American College of Physicians
Northern California Chapter
Scientific Meeting

General Medicine Updates

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Topics


Question 1:

A 20-year old male is standing at work as an usher in the theater and feels suddenly flushed and nauseated. He then has an abrupt loss of consciousness with loss of postural tone. He has a rapid and spontaneous recovery. No preceding palpitations or pain. No confusion following the episode.
Question 1:

Which of the following is the most appropriate diagnostic test to perform next?

A) Transthoracic echocardiography
B) Serum thyroid stimulating hormone
C) Resting 12-lead electrocardiogram (ECG)
D) Chest x-ray
Question 1:

Which of the following is the most appropriate diagnostic test to perform next?

A) Transthoracic echocardiography

B) Serum thyroid stimulating hormone

C) Resting 12-lead electrocardiogram (ECG)

D) Chest x-ray
Key Points 2017 ACC/AHA/HRS Syncope

- Resting 12 lead ECG is useful in initial eval of syncope (Class 1).
- Routine and comprehensive lab testing is NOT useful (Class III: No benefit).
- Routine cardiac imaging is NOT useful unless cardiac etiology suspected based on initial eval including history, ECG, and exam (Class III: No benefit).
- Vasovagal syncope is the most common cause of syncope. Patient education on diagnosis and prognosis is recommended (Class 1).
Hospital evaluation and treatment recommended for patients with syncope who have a serious medical condition potentially relevant to the cause of syncope identified during initial evaluation (Class 1).

Evaluation of the cause and assessment for the short and long term risk of syncope is recommended (Class 1).

Detailed history and physical exam should be performed in patients with syncope (Class 1).
Key Points 2017 ACC/AHA/HRS Syncope

- Carotid artery imaging is not recommended in the routine evaluation of syncope in the absence of focal neurological findings (Class III: no benefit).

- Dual chamber pacing might be reasonable in a select population of patients over 40 with recurrent VVS and prolonged spontaneous pauses (Class IIIb).

- Beta blockers are not beneficial in pediatric patients with VVS (Class III: no benefit).
Key Points 2017 ACC/AHA/HRS Syncope

- Fluid resuscitation by acute water ingestion or IV infusion is recommended for occasional, temporary relief in patients with neurogenic orthostatic hypotension or dehydration (Class 1).

- Reducing or withdrawing medications that may cause hypotension can be beneficial in selected patients with syncope (Class II a).
Question 2:

A 64-year old female with hypertension takes losartan 50 mg daily to control her blood pressure. She is planning to undergo inpatient noncardiac surgery. Her current blood pressure is 141/91.

According to a recent study in *Anesthesiology*, which of the following is the most appropriate pre-operative management of this patient’s losartan?
Question 2:

(A) Continue losartan 50 mg daily
(B) Withhold losartan 3 days before surgery
(C) Withhold losartan 24 hours before surgery
(D) Increase losartan dosage to 100 mg
Question 2:

(A) Continue losartan 50 mg daily
(B) Withhold losartan 3 days before surgery
(C) Withhold losartan 24 hours before surgery
(D) Increase losartan dosage to 100 mg
Withholding or Continuing ACE or ARB Before Non-cardiac Surgery Key Point

- Withholding ACE/ARB 24 hours before major non-cardiac surgery was associated with lower risk of death and post-operative vascular events.

- Secondary analysis of 4,802 patients on these drugs in Vascular events In noncardiac Surgical patients cOhort evaluatioN (VISION) prospective cohort study.
VISION Cohort Analysis

- Compared to patients who continued their ACE/ARB, the 26% ACE/ARB users who withheld their ACE/ARB (1,245 patients) in the 24 hours before surgery were less likely to suffer the primary composite outcome of 30 day all cause death, stroke, or MI (12.0% vs 12.9%; adjusted relative risk 0.82, 95% CI, 0.70-0.96, P = 0.01)

- The patients who withheld ARB/ACE were less likely to have intraoperative hypotension (adjusted relative risk 0.80, 95% CI 0.72-0.93; P < 0.001)
VISION Cohort Analysis Key Points

- Results consistent across range of pre-operative blood pressures.
- This was an observational study.
- Authors recommend a large randomized trial to confirm findings.
- In interim, based on this study, consider recommending that patients withhold ARB/ACE 24 hours before surgery.
Noninvasive treatments for acute, subacute, and chronic low back pain: A clinical practice guideline from the ACP

Given that most patients with acute or subacute low back pain improve with time regardless of treatment, select non-pharmacologic treatment with superficial heat (moderate quality evidence), massage, acupuncture, or spinal manipulation (low quality evidence).

- If pharmacologic treatment is desired, select NSAIDs or skeletal muscle relaxants (moderate quality evidence).

Grade: Strong Recommendation
Noninvasive treatments for acute, subacute, and chronic low back pain: A clinical practice guideline from the ACP

For chronic low back pain:
Select nonpharmacological treatment with exercise, multidisciplinary rehabilitation, acupuncture, mindfulness based stress reduction (moderate quality evidence), tai chi, yoga, motor control exercise, progressive relaxation, cognitive behavioral therapy, or spinal manipulation (low quality evidence).

Grade: Strong Recommendation
Noninvasive treatments for acute, subacute, and chronic low back pain: A clinical practice guideline from the ACP

- In patients with chronic lower back pain who have inadequate response to nonpharmacological therapy, consider NSAIDs as first line, or tramadol or duloxetine as second line.

- Only consider opioids as an option in patients who have failed the aforementioned treatments and only if potential benefit outweighs risk and after discussion of known risks and realistic benefits.

Grade: Weak Recommendation, Moderate Quality Evidence
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General Medicine Updates

Kurt M. Hafer, MD
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Stanford University School of Medicine


Statin Use for Primary Prevention of Cardiovascular Disease in Adults: USPSTF Recommendations

Question 1:

A 57 year-old non-smoking Caucasian male with total cholesterol of 257, HDL of 41, LDL of 191, Systolic blood pressure of 135 comes in asking you whether he needs to take a daily medication to lower his cholesterol. He does not have diabetes or hypertension.

Using your ASCVD Risk calculator: 10-year ASCVD Risk = 11.3%, (with a 10-year optimal risk of 4.3%).
Question 1:

Which of the following is the most appropriate response?

A) No need for statin at this time
B) Start simvastatin 20mg daily
C) Start daily rosuvastatin or atorvastatin
D) Start Niacin
Question 1:

Which of the following is the most appropriate response?

A) No need for statin at this time

B) Start simvastatin 20mg daily

C) Start daily rosvastatin or atorvastatin

D) Start Niacin
Key Points: USPSTF Statin Recommendations

- Clinical ASCVD Group:
  - Age ≤75, 10-yr ASCVD Risk ≥7.5%: Daily high or moderate intensity statin
  - Age >75 10-yr ASCVD Risk ≥7.5%: Daily moderate intensity statin

- LDL-C ≥ 190 mg/dL: Consider daily high or moderate intensity statin

- Diabetes (Age 40-75) + LCL-C 70-189: Daily high or moderate intensity statin
Key Points: USPSTF Statin Recommendations

- Non-ASCVD Group:
  - Age 40-75 10-year ASCVD Risk ≥7.5% + LDL-C 70 to 189: Reasonable to engage in a discussion of risk and benefit, patient preference, drug-drug interactions prior to starting a moderate or high-intensity statin

- Tipping Point FYI: A 63 y/o Caucasian M with “normal” lipids, blood pressure and no RFs has a 10-year ASCVD Risk of ~7.4%
Key Points: USPSTF Statin Recommendations

- Use high or moderate intensity statins if 10-year ASCVD Risk $\geq 7.5\%$, or LDL-C $\geq 190$ or patient is Diabetic (with caveats)

- May not need to monitor lipids annually if statin dose is stable

- Re-evaluate 10-year ASCVD Risk every 4-6 years

- Lifestyle changes are still most important in reducing ASCVD Risk
Question 2:

A 61 year-old non-smoking Caucasian male with HTN, Lipids, DM2 and CAD, s/p MI at 52 has an LDL-C=70. BP=118/70. He feels well, his exam is benign, and is stable on his current medical regimen of ASA, Metformin, Losartan, Carvedilol and rosuvastatin 5mg.
Question 2:

Which of the following is the most appropriate response?

(A) Make no medication changes
(B) Order a cardiac catheterization
(C) Add HCTZ 25mg daily
(D) Increase his rosuvastatin until LDL-C<55
Question 2:

(A) Make no medication changes
(B) Order a cardiac catheterization
(C) Add HCTZ 25mg daily
(D) Increase his rosuvastatin until LDL-C<55
Key Points:
AACE/ACE Dyslipidemia Clinical Practice Guidelines

- **Goal:** An overview of the screening recommendations, assessment of risk, and treatment recommendations for various lipid disorders
- Special consideration for individuals with diabetes, women, and children/adolescents with dyslipidemia
- Cost-effectiveness data to support therapeutic decision-making.

- 87 page document, 87 evidence-based graded recommendations and 695 references!
Key Points:
AACE/ACE Dyslipidemia Clinical Practice Guidelines

- **Recommendation 40 (R40):** For individuals at extreme ASCVD Risk or with established ASCVD in patients with DM2 or patients with premature ASCVD (males <55, females <65):
  - LDL-C Goal < 55mg/dL
  - (Grade A, Best Evidence Level 1)
Key Points:
AACE/ACE Dyslipidemia Clinical Practice Guidelines

- 87 Clinical Practice Guidelines (CPGs) for Dyslipidemia
- Based upon Task Force Assignments for a Question and Problem-oriented literature search with evidence
- **Best Evidence Level (BEL):** 1 (strong), 2 (intermediate) or 3 (weak)
- **Recommendation Grade:** A (strong), B (intermediate) or C (weak)
Key Points:
AACE/ACE Dyslipidemia Clinical Practice Guidelines

- 87 Executive Summary Recommendations:
  - 45 are Grade A (51.7%) - Strong
  - 18 are Grade B (20.7%) - Intermediate
  - 15 are Grade C (17.2%) - Weak
  - 9 are Grade D (10.3%) - None or negative impact

Recommendations are based on Best Evidence Level (BEL):
Key Points:
AACE/ACE Dyslipidemia Clinical Practice Guidelines

- Based on Best Evidence Level (BEL) of the 695 citations:
- 203 citations (29.2%) are EL 1 (strong)
- 137 citations (19.7%) are EL 2 (intermediate)
- 119 citations (17.1%) are EL 3 (weak)
- 236 citations (34.0%) are EL 4 (no clinical evidence)
SPRINT Trial: Effect of Intensive Blood-Pressure Treatment on Patient-Reported Outcomes

Question 3:

A 68 year-old non-smoking female retired physician with HTN, Lipids, FamHx CAD and a 10-year ASCVD risk=13% comes to see you for a BP check. She does not have diabetes.

Her home BP logs show SBPs in the mid-140s, w/ rare 150s on HCTZ 25mg daily. Clinic BP=142/88.

She feels well and exam is benign. She asks you about the Sprint Trial data and wonders if she should be take another BP medication, but worries she will feel “less well” if her BP is lower.
Question 3:

Which of the following is the most appropriate response?

(A) Make no changes
(B) Change HCTZ to chlorthalidone
(C) Add amlodipine 2.5mg daily
(D) Add hydralazine 25mg 4x daily
Question 3:

(A) Make no changes
(B) Change HCTZ to chlorthalidone
(C) Add amlodipine 2.5mg daily
(D) Add hydralazine 25mg 4x daily
New analysis of SPRINT Trial data of 9361 HTN patients
SPRINT Trial: Effect of Intensive Blood-Pressure Treatment on Patient-Reported Outcomes

Background:
SPRINT Trial: Effect of Intensive Blood-Pressure Treatment on Patient-Reported Outcomes

- Background:
SPRINT Trial: Effect of Intensive Blood-Pressure Treatment on Patient-Reported Outcomes

- **Similar** patient-reported scores regarding:
  - Mental Health (VR-12 MCS)
  - Physical Health (VR-12 PCS)
  - Depression (PHQ-9)

![Graph showing patient-reported outcomes over time.](image)
Key Points: Effect of Intensive Blood-Pressure Treatment on Patient-Reported Outcomes

- **Sprint Trial Conclusions:**
  - In patients with increased cardiovascular risk, treating to an SBP goal of 120 leads to 1/3 fewer CV events & mortality than an SBP goal of 140 (trial stopped early after ~3.26 years).
  - Intensive BP control may result in ↑ medication & adverse events, (Serious Adverse Events = 38.3% vs 37.1%: hypotension, syncope, electrolyte issues, AKI)
  - Intensive blood pressure treatment did **NOT** adversely impact patient’s perception of their mental or physical health or depression.
American College of Physicians
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General Medicine Updates

Justin Lotfi, MD
Clinical Instructor, Internal Medicine
Stanford University School of Medicine
Overview

1. Chronic knee pain using online therapy
   Ann Intern Med, April 2017

2. Colorectal cancer screening updates
   Gastroenterology, July 2017

3. Guidelines for Helicobacter pylori infection
   Am J Gastroenterol, February 2017
A 60-year old man with a history of obesity and hyperlipidemia presents with two years of progressive right knee pain. He denies joint locking, trauma, or leg weakness. Exam demonstrates a mild effusion with tenderness along the medial joint line. A plain film reveals severe tricompartmental osteoarthritis. He is concerned that his x-ray has worsened.
Question 1

Which of the following is the most appropriate next step?

A) Local Steroid Injection
B) Physical Therapy
C) MRI
D) Knee arthroscopy
E) Knee replacement
Question 1

Which of the following is the most appropriate next step?

A) Local Steroid Injection
B) Physical Therapy
C) MRI
D) Knee arthroscopy
E) Knee replacement
Persistent knee pain is a contributor to global disability

Non-pharmacologic, non-surgical treatment options are imperative

Exercise therapy is the cornerstone of conservative management

Cognitive behavior principles improve chronic pain syndromes

Study: effectiveness of Internet-based interventions: video physiotherapy using Skype and automated pain-coping skills training
Effectiveness of Internet-Delivered Exercise and Pain-Coping Skills Training for Chronic Knee Pain

- 148 patients aged 50+ with >3 months knee pain during walking and mild to moderate dysfunction (>4 pain scale; >20 WOMAC arthritis index)
- **Exclusions**: joint replacement; steroid injection or therapy within 6 months, severe depression, neurologic disorder
- **Educational material**: exercise, activity, pain management, emotions, healthy eating
- **Automated PCST program** (PainCOACH): eight 35-45 minute modules
- **Physiotherapist** (Skype): seven 45 minute sessions over 12 weeks.
Primary outcome: pain during walking (NRS scale) and physical function (WOMAC scale)

Secondary outcome: global change; QoL; pain catastrophizing

Similar lost to follow-up each group, use of medications

Both groups significant improvement from baseline at 3 and 9 months

Intervention group significantly greater improvement

Intervention group significant improvements in almost all secondary outcomes at both time points

Effectiveness of Internet-Delivered Exercise and Pain-Coping Skills Training for Chronic Knee Pain
### Table 2. Mean Scores on Continuous Outcome Measures Across Time, by Group*

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Baseline (n = 74)</th>
<th>Control (n = 74)</th>
<th>Month 3 (n = 70)</th>
<th>Control (n = 69)</th>
<th>Month 9 (n = 66)</th>
<th>Control (n = 67)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Primary</strong></td>
<td></td>
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<tr>
<td>Pain during walking (NRS)†</td>
<td>6.1 (1.4)</td>
<td>6.2 (1.3)</td>
<td>3.3 (2.2)</td>
<td>5.1 (2.0)</td>
<td>3.6 (2.2)</td>
<td>4.7 (2.5)</td>
</tr>
<tr>
<td>Physical function (WOMAC)‡</td>
<td>33.1 (8.0)</td>
<td>32.5 (8.3)</td>
<td>18.3 (10.7)</td>
<td>27.6 (11.7)</td>
<td>18.7 (10.2)</td>
<td>25.7 (11.6)</td>
</tr>
<tr>
<td><strong>Secondary</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Knee pain (WOMAC)§</td>
<td>9.0 (2.4)</td>
<td>9.2 (2.5)</td>
<td>5.1 (2.7)</td>
<td>7.7 (3.3)</td>
<td>5.1 (2.9)</td>
<td>6.9 (3.5)</td>
</tr>
<tr>
<td>Quality of life (AQoL-2)¶</td>
<td>0.7 (0.2)</td>
<td>0.7 (0.1)</td>
<td>0.8 (0.1)</td>
<td>0.7 (0.1)</td>
<td>0.8 (0.2)</td>
<td>0.7 (0.2)</td>
</tr>
<tr>
<td>Self-efficacy (ASES)¶¶</td>
<td></td>
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<tr>
<td>Pain</td>
<td>6.1 (1.8)</td>
<td>5.9 (1.8)</td>
<td>7.6 (2.0)</td>
<td>5.7 (2.1)</td>
<td>7.5 (2.0)</td>
<td>6.2 (1.8)</td>
</tr>
<tr>
<td>Function</td>
<td>7.6 (1.6)</td>
<td>7.5 (1.4)</td>
<td>8.6 (1.4)</td>
<td>7.8 (1.6)</td>
<td>8.6 (1.8)</td>
<td>7.9 (1.4)</td>
</tr>
<tr>
<td>Pain catastrophizing (PCS)**</td>
<td>8.8 (9.2)</td>
<td>10.1 (9.6)</td>
<td>5.7 (6.3)</td>
<td>9.4 (9.4)</td>
<td>6.2 (7.4)</td>
<td>9.3 (8.7)</td>
</tr>
<tr>
<td>Coping attempts (CSQ)††</td>
<td>61.7 (24.9)</td>
<td>65.7 (24.9)</td>
<td>72.7 (26.1)</td>
<td>69.8 (23.3)</td>
<td>74.6 (26.6)</td>
<td>67.0 (28.0)</td>
</tr>
</tbody>
</table>

AQoL-2 = Assessment of Quality of Life, version 2; ASES = Arthritis Self-Efficacy Scale; CSQ = Coping Strategies Questionnaire; NRS = numerical rating scale; PCS = Pain Catastrophizing Scale; WOMAC = Western Ontario and McMaster Universities Osteoarthritis Index.

* Values in parentheses are SDs.
† Ranges from 0 to 10; lower scores indicate less pain.
‡ Ranges from 0 to 68; lower scores indicate better function.
§ Ranges from 0 to 20; lower scores indicate less pain.
¶ Ranges from −0.04 to 1.00; higher scores indicate better quality of life.
¶¶ Ranges from 1 to 10; higher scores indicate greater self-efficacy.
** Ranges from 0 to 52; higher scores indicate greater catastrophizing.
†† Ranges from 0 to 163; higher scores indicate more frequent use of coping skills.
Key Points

- Findings align with similar studies: exercise programs via telephone, group videoconferencing, or Skype all improve outcomes
- Effective, safe, and economically accessible alternative

- Unblinded
- Unclear if skype or coping is more important
- No exam or imaging to gauge severity of OA (self-reported)
- Both groups had internet familiarity
A 55-year old professor with history of hypertension presents to your clinic to discuss colon cancer screening. Her family history is unremarkable. She declines a colonoscopy due to fear of anesthesia. She is hesitant to pursue an annual fecal immunochemical test as well. She wishes to explore alternatives.
Question 2

Which is a reasonable second-tier screening approach?

A) FIT-fecal DNA every 5 years
B) Flexible sigmoidoscopy every 3 years
C) Capsule colonoscopy every 5 years
D) CT colonography every 5 years
Question 2

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A) FIT-fecal DNA every 5 years
B) Flexible sigmoidoscopy every 3 years
C) Capsule colonoscopy every 5 years
**D) CT colonography every 5 years**
Colorectal Cancer Screening: Recommendations from the US Multi-Society Task Force

- First-tier: colonoscopy q 10 years. If declined, annual FIT
  - May consider FIT first if low prevalence population

- Second-tier: CT colonography q 5 years, FIT-fecal DNA q 3 years, or flexible sigmoidoscopy q 5-10 years

- Third-tier: capsule colonoscopy q 5 years
Colorectal Cancer Screening: Recommendations from the US Multi-Society Task Force

- **Colonoscopy**: gold-standard; sensitive and specific
  - 0.5/1000 perforation; 2.9/100,000 death
- **FIT**: non-invasive, 79% sensitive for cancer, low cost
  - Less sensitivity for precursor lesions
- **FIT-DNA**: cancer sensitivity 92% (highest single-time noninvasive nonimaging)
  - Less specific and 10 times the cost of annual FIT
- **CT Colonography**: sensitivity 82-92% for adenoma >1cm
  - Poor detection flat/serrated lesions; radiation; incidentals
Colorectal Cancer Screening: Recommendations from the US Multi-Society Task Force

- **Flex-Sig**: lower cost, limited bowel prep, no sedation
  - Prevent only 14% of proximal colon cancers; low patient satisfaction
- **Capsule**: good for incomplete colonoscopy or contraindication to sedation
  - More extensive bowel prep; potential 2nd day procedure
  - 88% sensitive for adenoma >6mm; poor sensitivity serrated lesions

- No published randomized trials directly comparing different testing on CRC incidence or mortality
Colorectal Cancer Screening: Recommendations from the US Multi-Society Task Force

- **Average-risk** groups: screening age 50
  - Discontinue screening at age 75 or if <10 years life expectancy
  - Consider African American screening age 45 (weak evidence)

- **Family** history of CRC/advanced adenoma in 1st degree relative <60: colonoscopy every 5 years starting 10 years before the youngest age or at age 40
  - Also if two 1st degree relatives at any age

- **Family** history of CRC/advanced adenoma in 1st degree relative >60: colonoscopy screening starts age 40
Question 3

A 35 year old patient is recently diagnosed with Helicobacter pylori infection on stool antigen study. His medical history includes bronchitis two years ago that was treated with azithromycin and albuterol inhaler. What is the appropriate treatment regimen for your patient?

A) PPI, Clarithromycin, Amoxicillin  
B) PPI, Metronidazole, Bismuth  
C) PPI, Tetracycline, Metronidazole, Bismuth  
D) PPI, Levofloxacin, Amoxicillin, Bismuth
A 35 year old patient is recently diagnosed with Helicobacter pylori infection on stool antigen study. His medical history includes bronchitis two years ago that was treated with azithromycin and albuterol inhaler. What is the appropriate treatment regimen for your patient?

A) PPI, Clarithromycin, Amoxicillin  
B) PPI, Metronidazole, Bismuth  
C) PPI, Tetracycline, Metronidazole, Bismuth  
D) PPI, Levofloxacin, Amoxicillin, Bismuth
ACG Clinical Guideline: Treatment of H Pylori Infection

- Incidence higher among patients born outside North America.
- Within North America, prevalence higher in socially disadvantaged
- High grade evidence: active peptic ulcer disease, past history of PUD, low-grade gastric mucosa-associated lymphoid tissue (MALT) lymphoma, early gastric cancer
- Moderate evidence: dyspepsia under age 60 without alarm features, long-term low-dose aspirin, chronic NSAID use
- Low evidence: unexplained iron deficiency; ITP
In regions where clarithromycin resistance is <15% and patient has no history of macrolide exposure: triple therapy
  • PPI, clarithromycin, amoxicillin/metronidazole for 14 days
Any previous macrolide exposure or resistance >15%: quadruple therapy
  • PPI, tetracycline, metronidazole, bismuth 14 days
  • 128 strains H. pylori from US veterans demonstrated 16% clarithromycin resistance rates (2009 - 2011)
Alternatives: concomitant, sequential, hybrid, levofloxacin triple
ACG Clinical Guideline: Treatment of H Pylori Infection

- **Salvage therapy:**
  - Bismuth quadruple or levofloxacin salvage if clarithromycin failed
  - Clarithromycin or levofloxacin salvage if bismuth quadruple failed
    - PPI, Levofloxacin, Amoxicillin

- **Eradication:** urea breath test, fecal antigen or biopsy at least 4 weeks after therapy. Be sure to hold PPI for 1-2 weeks