at least "sentinel node" lymph node removal.
IIIA	Tumor < 5 cm with spread to axillary lymph nodes and spread to the lymph nodes. Or: Tumor > 5 cm in diameter with spread to the lymph nodes.	Surgery followed by chemotherapy with or without hormonal therapy. Radiation therapy may also be considered.
IIIB	Tumor has invasive characteristics with spread to the skin or parasternal lymph nodes	Surgery followed by chemotherapy with or without hormonal therapy. Radiation therapy may also be considered.
IV	A tumor of any size with spread to the liver, lung, bone, etc.	Mainly palliative treatment. Surgery, radiation, chemotherapy, hormonal therapy, or a combination of these. Aromatase inhibitors (Aromasin) have been shown to be beneficial.
<ul style="list-style-type: none"> ➤ Surgery may consist only of lumpectomy or partial, total, or radical mastectomy usually with the removal of one or more lymph nodes from the axilla. It is important to find the sentinel nodes. ➤ Radiation therapy can be directed at the tumor, the breast, the chest wall, or other tissues known or suspected to have remaining cancer cells. ➤ Biologicals can be used alone or with chemotherapy. Trastuzumab (Herceptin) is an example of this class of drugs. About 20 - 25% of breast cancers respond to trastuzumab. Recent studies show that adding trastuzumab to chemotherapy or treating with trastuzumab after chemotherapy helps remission. ➤ Hormonal therapy with tamoxifen is used to block the effects of estrogen. 		

***Ophthalmology*:: Glaucoma**

Glaucoma refers to a group of disorders that lead to damage to the optic nerve. Damage to the optic nerve causes vision loss, which may progress to blindness. Most people with glaucoma have increased intraocular pressure.

Glaucoma is the second most common cause of blindness in the US. There are four major types of glaucoma:

- Open angle (chronic) glaucoma
- Closed angle (acute) glaucoma
- Congenital glaucoma
- Secondary glaucoma

All four types of glaucoma are characterized by increased pressure within the eyeball, and therefore all can cause progressive damage to the optic nerve.

Secondary glaucoma is caused by other diseases, including eye diseases such as uveitis, systemic diseases, and drugs such as corticosteroids.

Congenital glaucoma, which is present at birth, is the result of abnormal development of the fluid outflow channels of the eye. Surgery is required for correction. Congenital glaucoma is often hereditary.

Pediatrics:: Exanthemas

Measles	Cough, coryza, conjunctivitis. Koplik spots
Rubella	Forscheimer spots, starts on forehead and has lymphadenopathy.
Mumps	Glandular swelling Careful! Orchitis!
Varizella	Starry-sky pattern
5 th s Disease	Slapped cheek appearance
Roseola	First, there's a fever for 3 days, then rash follows
Scarlet Fever	Sandpaper rash Inguinal areas Strawberry tongue

Psychiatry: Schizophrenia

Def: Schizophrenia is a mental disorder. It difficult for a person to tell the difference between real and unreal experiences, to think logically, to have normal emotional responses to others, and to behave normally in social situations. There are 5 recognized types of schizophrenia: catatonic, paranoid, disorganized, undifferentiated, and residual. Features of schizophrenia include its typical onset before the age of 45, continuous presence of symptoms for 6 months or more, and deterioration from a prior level of social and occupational functioning.

PE: See table

Treatment: Antipsychotics, psychotherapy

Type	Symptoms
Catatonic	<ul style="list-style-type: none"> Motor disturbances Stupor Negativism Rigidity Agitation Inability to take care of personal needs Decreased sensitivity to painful stimulus
Paranoid	<ul style="list-style-type: none"> Delusional thoughts of persecution or of a grandiose nature Anxiety Anger Violence Argumentativeness
Disorganized	<ul style="list-style-type: none"> Incoherence Regressive behavior Flat affect Delusions Hallucinations Inappropriate laughter Repetitive mannerisms Social withdrawal
Undifferentiated	May have symptoms of more than one subtype of schizophrenia
Residual	Prominent symptoms of the illness have abated, but some features - such as hallucinations and flat affect - may remain.

Pulmonology:: Silicosis

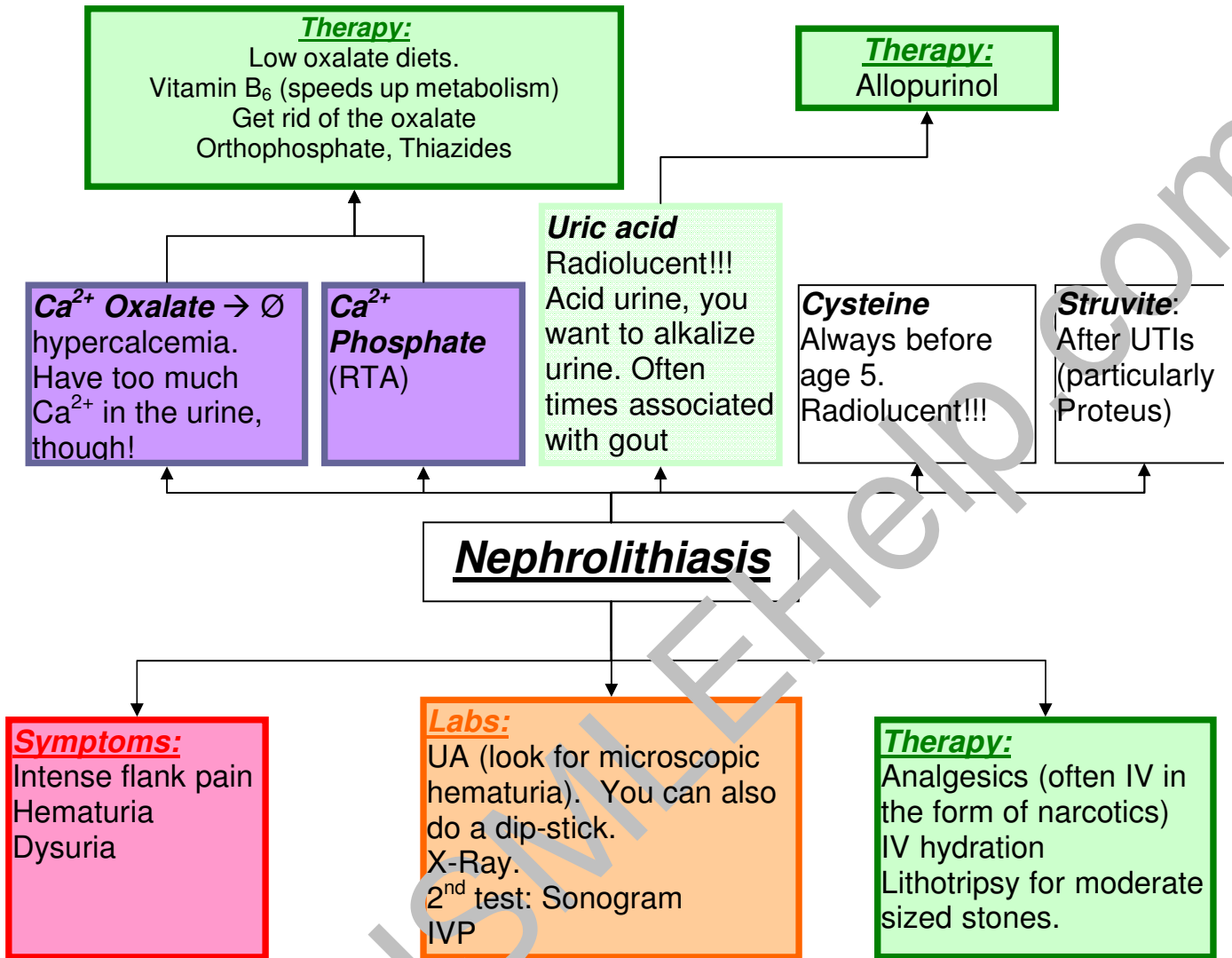
Def: Silicosis is a respiratory disease caused by inhalation of silica dust, which leads to inflammation and scarring of the lung tissue.

PE: Chronic cough, shortness of breath, history, fever, weight loss.

Eval: CXR, PFTs PPD

Treatment: No definitive treatment for silicosis. Supportive treatment.

Simple Chronic silicosis	Results from long-term exposure to silica dust. Nodules of chronic inflammation and scarring provoked by the silica dust form in the lungs and chest lymph nodes. This disease may feature breathlessness and may resemble chronic obstructive pulmonary disease (COPD).	Progressive massive fibrosis may occur in simple or accelerated silicosis, but is more common in the accelerated form. Progressive massive fibrosis results from severe scarring and leads to obliteration of normal lung structures.
Accelerated silicosis	Occurs after exposure to larger amounts of silica over a shorter period of time (5 - 15 years). Inflammation, scarring, and symptoms progress faster in accelerated silicosis than in simple silicosis.	
Acute silicosis	Results from short-term exposure to very large amounts of silica. The lungs become very inflamed and may fill with fluid, causing severe shortness of breath and low blood oxygen levels.	



Rheumatology:: Osteoporosis

Def: Decalcification of the bone. Risk factors include: Smoking, age, primary relative has it, Caucasian, female, small stature, steroid use, hyperthyroidism.

PE: Steroid treatment for a long time, smoking, age, family history, Caucasian female.

Eval: Biopsy, culture. X-ray, Bone densitometry. The interesting thing is, is that the Alkaline phosphatase is normal.

Treatment: Calcium, Vitamin D, Alendronate, Calcitonin. Raloxifene. Modify the risk factors.

Extras: Estrogen can be used for perimenopausal women, but you have to worry about if the woman has a uterus or not. If she does, give progestin and estrogen, if she doesn't, just estrogen is fine.

T-score	Z-score
The number of standard deviations the bone mineral density measurement is above or below the <i>young-normal</i> mean bone mineral density.	The number of standard deviations the measurement is above or below the <i>age-matched</i> mean bone mineral density.
T-scores of >-2.5 should be treated as osteoporosis.	
T-scores of >-1.5 should be treated as <i>osteopenia</i>	

Surgery:: Compartment Syndrome

Def: Compartment syndrome involves the compression of nerves and blood vessels within an enclosed space. This leads to impaired blood flow and muscle and nerve damage. Swelling leading to compartment syndrome is associated with high-energy trauma, such as from a car accident or crush injury, or surgery. Compartment syndrome may also occur due to tight bandages or casts; with significant swelling, pressure will build up and can cause compartment syndrome. Chronic compartment syndrome can be caused by repetitive activities like running that increase the pressure in a compartment only during that activity.

PE: Severe pain that does not respond to elevation or pain meds. ALWAYS BELIEVE THE PATIENT!

Eval: Measure the pressure in the compartment. If the pressure is 45 mm Hg or greater, the diagnosis is made.

Treatment: Surgical incision to reduce the pressure. Leave the wound open

Extras: BELIEVE THE PATIENT! Rhabdomyolysis is often a complication. This may lead to kidney failure.

Coming soon!



<http://www.USMLEHelp.com>