Office Medicine For The Boards

ACOI Board Review Course 2014
Westin Savannah Harbor Golf Resort and Spa

Scott Spradlin D.O. F.A.C.O.I.
Objectives

* Review of Common Tests
* Review of Medical Ethics
* Review of Preventive Guidelines
* Review of Vaccinations
* Board Questions
CT Scans

Test of choice for:

- Cranial bleeds
- Renal lithiasis
- Appendicitis
- Diverticulitis
MR Scans

Test of choice for:
- CNS Diseases
- Avascular necrosis
- Aseptic necrosis
- Spinal Cord Diseases
V/Q Scan
  Positive = Segmental mismatched perfusion defect
  Pre-pneumonectomy - ok if FEV1 > 800cc

Bone Scan
  Negative scan rules out osteomyelitis
  Very sensitive Paget Disease
  Best screening for Bone Metastasis
  Negative in Multiple Myeloma

IVP
  To evaluate Obstructive concerns
  Remember CT to evaluate anatomic concerns

Thyroid Scan
  \(^{123}\text{I} or {^{131}\text{I}}\)
  Increased in Graves
  Decreased in Thyroiditis

\(^{131}\text{MIBG}\) (iodine-131-meta-iodobenzylguanidine)
  Positive in Pheochromocytoma in 1-2 days
Alkaline Phosphatase—
”BLIP”
  Bone
    Late Pregnancy
    Bone Metastasis
    Pagets Disease
    Osteomalacia
  Liver
    PBC/ PSC/ Cholecystitis
    Liver Disease
For all surgeries, perioperative mortality is 0.3%
Most perioperative deaths (55%) occur in the first 48 hours postoperatively.
Of perioperative deaths, 35% occur in the operating room, and 10% of deaths occur during anesthesia induction.
Pulmonary complications are the most common perioperative complications.
Cardiac complications are the most common cause of perioperative death.
Perioperative MIs usually occur by postoperative day 3.
Of perioperative MIs, 50% are fatal.
# Surgical Clearance Review

## METs and Physical Activity

METs, metabolic equivalents.

<table>
<thead>
<tr>
<th>1 MET</th>
<th>≥4 METs</th>
<th>&gt;10 METs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Take care of self</td>
<td>Climb 1 flight stairs or walk up a hill</td>
<td>Participate in strenuous sports including: singles tennis, football, basketball, skiing</td>
</tr>
<tr>
<td>Eat, dress, use toilet</td>
<td>Walk on level ground at 4 mph</td>
<td></td>
</tr>
<tr>
<td>Walk indoors around house</td>
<td>Run a short distance</td>
<td></td>
</tr>
<tr>
<td>Walk 1–2 blocks on level ground at 2–3 mph</td>
<td>Scrubbing floors, moving heavy furniture</td>
<td></td>
</tr>
<tr>
<td>Dusting/washing dishes (some classify this as 1–4 METs)</td>
<td>Golf, bowl, dance, doubles tennis, throw baseball or football</td>
<td></td>
</tr>
</tbody>
</table>
### Surgical Clearance Review

**Surgery-Specific Risk**

<table>
<thead>
<tr>
<th>Low Risk (&lt;1%)</th>
<th>Intermediate Risk (&lt;5%)</th>
<th>High-Risk Vascular (&gt;5%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Endoscopic procedures</td>
<td>Carotid endarterectomy</td>
<td>Peripheral vascular surgery</td>
</tr>
<tr>
<td>Superficial procedures</td>
<td>Endovascular abdominal aortic aneurysm repair</td>
<td>Aortic/major vascular surgery</td>
</tr>
<tr>
<td>Cataract surgery</td>
<td>Head and neck surgery</td>
<td></td>
</tr>
<tr>
<td>Breast surgery</td>
<td>Intraperitoneal surgery</td>
<td></td>
</tr>
<tr>
<td>Ambulatory surgery</td>
<td>Intrathoracic surgery</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Orthopedic surgery</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Prostate surgery</td>
<td></td>
</tr>
</tbody>
</table>
**Active Cardiac Conditions (should Postpone or Cancel Surgery Until Resolved)**

- Unstable coronary syndromes:
  - Unstable angina
  - Class III or IV angina
  - Recent (i.e., ≤30 days) myocardial infarction
  - Decompensated heart failure
  - Significant arrhythmia
  - Supraventricular tachyarrhythmias with heart rate >100 bpm
  - High-grade atrioventricular block
  - Mobitz II atrioventricular block
  - Symptomatic ventricular arrhythmias
  - Symptomatic bradycardia
  - Severe valvular disease
  - Severe aortic stenosis (i.e., mean pressure gradient >40 mm Hg or aortic valve area <1 cm, or symptomatic)
  - Symptomatic mitral stenosis (i.e., progressive dyspnea on exertion, exertional syncope, or heart failure)

**Clinical Risk Factors (should be Included in Preoperative Risk Assessment)**

- History of heart disease
- History of compensated or prior heart failure
- History of cerebrovascular disease
- Diabetes mellitus (or specifically, anyone treated with insulin)
- Renal insufficiency (defined as serum creatinine >2 mg/dL)
Preoperative risk is summarized by combining clinical risk, functional status, and surgery-specific risk.

Patients with an active cardiac condition should not undergo elective surgery until the active cardiac condition has been treated.

Patients with no clinical risk factors can proceed to surgery without noninvasive cardiac testing.

Patients with good functional status can proceed to surgery without noninvasive cardiac testing.

Patients undergoing low-risk surgical procedures can proceed to surgery without noninvasive cardiac testing.

Patients with one or two clinical risk factors undergoing intermediate-risk or vascular surgery or with poor or unknown functional status should be treated with perioperative β-blockers or consider noninvasive cardiac testing.

Patients with three or more clinical risk factors should be managed similarly, unless undergoing vascular surgery, in which case they should undergo noninvasive cardiac testing.
Medical Ethics

Beneficence
Duty to act in the best interests of the patient

Nonmaleficence
Duty to do no harm

Respect the patient’s autonomy
Duty to patient to make free choices
Medical Ethics

CPR/DNR

Whether or not CPR would be futile

Preferences of the patient

Expected quality of life
Brain Death

Physicians may stop tx if “brain dead”
Ethics Committee review
An EEG is not required for the diagnosis
Organs can be donated without the patients prior consent
Breast Cancer Screening

The U.S. Preventive Services Task Force (USPSTF) recommends screening mammography, with or without clinical breast examination (CBE), every 1-2 years for women aged 50-74.

The USPSTF concludes that the evidence is insufficient to recommend for or against routine CBE alone to screen for breast cancer.

The USPSTF concludes that the evidence is insufficient to recommend for or against teaching or performing routine breast self-examination (BSE).
Screening for Cervical Cancer

The U.S. Preventive Services Task Force (USPSTF) strongly recommends screening for cervical cancer in women ages 21-65 with cytology every 3 years or, women ages 30-65 who want to lengthen the screening with a combination of cytology and HPV testing every 5 years.

USPSTF recommends against screening for cervical cancer in women <21.

The USPSTF recommends against cervical cancer screening in woman >65 who have had normal testing and not high risk.

The USPSTF recommends against routine Pap smear screening in women who have had a total hysterectomy for benign disease.

The USPSTF concludes that the evidence is insufficient to recommend for or against the routine use of human papillomavirus (HPV) testing as a primary screening test for cervical cancer.

The USPSTF recommends against screening for cervical cancer with HPV alone or combination with cytology for women <30.
Colorectal Cancer

The U.S. Preventive Services Task Force (USPSTF) strongly recommends that clinicians screen men and women 50-75 years of age or older for colorectal cancer. >76 Must have risk.

- FOBT
- Barium enema/Sigmoidoscopy
- Colonoscopy
- No evidence for colonography/fecal DNA
Screening for Ovarian Cancer

The U.S. Preventive Services Task Force (USPSTF) recommends against routine screening for ovarian cancer.

There is NO existing evidence that any screening test, including CA-125, ultrasound, or pelvic examination, reduces mortality from ovarian cancer.
Screening for Abdominal Aortic Aneurysm

The U.S. Preventive Services Task Force (USPSTF) recommends one-time screening for abdominal aortic aneurysm (AAA) by ultrasonography in men aged 65 to 75 who have ever smoked.

The USPSTF makes no recommendation for or against screening for AAA in men aged 65 to 75 who have never smoked. The USPSTF recommends against routine screening for AAA in women.
The U.S. Preventive Services Task Force (USPSTF) recommends against ECG, Exercise treadmill test (ETT), Electron-beam computerized tomography (EBCT) -For either the presence of severe CAS or the prediction of CHD events in adults at low risk for CHD events.
High Blood Pressure

Summary of Recommendations

The U.S. Preventive Services Task Force (USPSTF) strongly recommends that clinicians screen adults aged 18 and older for high blood pressure.

The USPSTF concludes that the evidence is insufficient to recommend for or against routine screening for high blood pressure in children and adolescents to reduce the risk of cardiovascular disease.

At least every two years
Screening for Lipid Disorders in Adults

The U.S. Preventive Services Task Force (USPSTF) strongly recommends that clinicians routinely screen men aged 35 years and older and women aged 45 years and older for lipid disorders and treat abnormal lipids in people who are at increased risk for coronary heart disease.

The USPSTF recommends that clinicians routinely screen younger adults (men aged 20 to 35 years and women aged 20 to 45 years) for lipid disorders if they have other risk factors for coronary heart disease.

The USPSTF recommends that screening for lipid disorders include measurement of total cholesterol (TC) and high-density lipoprotein cholesterol (HDL-C).

The USPSTF concludes that the evidence is insufficient to recommend for or against triglyceride measurement as a part of routine screening for lipid disorders.
Screening for Chlamydial Infection

The U.S. Preventive Services Task Force (USPSTF) strongly recommends that clinicians routinely screen all sexually active women aged 24 years and younger, and other asymptomatic women at increased risk for infection, for chlamydial infection.

The USPSTF makes no recommendation for or against routinely screening asymptomatic low-risk women in the general population for chlamydial infection. The USPSTF recommends that clinicians routinely screen all asymptomatic pregnant women aged 24 years and younger and others at increased risk for chlamydial infection.

The USPSTF concludes that the evidence is insufficient to recommend for or against routinely screening asymptomatic men for chlamydial infection.
Hormone Therapy for the Prevention of Chronic Conditions in Postmenopausal Women

The U.S. Preventive Services Task Force (USPSTF) recommends against the routine use of combined estrogen and progestin for the prevention of chronic conditions in postmenopausal women.

The U.S. Preventive Services Task Force (USPSTF) recommends against the routine use of unopposed estrogen for the prevention of chronic conditions in postmenopausal women who have had a hysterectomy.
Screening for Type 2 Diabetes Mellitus in Adults

The U.S. Preventive Services Task Force (USPSTF) concludes that the evidence is insufficient to recommend for or against routinely screening asymptomatic adults for type 2 diabetes, impaired glucose tolerance, or impaired fasting glucose.

The USPSTF recommends screening for type 2 diabetes in adults with hypertension (135/80) or hyperlipidemia.

FPG test (>126 mg/dL) / 2-hour PG level >200 mg/dL
Screening for Osteoporosis in Postmenopausal Women

The U.S. Preventive Services Task Force (USPSTF) recommends that women aged 65 and older be screened routinely for osteoporosis.

The USPSTF makes no recommendation for or against routine osteoporosis screening in postmenopausal women who are younger than 60 or in women aged 60-64 who are not at increased risk for osteoporotic fractures.
Aspirin for the Primary Prevention of Cardiovascular Events

The U.S. Preventive Services Task Force (USPSTF) strongly recommends that clinicians discuss aspirin chemoprevention with adults who are at increased risk for coronary heart disease (CHD) 45-79 for males and 55-79 for women. Insufficient data for >80 or M<45 OR F<55.
Screening for Lung Cancer

The USPSTF recommends annual screening for Lung Cancer with low dose CT in adults ages 55-80 who have a 30 pack year smoking history and currently smoke or have quit within 15 years.
Genetic Testing for BRCA

USPSTF recommends screening of woman who have family members with breast, ovarian, tubal, or peritoneal cancer with BRCA1 or BRCA2 susceptibility

If positive they should receive counseling and testing
Vaccines

**Live viruses**
- MMR, Polio(Oral), Nasal Flu, Yellow fever

**Live bacteria**
- BCG

**Dead viruses**
- Polio (inj), Rabies, Flu

**Dead bacteria**
- Cholera, *H. influenza*, Pneumococcal, Meningococcal
Images

* Macular Degeneration
CMV Retinitis
Images
Images

* Toxoplasmosis
Diabetic Retinopathy
Images

* Cholesterolosis
Sickle Cell Retinopathy
Images

* Metastatic Disease
Retinal Vein Occlusion
Images
Images

* Macular Hole
Ocular Eye Movement/CN

\[ LR_6(\text{SO}_4)_3 \]
19 yr old presents with a two day history of cough, runny nose, headache, and congestion. He has been having a low grade fever. Exam reveals T=99.4, nasal mucosa is red with yellowish secretions and the lungs are course but clear with cough.

Next best course of action would be?

A. Mucolytics, and acetaminophen
B. Chest Radiograph, mucolytics, acetaminophen
C. Macrolide antibiotic, mucolytics, and acetaminophen
D. No action needed. It is a virus
E. Amoxicillin, mucolytics, and acetaminophen
19 yr old presents with a two day history of cough, runny nose, headache, and congestion. He has been having a low grade fever. Exam reveals T=99.4, nasal mucosa is red with yellowish secretions and the lungs are course but clear with cough.

Next best course of action would be?

A. Mucolytics, and acetaminophen
B. Chest Radiograph, mucolytics, acetaminophen
C. Macrolide antibiotic, mucolytics, and acetaminophen
D. No action needed. It is a virus
E. Amoxicillin, mucolytics, and acetaminophen
60 yr old female comes in for her annual exam. PMH/PSH: Significant for HTN, Hysterectomy for benign disease in her 20’s. She is on Benicar 40 for HTN. Allergies: NKDA.

Regarding a pap smear what is the next best course of action?

A. She is over 60 and has no need for a pap smear.
B. She is post hysterectomy and doesn’t need a pap smear.
C. She needs a pap smear with HPV analysis.
D. She needs a pap smear because we do not know the last three pap smears results with HPV analysis.
E. She needs a pap smear because there is no history of whether it was a total hysterectomy.
60 yr old female comes in for her annual exam. PMH/PSH: Significant for HTN, Total Hysterectomy for benign disease in her 20’s. All her previous paps were negative. She is on Benicar 40 for HTN. Allergies: NKDA.

Regarding a pap smear what is the next best course of action?

A. She is over 60 and has no need for a pap smear.
B. She is post hysterectomy and doesn’t need a pap smear.
C. She needs a pap smear with HPV analysis.
D. She needs a pap smear because we do not know the last three pap smears results with HPV analysis.
E. She needs a pap smear because there is no history of whether it was a total hysterectomy.
Question 1

32 yr old with history of intermittent back pain presents with left leg pain. The pain starts in the lower back or buttocks area and radiates down the left leg into the foot. He states that the pain seems to be worse at night. The patient is very healthy. He is an amateur bicycle racer and rides daily.

Physical Exam

Normal except for the neuro exam. The spine is non-tender to palpation and percussion. The patient has moderate tenderness in the left buttocks area. It is difficult for the patient to tiptoe on his left foot. The rest of the neurological exam including deep tendon reflexes are normal.

Which of the following is the probable cause of this patient’s pain?

- A. L5 radiculopathy
- B. S1 radiculopathy
- C. Sciatica
- D. Peroneal nerve injury
**Question 1**

32 yr old with history of intermittent back pain presents with left leg pain. The pain starts in the lower back or buttocks area and radiates down the left leg into the foot. He states that the pain seems to be worse at night. The patient is very healthy. He is an amateur bicycle racer and rides daily.

**Physical Exam**

Normal except for the neuro exam. The spine is non-tender to palpation and percussion. The patient has moderate tenderness in the left buttocks area. It is difficult for the patient to tiptoe on his left foot. The rest of the neurological exam including deep tendon reflexes are normal.

Which of the following is the probable cause of this patient’s pain?

* A. L5 radiculopathy
* B. S1 radiculopathy
* C. Sciatica
* D. Peroneal nerve injury
34 year old moderately obese woman presents with complaints of having had an episode of blindness in her left eye last week. The symptoms lasted approximately five hours and then resolved spontaneously over the next couple hours. She has otherwise been in good health and does aerobic exercises three times a week. She notes that when she has exercised since the episode she seems to have some dimming of vision in her left eye. She is a nonsmoker and nondrinker. She has five children.

Physical Exam
- The pupil does not constrict when light is shone directly in her eye though consensual constriction is intact. She otherwise has a normal physical exam.
- Lab: CBC, BUN, electrolytes, creatinine, and glucose are normal.

Which of the following diagnoses is most consistent with this patient’s signs and symptoms?
- A. Optic Neuritis
- B. Central retinal vein occlusion
- C. Ischemic optic neuropathy
- D. Pseudotumor cerebri
- E. Acephalic migraine
34 year old moderately obese woman presents with complaints of having had an episode of blindness in her left eye last week. The symptoms lasted approximately five hours and then resolved spontaneously over the next couple hours. She has otherwise been in good health and does aerobic exercises three times a week. She notes that when she has exercised since the episode she seems to have some dimming of vision in her left eye. She is a nonsmoker and nondrinker. She has five children.

Physical Exam
The pupil does not constrict when light is shone directly in her eye though consensual constriction is intact. She otherwise has a normal physical exam.
Lab: CBC, BUN, electrolytes, Creatinine, and glucose are normal.

Which of the following diagnoses is most consistent with this patient’s signs and symptoms?
A. Optic Neuritits
B. Central retinal vein occlusion
C. Ischemic optic neuropathy
D. Pseudotumor cerebri
E. Acephalic migraine
Question 3

42 yr old man who is homeless and a chronic alcoholic is brought into the hospital by friends for evaluation of his impaired balance and decrease in mental status. On physical exam you find the patient has rather flat affect and has poor cognitive function. He has an ocular palsy involving the sixth cranial nerve.

What is the most probable cause of this patient’s problem?

A. Wernicke encephalopathy
B. Korsakoff syndrome
C. Subdural hematoma
D. Subarachnoid bleed
E. Thromboembolic stroke
Question 3

42 yr old man who is homeless and a chronic alcoholic is brought into the hospital by friends for evaluation of his impaired balance and decrease in mental status. On physical exam you find the patient has rather flat affect and has poor cognitive function. He has an ocular palsy involving the sixth cranial nerve.

What is the most probable cause of this patient’s problem?

A. Wernicke encephalopathy
B. Korsakoff syndrome
C. Subdural hematoma
D. Subarachnoid bleed
E. Thromboembolic stroke
You are consulted on a case involving a previously healthy 34 yr old woman who presents with complaints of weakness in her upper arms. She says that the symptoms started two months previously and have slowly gotten worse. She works as a waitress and has noted that it has been especially difficult to put glasses in cabinets above her head. She complains of mild malaise.

On physical exam you find that the patient has mild tenderness of her upper arm and thigh area muscles. She has mildly decreased biceps, triceps, and deltoid strength. It is difficult to tell whether strength extinguishes with repeated testing because the patient is noncompliant.

Lab reveals CK 300 and ESR=60. Electrolytes and CBC are normal.

What is the next most appropriate test?
A. Edrophonium test
B. Prednisone 10 mg per day
C. Muscle Biopsy
D. ANA,RA
You are consulted on a case involving a previously healthy 34 yr old woman who presents with complaints of weakness in her upper arms. She says that the symptoms started two months previously and have slowly gotten worse. She works as a waitress and has noted that it has been especially difficult to put glasses in cabinets above her head. She complains of mild malaise. On physical exam you find that the patient has mild tenderness of her upper arm and thigh area muscles. She has mildly decreased biceps, triceps, and deltoid strength. It is difficult to tell whether strength extinguishes with repeated testing because the patient is noncompliant. Lab reveals CK 300 and ESR=60. Electrolytes and CBC are normal.

What is the next most appropriate test?
A. Edrophonium test
B. Prednisone 10 mg per day
C. Muscle Biopsy
D. ANA,RA
65 year old is brought in by her family to you for evaluation of abnormal gait, increased falling, and decreased mental status. Her family states that she seems to have extreme difficulty navigating the stairs. She also has been more forgetful than normal for the last three to six months. She is otherwise in good health.

**Physical Exam:**
- Elderly woman with a flat affect and masked facies.
- She has tenseness in her neck and trunk.
- Her neck is mildly hyperextended.
- She has trouble looking down voluntarily.
- No tremors are noted. Gait is slowed.

**Which of the following would be the most likely diagnosis for this patient?**
A. Shy-Drager syndrome  
B. Parkinsons disease  
C. Progressive supranuclear palsy  
D. Autonomic dysfunction  

**Which of the following provide good relief of symptoms in most of these patients?**
A. Amantadine  
B. Deprenyl  
C. L-Dopa and carbidopa  
D. Bromocriptine  
E. No effective drug treatment therapy is available.
65 year old is brought in by her family to you for evaluation of abnormal gait, increased falling, and decreased mental status. Her family states that she seems to have extreme difficulty navigating the stairs. She also has been more forgetful than normal for the last three to six months. She is otherwise in good health.

**Physical Exam:**
- Elderly woman with a flat affect and masked facies.
- She has tenseness in her neck and trunk.
- Her neck is mildly hyperextended.
- She has trouble looking down voluntarily.
- No tremors are noted. Gait is slowed.

**Which of the following would be the most likely diagnosis for this patient?**
A. Shy-Drager syndrome
B. Parkinsons disease
C. Progressive supranuclear palsy
D. Autonomic dysfunction

**Which of the following provide good relief of symptoms in most of these patients?**
A. Amantadine
B. Deprenyl
C. L-Dopa and carbidopa
D. Bromocriptine
E. No effective drug treatment therapy is available.
62 year old presents with history of HTN and history of heart fluttering was brought into the ER with acute mental status change.

You have been called to evaluate by the ER doctor.

On exam she is not oriented to person or place or time.

BP 189/80. Heart is irregular and at a rate of 103.

Neurologically she is flaccid on the left upper extremity and the left lower extremity with a positive Babinski.

She has a conjugate gaze to the right and aphasic.

What is the diagnosis?
What is the distribution?
What area was affected?
62 year old presents with history of HTN and history of heart fluttering was brought into the ER with acute mental status change. You have been called to evaluate by the ER doctor.

On exam she is not oriented to person or place or time. BP 189/80. Heart is irregular and at a rate of 103. Neurologically she is flaccid on the left upper extremity and the left lower extremity with a positive Babinski. She has a conjugate gaze to the right and aphasic.

What is the diagnosis?
Ischemic Stroke

What is the distribution?
Middle Cerebral Artery

What area was affected?
Middle cerebrum
50 year old with no medical history presents with weakness and fatigue.

No other history other than it has slowly got worse over the past few months.

On exam:

Noted fasciculations on exam of the chest and arms/legs and lower extremity weakness proximal greater than distal.

DTR’s are +3/4 patellar and brisk.

Lab= CK 400
50 year old with no medical history presents with weakness and fatigue. No other history other than it has slowly got worse over the past few months. On exam all is normal except noted fasciculations on exam of the chest and arms/legs and lower extremity weakness proximal greater than distal. DTR’s are +3/4 patellar and brisk. Lab =CK 400

What is the diagnosis?

Amyotrophic Lateral Sclerosis

Most Common Anterior Horn Disease

Lou Gehrigs Disease
Q What is the diagnosis?

1. Atlanto-occipital dislocation
2. Atlanto-axial subluxation
3. Pillar fracture
4. Spinous process avulsion
5. Wedge fracture
What is the diagnosis?

Answer:

1. Atlanto-occipital dislocation

This computed tomogram of the cervical spine shows major atlanto-occipital dislocation in the lateral view that proved to be fatal.
Q What is the diagnosis?

1. Central retinal vein occlusion
2. Cholesterol embolism
3. Retinoschisis
4. Temporal arteritis
5. Toxoplasmosis
Image Challenge

Q  What is the diagnosis?

Answer:

2. Cholesterol embolism

The image demonstrates cholesterol emboli with surrounding white lucency representing retinal edema. Fluorescein angiography confirmed occlusion of the cilioretinal artery with nonperfusion of the tissue bed in the hypofluorescent areas. Cholesterol emboli are crystals that are released in the arterial bloodstream from ulcerated or disrupted atherosclerotic plaques and can be an initial sign of vascular disease.
Q: What is the diagnosis?

1. Lipoatrophy
2. Myositis ossificans
3. Rhabdomyolysis
4. Sarcoma
5. Syphilitic gumma
Image Challenge

Q  What is the diagnosis?

Answer:

1. Lipoatrophy

Depressed areas of skin at the sites typically used for insulin injection are most consistent with injection-site lipoatrophy. It is associated with all types of insulin and may lead to erratic insulin absorption.
What is the diagnosis?

1. Brachial plexopathy
2. Clavicular fracture
3. Lipodystrophy
4. Polyostotic fibrous dysplasia
5. Rupture of the trapezius muscle
Image Challenge

Q  What is the diagnosis?

Answer:

3. Lipodystrophy

The presence of a dorsocervical fat pad in a patient who is otherwise lean suggests the diagnosis of lipodystrophy.
Q This patient presented with unilateral rhinorrhea. What is the diagnosis?

1. Nasal foreign body
2. Osteoma
3. Pituitary tumor
4. Skull fracture
5. Sinusitis
Q  This patient presented with unilateral rhinorrhea. What is the diagnosis?

Answer:

3. Pituitary tumor

The sinus radiograph reveals an enlarged sella turcica. Magnetic resonance imaging confirmed a pituitary macroadenoma that had caused cerebrospinal fluid rhinorrhea.
This technetium-99m sulfur colloid scan was performed after the patient presented with abdominal pain. Howell-Jolly bodies were present on a peripheral-blood smear. What is the diagnosis?

1. Hemochromatosis
2. Hydatidiform mole
3. Multiple myeloma
4. Pelvic spleen
5. Uterine sarcoma
Image Challenge

Q  This technetium-99m sulfur colloid scan was performed after the patient presented with abdominal pain. Howell-Jolly bodies were present on a peripheral-blood smear. What is the diagnosis?

Answer:

4. Pelvic spleen

Abdominal imaging after injection of technetium-99m revealed a normal liver and a pelvic spleen. Pelvic spleen can be complicated by torsion of the pedicle. Howell-Jolly bodies suggest functional asplenia.
This patient with a history of rheumatoid arthritis presented with a several-month history of a painful left calf. What is the diagnosis?

1. Baker's cyst
2. Gastrocnemius tear
3. Meniscal cyst
4. Lipoblastoma
5. Septic arthritis
Q  This patient with a history of rheumatoid arthritis presented with a several-month history of a painful left calf. What is the diagnosis?

Answer:

1. Baker's cyst

Baker's cysts may be seen in patients with rheumatoid arthritis, in whom they consist of a synovium-lined sac that is continuous with the joint space. Symptoms of a Baker's cyst, especially if it ruptures, may mimic those of venous thrombosis. Meniscal cysts appear laterally. Lipoblastomas typically affect young children. There are no signs to suggest septic arthritis. The presentation is not typical of a gastrocnemius tear.
Q: What is the diagnosis?

1. Cytomegalovirus retinitis
2. Glaucoma
3. Malignant hypertension
4. Panretinal photocoagulation
5. Retinal vein thrombosis
Image Challenge

Q  What is the diagnosis?

Answer:

3. **Malignant hypertension**

The retinal image demonstrates disk swelling with scattered cotton-wool spots, and inferior serous retinal detachment. The patient's blood pressure was 220/150 mm Hg. The pattern of subretinal fluid accumulation and exudative retinal detachment is most consistent with malignant hypertension.
Q What physical findings would be expected to be present in this patient?

1. Quadriplegia with bilateral gaze paresis
2. Left hemiparesis, gaze deviated to the left
3. Left hemiparesis, gaze deviated to the right
4. Right hemiparesis, gaze deviated to the left
5. Right hemiparesis, gaze deviated to the right
Image Challenge

Q: What physical findings would be expected to be present in this patient?

Answer:

3. Left hemiparesis, gaze deviated to the right

The images demonstrate an infarct of the right internal capsule nucleus which caused left hemiparesis and gaze deviation to the right.
What is the diagnosis?

1. Hemorrhagic episcleritis
2. Intravitreal hemorrhage
3. Loa loa
4. Osteogenesis imperfecta
5. Traumatic bleb
How is the diagnosis?

Q: What is the diagnosis?

Answer:

5. Traumatic bleb

Contact ultrasonographic biomicroscopy of this large pigmented lesion in the left eye revealed a cystic structure with communication to the vitreous cavity, prompting the diagnosis of a uveal bleb rather than melanoma.
Q Which one of the following signs would you expect to find in this 76-year-old woman with anemia?

1. Bulbar palsy
2. Flaccid paralysis of the upper extremities
3. Lower-extremity spasticity
4. Lower-extremity thermoanesthesia
5. Romberg's sign
Image Challenge

Q Which one of the following signs would you expect to find in this 76-year-old woman with anemia?

Answer:

5. Romberg's sign

The MRI reveals hyperintense signal in the dorsal spinal cord extending from C2 to C5. Vibratory and proprioception are carried in the dorsal column, and were decreased in this woman's fingers and toes. Romberg's sign was present. She was unable to perform tandem gait. Pernicious anemia was diagnosed.
Q What term is used to describe this finding?

1. Arc eye
2. Asthenopia
3. Choroideremia
4. Coloboma
5. Corectopia
Q What term is used to describe this finding?

Answer:

4. Coloboma

Colobomas are the result of abnormal closure of the optic fissure. They may occur anywhere along the optic fissure and can affect the iris, choroid, or macula. Isolated iris colobomas are asymptomatic, but those involving the macula or the optic disk can result in severe visual impairment. Typical iris colobomas occur in the inferonasal quadrant.
Q What clinical presentation would be expected in this patient?

1. Asymmetrical mydriasis
2. Ataxic hemiparesis
3. Hypothermia
4. Quadriplegia
5. Upward gaze palsy
What clinical presentation would be expected in this patient?

4. Quadriplegia

The most common presentation of a pontine hemorrhage is quadriplegia. Small, reactive pupils are characteristic of pontine hemorrhages. Hemiparesis would be expected if the hemorrhage were asymmetrical. Hypothermia is unusual. Upward gaze palsy occurs with midbrain involvement.
Q: What is the diagnosis?

1. Epidural hematoma
2. Glioblastoma multiforme
3. Meningioma
4. Subarachnoid hemorrhage
5. Subdural hematoma
Image Challenge

Q  What is the diagnosis?

Answer:

1. Epidural hematoma

Computed tomogram shows a 2.5-cm epidural hematoma in the left parietal region with mass effect, effacement, and left-to-right midline shift. Epidural hematomas have a lens-shaped appearance. Subdural hematomas are typically sickle-shaped.
Q This patient with chronic alcoholism presented with dysarthria and horizontal nystagmus. What is the diagnosis?

1. Brainstem glioma
2. Central pontine myelinolysis
3. Neurosarcoidosis
4. Pontine stroke
5. Tabes dorsalis
This patient with chronic alcoholism presented with dysarthria and horizontal nystagmus. What is the diagnosis?

**Answer:**

2. **Central pontine myelinolysis**

The brain MRI reveals central pontine myelinolysis with a well-defined lesion in the pons of low T1-signal intensity, with sparing of the ventral lateral and cortical spinal tracts and no space-occupying effect or distortion of the adjacent fourth ventricle. Central pontine myelinolysis is a noninflammatory, demyelinating condition that was originally described in those with chronic alcoholism.
Q: What diagnosis is suggested by this corneal photograph?

1. Anterior uveitis
2. Chlamydia trachomatis infection
3. Cytomegalovirus retinitis
4. Herpes simplex virus infection
5. Toxocariasis
Image Challenge

Q  What diagnosis is suggested by this corneal photograph?

Answer:

4. Herpes simplex virus infection

A dendritic ulcer is indicative of herpes simplex virus infection.
Q Which one of the following patterns of visual disturbance would be predicted to be demonstrable on examination of this patient?

1. Inferior hemifield loss
2. Temporal quadrantanopsia
3. Uniocular blindness
4. Macular sparing hemianopsia
5. Peripheral ring scotoma
Image Challenge

Q Which one of the following patterns of visual disturbance would be predicted to be demonstrable on examination of this patient?

Answer:

1. Inferior hemifield loss

Dilated ophthalmoscopy of this left eye illustrates a nonrefractile plaque in the proximal superior retinal artery with retinal whitening in the superior macula signifying retinal ischemia. Superior retinal ischemia will result in a defect in the inferior visual field, as in this patient. A diagnosis of hemiretinal arterial occlusion was made.

Q  What term is used to describe this finding?

:  
1. Hyphema
2. Hypopyon
3. Iridocyclitis
4. Iridoderisis
5. Synechia
Image Challenge

Q  What term is used to describe this finding? :

Answer:

1. Hyphema

Layering of blood in the anterior segment is termed hyphema. Hypopyon refers to pus in the anterior segment. Iridocyclitis refers to inflammation of the iris. Iridodonesis is a quivering of the iris when the patient moves the eye. Synechia is an adhesion between the iris and the lens.

Image Challenge

Q What is the diagnosis?

1. Central retinal artery occlusion
2. Diabetic papillopathy
3. Ocular toxoplasmosis
4. Optic neuritis
5. Malignant hypertension
Q  What is the diagnosis?

Answer:

5. Malignant hypertension

The fundus photograph shows disk edema, cottonwool spots, a swollen optic nerve, and retinal hemorrhages. Together, these findings suggest a diagnosis of malignant hypertension.

Q: A patient with this tomogram would be most likely to present with which one of the following signs?

1. Uniocular blindness
2. Hemiplegia
3. Alexia without agraphia
4. Hemiballismus
5. Internuclear ophthalmoplegia
Image Challenge

Q  A patient with this tomogram would be most likely to present with which one of the following signs?

Answer:

2. Hemiplegia

The tomogram shows a calcified object in the proximal right middle cerebral artery. Occlusion of the middle cerebral artery would be most likely to be associated with contralateral hemiparesis, as in this case. The other listed choices represent stroke syndromes that most typically involve other vascular territories.
Q What is the most likely diagnosis?

1. Paget's disease
2. Meningioma
3. Neurocysticercosis
4. Pneumocephalus
5. Hyperparathyroidism
Q: What is the most likely diagnosis?

Answer:

4. Pneumocephalus

The cranial radiograph shows air in the left temporal region without evidence of fracture. Pneumocephalus can occur after neurosurgical procedures, head and facial trauma, or ear infection and can even occur spontaneously. The finding is not typical of a brown tumor, Paget's disease, neurocysticercosis, or meningioma.

Q This patient is most likely to have presented with which one of the following findings?

1. Amnesia
2. Ataxia
3. Dysphagia
4. Hemianopia
5. Hemiparesis
Q This patient is most likely to have presented with which one of the following findings?:

Answer:

5. Hemiparesis

An acute occlusion of the middle cerebral artery, as illustrated here, is most likely to present with contralateral hemiparesis.

Q What is the diagnosis?

1. Hypertriglyceridemia
2. Hypertensive retinopathy
3. Optic atrophy
4. Central retinal artery occlusion
5. Cytomegalovirus retinitis
Image Challenge

Q  What is the diagnosis?

Answer:

1. Hypertriglyceridemia

The creamy white vessels in the fundus resulted from extreme hypertriglyceridemia.

Q What is the diagnosis?

1. Intracranial hemorrhage
2. Osteoma
3. Neurocysticercosis
4. Arachnoid cyst
5. Meningioma
Q What is the diagnosis?

Answer:

5. Meningioma

This well-circumscribed and highly calcified extra-axial mass is most consistent with a meningioma.

Q What is the diagnosis?

1. Chalazion
2. Papilloma
3. Pterygium
4. Pinguecula
5. Coloboma
Q What is the diagnosis?

Answer:

2. Papilloma

This 9-year-old boy was diagnosed with conjunctival viral papilloma.

This patient developed difficulty swallowing following a dental procedure. What is the diagnosis?

1. Spondylolisthesis
2. Prevertebral air
3. Pharyngeal diverticulum
4. Pharyngeal foreign body
5. Periodontal abscess
Image Challenge

Q This patient developed difficulty swallowing following a dental procedure. What is the diagnosis?

Answer:

2. Prevertebral air

The radiograph shows emphysema with prevertebral air in the cervical soft tissues. A high-speed dental drill was implicated.
Q These lesions were neither pruritic nor painful. What is the diagnosis?

1. Pyoderma gangenousus
2. Phlegmasia cerulea dolens
3. Pretibial myxedema
4. Necrobiosis lipoidica diabetorum
5. Erythema nodosum
Image Challenge

Q  These lesions were neither pruritic nor painful. What is the diagnosis?

Answer:

4. Necrobiosis lipoidica diabeticorum

This patient was diagnosed with necrobiosis lipoidica diabeticorum.

Image Challenge

What is the diagnosis?

1. Cytomegalovirus retinitis
2. Roth spots
3. Central retinal vein occlusion
4. Hypertensive retinopathy
5. Papilledema
Image Challenge

Q  What is the diagnosis?
 : 

Answer:

5. Papilledema

The fundoscopic image suggests florid papilledema.

Q  A 55-year-old kidney-transplant recipient presented with headache and fever. The cerebrospinal fluid contained 84 percent neutrophils. What is the most likely diagnosis?

1. Nocardia asteroides infection
2. Cerebral toxoplasmosis
3. Listeria monocytogenes infection
4. Miliary tuberculosis
5. Cryptococcus neoformans infection
Q A 55-year-old kidney-transplant recipient presented with headache and fever. The cerebrospinal fluid contained 84 percent neutrophils. What is the most likely diagnosis?

Answer:

1. *Nocardia asteroides* infection

*Nocardia asteroides* infection typically presents with an abscess or multiple enhancing lesions, with neutrophilic pleocytosis in the cerebrospinal fluid.

*Read More: N Engl J Med 2006;354:2802*
Q What is the diagnosis?

1. Left facial palsy
2. Cavernous sinus thrombosis
3. Orbital lymphoma
4. Herpes zoster ophthalmicus
5. Orbital fracture
Q  What is the diagnosis?

Answer:

4. Herpes zoster ophthalmicus

The image illustrates a left VI nerve palsy from herpes zoster ophthalmicus.

Good Luck!!

✓ Relax
✓ Take A Deep Breath
✓ Read the Question
✓ Think on what was presented - *nothing else*
✓ Make the Decision
✓ You’re a **DO**, you know it will be correct