2012 CHEST Guidelines Overview for Antithrombotic Therapy

Kevin T. Schleich, Pharm.D.
PGY2 Ambulatory Care Pharmacy Resident
University of Iowa Hospitals and Clinics
November 12, 2012

Disclaimer

• Kevin Schleich reports he has no actual or potential conflicts of interest associated with this presentation
• Kevin Schleich has indicated that off-label use of medication will NOT be discussed during this presentation

Learning Objectives

Pharmacists
• Understand the evidence-based application of the clinically relevant new ACCP recommendations for antithrombotic therapy
• Determine when it is appropriate to use antithrombotic therapy for a variety of conditions
• Apply the new guidelines in appropriately recommending therapy for thrombosis treatment and prevention

Technicians
• Understand the evidence-based application of the clinically relevant new ACCP recommendations for antithrombotic therapy
• Recognize appropriate dosing and administration of the medications used for thrombosis treatment and prevention

Overview

• The American College of CHEST Physicians has published guidelines for antithrombotic therapy since 1986
• Updates are published approximately every 4 years
• Most recent update was published February 2012

Methodology for the Development of Antithrombotic Therapy and Prevention of Thrombosis Guidelines

<table>
<thead>
<tr>
<th>Study Design</th>
<th>Quality of Evidence</th>
<th>Lower if</th>
<th>Higher if</th>
</tr>
</thead>
<tbody>
<tr>
<td>Randomized trial</td>
<td>High</td>
<td>Risk of bias</td>
<td>Large effect</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-1 Serious</td>
<td>+1 Large effect</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-2 Very Serious</td>
<td>+2 Very Large</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Inconsistency</td>
<td>Increased</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-1 Serious</td>
<td>+1 Evidence of a gradient</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-2 Very Serious</td>
<td>+2 Very Large</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Indirectness</td>
<td>All plausible confounding</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-1 Serious</td>
<td>+1 Would reduce a demonstrated effect</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-2 Very Serious</td>
<td>Or</td>
</tr>
<tr>
<td>Observational study</td>
<td>Low</td>
<td>Imprecision</td>
<td>-1 Would suggest a spurious effect when</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-1 Serious</td>
<td>results show no effect</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-2 Very Serious</td>
<td>+1 Would suggest a spurious effect</td>
</tr>
</tbody>
</table>

Overview

• The overall volume of the guidelines is overwhelming
  • Executive Summary: 43 pages
  • Complete Guidelines: 1728 pages
  • 947 pages of actual content (excluding references)

  • Lord of the Rings: ~1140 pages
  • Harry Potter (US Edition): ~4200 pages
  • Bible at UIHC: 1237 pages
Methodology for the Development of Antithrombotic Therapy and Prevention of Thrombosis Guidelines

<table>
<thead>
<tr>
<th>Grade of Recommendation</th>
<th>Definition</th>
<th>Benefit vs Risk/Burden</th>
</tr>
</thead>
<tbody>
<tr>
<td>1A</td>
<td>Strong recommendation, high-quality evidence</td>
<td>Benefits clearly outweigh risk and burdens or vice versa</td>
</tr>
<tr>
<td>1B</td>
<td>Strong recommendation, moderate-quality evidence</td>
<td>Benefits closely balanced with risks and burden</td>
</tr>
<tr>
<td>1C</td>
<td>Strong recommendation, low- or very-low quality evidence</td>
<td>Uncertainty in the estimates of benefits, risks and burden</td>
</tr>
<tr>
<td>2A</td>
<td>Weak recommendation, high-quality evidence</td>
<td>Benefits closely balanced with risks and burden</td>
</tr>
<tr>
<td>2B</td>
<td>Weak recommendation, moderate-quality evidence</td>
<td>Benefits closely balanced with risks and burden</td>
</tr>
<tr>
<td>2C</td>
<td>Weak recommendation, low- or very-low quality evidence</td>
<td>Uncertainty in the estimates of benefits, risks and burden</td>
</tr>
</tbody>
</table>

Patient Values and Decision Making

- Evaluated 48 studies focusing on patient values in regards to antithrombotic therapy
- Across the majority of studies, patients placed a greater disutility on stroke than GI bleed
  - Stroke refers to all nonfatal hemorrhagic and ischemic events
- Patients also placed a much greater disutility on stroke than treatment burden
- No clear consensus within or across studies as to specific treatment preference

Evidence-Based Management of Anticoagulant Therapy

“...focuses on the common important management questions for which, at a minimum, low-quality published evidence is available to guide best practices.”

Evidence-Based Management

- **VKA – Initiation of Therapy**
  - “For patients sufficiently healthy to be treated as outpatients, we suggest initiating VKA therapy with warfarin 10 mg daily for the first 2 days followed by dosing based on INR measurements...” (2C).
  - Based on 4 studies with a combined 420 study participants
  - Patients in 10 mg group achieved therapeutic INR faster, and a greater percentage were within therapeutic range at day 5
  - Clinical problems with this strategy
    - Difficult to interpret trends in increasing INR (0.1-0.2 increase/day)
    - For acute events, patients require a minimum 5-day overlap of UFH or LMWH bridging
    - Many “sufficiently healthy patients” require < 5 mg warfarin/day
  - My recommendation: initiate warfarin at 5 mg daily except for patients requiring less (elderly, liver dysfunction, recent bleed)

Evidence-Based Management

- **Pharmacogenetic Testing – VKA**
  - “Recommend against the routine use of pharmacogenetic testing for guiding doses of VKA (1B).”

- **Initiation Overlap for Heparin and VKA**
  - “For patients with acute VTE, we suggest that VKA therapy be started on day 1 or 2 of LMWH or UFH therapy rather than waiting for several days to start (2C).”

Monitoring Frequency for VKAs

- “For patients with consistently stable INRs, we suggest an INR testing frequency up to 12 weeks rather than every 4 weeks (2B)”
- Based on three RCTs that evaluated INR recall intervals exceeding the traditional standard of 4 weeks
  - 4 week vs. 6 week follow-up
  - Flexible approach allowing up to 12 weeks
  - 4 week vs. 12 week follow-up
- Appropriate length of recall interval must depend on the duration of prior stability
  - “Stable” defined as 3 months by ACCP
- My recommendation: comfortable pushing follow-up to 6 to 8 weeks for previously stable patients who you trust will contact clinic with changes in condition

None of the studies found a difference in rates of thromboembolism, bleeding or INR control

11/8/2012
**Your Practice?**

- For those of you who practice in anticoagulation clinics, how has this guideline changed your practice? How far out will you push follow-up?
  
  A. One week, revenue won’t generate itself
  B. Still 4 weeks for stable patients; not sure I trust the trials yet
  C. I’m comfortable with > 4 weeks, but still not comfortable with 12 weeks
  D. 12 weeks, wish they would’ve studied 24 weeks

---

**How About Starting Warfarin?**

- Initiate warfarin at the following dosage:
  
  A. 2.5 mg daily, further dosing based on INR
  B. 5 mg daily, further dosing based on INR
  C. 10 mg x 2, further dosing based on INR
  D. All of the above
  E. None of the above

---

**Evidence-Based Management**

- Single Out-of-Range INR
  
  - “For those with previously stable therapeutic INRs who present with a single out-of-range INR of ≤ 0.5 below/above range, we suggest continuing the current dose and testing the INR in 1-2 weeks (2C).”
  
  - Evidence from 2 small, unblinded, one randomized and one non-randomized trials
  
  - My recommendation: depends on previous stability; but often times a one-time dose increase/decrease and 2-4 week follow-up is sufficient
  
  - Difference between 1.5 and 3.5

---

**Evidence-Based Management**

- Bridging for Low INRs
  
  - “For patients presenting with a single subtherapeutic INR value, we suggest against routinely administering bridging with heparin (2C)”
  
  - My recommendation: patient specific, and depends on time since prior thrombotic event, past outcome of subtherapeutic INR
  
  - If thrombotic event within 4-6 weeks
  
  - If patient has previously had thrombotic event when INR falls below therapeutic range

- Vitamin K Supplementation
  
  - “For patients taking VKAs, we suggest against routine use of vitamin K supplementation (2C).”
  
  - My recommendation: Agreed, however if INRs have previously been variable (excluding non-adherence), small dose daily vitamin K supplementation (100 mcg) may be considered

---

**Evidence-Based Management**

- Patient Self-Testing/Self-Management
  
  - “Those who are motivated and can demonstrate competency in self-management and self-testing, we suggest PSM rather than usual outpatient INR monitoring (2B).”
  
  - My recommendation: accept self-testing, but not self-management

---

**Evidence-Based Management**

- Prevention/Management of Anticoagulant Complications
  
  - Use of Vitamin K
    
    - “… INRs between 4.5 and 10 and with no evidence of bleeding, we suggest against the routine use of vitamin K (2B).”
    
    - “… INRs > 10.0 and with no evidence of bleeding, we suggest that oral vitamin K be administered (2C).”

  - Reversal of Major Bleeds
    
    - “For patients with VKA-associated major bleeding, we suggest rapid reversal of anticoagulation with four-factor PCC rather than with plasma (2C).”
    
    - “We suggest the additional use of vitamin K 5-10 mg administered by slow IV injection rather than reversal with coagulation factors alone (2C).”
    
    - Four-factor PCC was associated with quicker reversal of INR, and FFP alone was associated with significant fluid overload complications.
**Evidence-Based Management**

**Prevention/Management of Anticoagulant Complications**

<table>
<thead>
<tr>
<th>INR No Bleeding</th>
<th>2012 Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 4.5</td>
<td>Omit or lower dose No dosage adjustment if minimally above range</td>
</tr>
<tr>
<td>4.5 to 10.0</td>
<td>Omit 1-2 doses resume at lower doses when INR in range Suggest AGAINST routine use of vitamin K</td>
</tr>
<tr>
<td>&gt; 10.0</td>
<td>Hold warfarin AND give oral vitamin K</td>
</tr>
</tbody>
</table>

**Any Bleeding**

<table>
<thead>
<tr>
<th>Major Bleeding</th>
<th>Evaluate and Admit for Reversal if Necessary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hold warfarin</td>
<td>Four-factor PCC instead of FFP Add vitamin K 5 to 10 mg IV</td>
</tr>
</tbody>
</table>

**Prevention of VTE**

**Orthopedic Surgical Patients**

- **Major Orthopedic Surgery**
  - Kne/Hip Replacement, Hip Fracture Surgery: Use of LMWH is preferred over all other agents (2B)
  - Alternatives: fondaparinux, LDUH (2B), adjusted-dose VKA, or aspirin (2C)
  - Hips/Knee Replacement-Specific alternatives: dalteparin, danaparoid, rivaroxaban (2B)
  - Duration of therapy: extend prophylaxis up to 35 days in the outpatient setting rather than for only 10 to 14 days (2B)
  - IVC Filter: suggest against using IVC filter for primary prevention (2C)

- **Knee Arthroscopy**
  - For patients without a prior VTE history, suggest no thromboprophylaxis (2B)

**Perioperative Management**

**Risk Stratification for Bridging Around Surgery**

<table>
<thead>
<tr>
<th>Low Risk</th>
<th>Moderate Risk</th>
<th>High Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mechanical Valve</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bileaflet AVR w/a fib or other risk factors for stroke/TIA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bileaflet AVR ≥ 1 a fib, prot stroke/TIA, HTN, DM, CHF, age ≥ 75</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Any MVR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caged-ball/tilting disc AVR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stroke/TIA ≤ 6 mo.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Atrial Fibrillation |
| CHADS2, 0-2 (no stroke/TIA) |
| CHADS2, 3-4 |
| CHADS2 ≥ 5 |
| Stroke/TIA ≥ 3 mo. |
| Rheumatic valve disease |

| VTE |
| VTE ≥ 12 mo. age |
| Event in 6 to 12 mos. |
| Low-risk thrombophilia |
| Recurrent VTE |
| Active Cancer |
| Event ≥ 3 mos. |
| High-risk thrombophilia (protein C/S deficient, antithrombin III, APL) |

| Bridging? |
| No |
| Patient/surgery-specific |
| Yes |

**Perioperative Management**

**Prevention of VTE**

- **Nonsurgical Patients**
  - **Cancer**
    - In the absence of other risk factors for VTE, suggest against routine prophylaxis (Grade 1B)
    - In outpatients with solid tumors and additional risk factors for VTE, and low bleed risk, suggest prophylactic-dose LMWH or LDUH (2B)
  - **Chronic Immobilization**
    - Suggest against routine use of thromboprophylaxis (3C)
  - **Travel**
    - Suggest frequent ambulation, calf muscle exercise, and/or GCS (3C)
    - Suggest against the use of aspirin or anticoagulants (2C)
  - **Thrombophilies**
    - In those without a previous history of VTE, recommend against the long-term daily use of mechanical or pharmacologic prophylaxis (1C)

- **Orthopedic Surgical Patients**
  - **Major Orthopedic Surgery**
    - Knee/Hip Replacement, Hip Fracture Surgery: Use of LMWH is preferred over all other agents (2B)
    - Alternatives: fondaparinux, LDUH (2B), adjusted-dose VKA, or aspirin (2C)
    - Hips/Knee Replacement-Specific alternatives: dalteparin, danaparoid, rivaroxaban (2B)
    - Duration of therapy: extend prophylaxis up to 35 days in the outpatient setting rather than for only 10 to 14 days (2B)
    - IVC Filter: suggest against using IVC filter for primary prevention (2C)

- **Knee Arthroscopy**
  - For patients without a prior VTE history, suggest no thromboprophylaxis (2B)

**Perioperative Management**

- **Interruption of VKA for surgery/procedures**
  - Stop VKA approximately 5 days before surgery (1C)
  - Resume VKA approximately 12 to 24 hours after surgery (2C)

- **Bridging for surgery/procedures** ([a.fib], VTE or mechanical heart valve)
  - High VTE risk: suggest bridging anticoagulation (2C)
  - Moderate risk: no recommendation, patient- and surgery-specific
  - Low VTE risk: suggest not bridging (2C)
Perioperative Management

- **Antiplatelet Interruption**
  - Stented patients: if on dual antiplatelet therapy, recommendations differ depending on stent
    - Bare metal: defer surgery for >6 weeks after stent placement (1C)
    - Drug Eluting: defer surgery for >6 months after stent placement (1C)
  - If surgery cannot be avoided for the above time frames, it is recommended to continue dual antiplatelet therapy around the time of surgery (2C)

- **Heparin Bridging**
  - IV UFH: stop UFH 4 to 6 hours prior to surgery (2C)
  - Therapeutic LMWH: stop 24 hours prior to surgery (2C)
  - Resume LMWH or UFH 24 hours after surgery, unless it’s a high-bleeding-risk surgery, then wait 48 to 72 hours (2C)

Meet Our Patient

AF is a 66 year-old male who was just diagnosed with atrial fibrillation. His PMH is significant for HTN, DM, dyslipidemia, CHF, and gout. His vitals/relevant labs are as follows:
- Height: 6'0
- Pulse: 125 bpm
- BP: 142/97
- SCr: 0.8 mg/dL
- Weight: 100 kg

Today he will initiate therapy for his a. fib. He mentions he has a scheduled colonoscopy in approximately 6 months. His GI doc wants him off anticoagulation/antiplatelet drugs for the procedures as they will remove polyps if present. You tell him:

A. We will forego treatment for your a. fib until after surgery
B. We will start therapy today and hold therapy around your surgery
C. We will start therapy today, and hold therapy as well as bridge anticoagulation with LMWH around the surgery

Therapy for VTE

- **Treatment Duration**
  - Unprovoked
    - VTE
      - 3 months
    - Bleed Risk
      - Low/moderate
      - 3 months
    - High
      - 3 months
  - Non-surgical transient risk factors
    - Estrogen use, smoking, obesity, central venous catheterization

Therapy for VTE

- **Acute Upper-Extremity DVT**
  - Only account for ~5% of DVTs
  - Provoked: associated with central venous catheters, or cancer (75%)
  - Suggest anticoagulant therapy mirroring lower extremity DVT
  - Begin parenteral anticoagulation immediately (once-daily LMWH preferred) (2B) and early initiation of VKA therapy with parenteral overlap for at least 5 days and INR > 2.0 (1B)

- **Splanchnic Vein Thrombosis/Hepatic Vein Thrombosis**
  - Portal, mesenteric and/or splenic vein
  - If symptomatic, suggest anticoagulation (1B)
  - Incidentally detected, suggest no anticoagulation (2C)
Therapy for Atrial Fibrillation

- Most common sustained cardiac arrhythmia
  - 1 in 4 people > 40 years of age will develop A. fib
  - A. fib is a strong, independent predictor of ischemic stroke

- Antithrombotic Therapy Recommendations
  - General A. fib
    - Permanent, persistent, paroxysmal
  - Undergoing cardioversion
    - Vitamin K Antagonist with target INR range of 2.0 – 3.0

- Old Mainstay

Therapy for A. Fib

- General A. Fib guidelines
  - CHADS2 Score
    - C: Chronic Heart Failure = 1
    - H: Hypertension = 1
    - A: Age ≥ 75 years = 1
    - D: Diabetes = 1
    - S: Stroke/TIA = 2
  - Rule of thumb: Double the CHADS2 score and that will approximate the patient’s % risk of a thrombotic event per year without anticoagulation

- Therapy
  - CHADS2 = 0  ➔ no therapy (2B)
  - If patient prefers anticoagulation, use aspirin (81 mg or 325 mg) once daily
  - CHADS2 > 1 ➔ anticoagulation over aspirin (2B)
    - If patient prefers no anticoagulation, suggest combination aspirin (81 mg or 325 mg) + clopidogrel once daily (2B)

- New Guidelines
  - Suggest dabigatran 150 mg twice daily rather than adjusted-dose VKA therapy (2B).

- RE-LY Trial
  - Dabigatran 150 mg BID:
    - Reductions in nonfatal stroke, probable reductions in all-cause mortality, no apparent increase in the risk of nonfatal major extracranial bleeding compared with VKA
  - Dabigatran 110 mg BID:
    - No evidence that this dose leads to a significant reduction in relevant outcomes compared with VKA therapy

- Reservations with Dabigatran Recommendation (RE-LY)
  - Patient Population
    - 1/3 of the patients had a CHADS2 of 0 or 1
  - Patients with a CrCl < 30 were excluded from the trial
  - Renal Function/Dosing
    - Primarily renally excreted
    - CrCl 15-30 ml/min: 75 mg BID
  - Reversibility
    - No available antidote; can be removed by hemodialysis (68% by 4 h)
  - Adverse Effects
    - Decrease intracranial hemorrhage, but increased GI bleeding
  - Adherence/Compliance
    - Adherence issues with once daily warfarin ≠ adherence with BID dabigatran

Therapy for A. Fib

- Warfarin or Dabigatran (Rivaroxaban)?
  - “If it ain’t broke don’t fix it!”
    - Stable on warfarin, no reason to change
  - If variable INRs due to non-adherence
    - Short half-life of dabigatran (1 to 6 hours), makes missed doses dangerous in terms of loss of efficacy
    - Twice daily dosing is harder to remember than once daily dosing
  - If variable INRs for unknown reason, or potential dietary variances:
    - If otherwise healthy (stable renal function), potential candidate for dabigatran 150 mg twice daily, or rivaroxaban 20 mg daily

Therapy for A. Fib

- Cardioversion
  - A. fib/flutter
  - TEE & abbreviated anticoagulation
  - Anticoagulate for at least 3 weeks
  - Long-term anticoagulation based on general risk guidelines

- Anticoagulation (LMWH or UFH) at therapeutic doses
  - CARDIOVERT
  - Anticoagulate for at least 4 weeks
  - Long-term anticoagulation based on general risk guidelines
**Back to AF**

AF is a 66-year-old male who was just diagnosed with atrial fibrillation. His PMH is significant for HTN, DM, dyslipidemia, CHF, and gout. His vitals/relevant labs are as follows:

- Height: 6’0
- Pulse: 125 bpm
- BP: 142/97
- SCR: 0.8 mg/dL
- Weight: 100 kg

**What would you choose for a. fib treatment?**

A. AF doesn’t require treatment for a. fib, he isn’t very high risk  
B. Aspirin 325 mg daily  
C. Warfarin 5 mg daily, adjust based on INR monitoring  
D. Warfarin 5 mg daily, bridging with enoxaparin for at least 5 days and the INR ≥ 2.0, adjust based on INR monitoring  
E. Dabigatran 150 mg BID  
F. Rivaroxaban 20 mg daily

---

**Therapy for Valvular Disease**

- **Mechanical Valves**
  - Suggest bridging with UFH (propylpholocic dose) or LMWH (propylpholocic or therapeutic dose) until stable on VKA (1B)
  - VKA therapy long-term for all mechanical valves (1B)

- **Mechanical Aortic Valve**
  - Target INR range of 2.0–3.0 (2C)

- **Mechanical Mitral Valve**
  - Target INR range of 2.5–3.5 (2C)
  - Same range if mechanical valve in both aortic and mitral position

- **Mechanical Valve with Low Bleed Risk**
  - Suggest adding low-dose aspirin 81 mg/d to VKA (1B)

---

**Therapy for Ischemic Stroke**

- **Secondary Stroke/TIA Prevention**
  - Patients with a prior stroke/TIA are most likely to have a second stroke as their next adverse vascular outcome, but MI is also of concern
  - A number of trials have looked at therapy for 2nd prevention
    - CAPRIE – clopidogrel vs. aspirin; PROFESS – dipyridamole + aspirin vs. clopidogrel; MATCH – clopidogrel + aspirin vs. clopidogrel; WARSS – warfarin vs. aspirin (+ antiphospholipid antibody patients)
  - Suggest aspirin 81 mg daily, clopidogrel 75 mg daily, aspirin/ER dipyridamole (25/200 mg) BID or cilostazol 100 mg BID (1A)
    - Oral anticoagulants, clopidogrel + aspirin (1B)

---

**Prevention of CV Disease**

- **Secondary Prevention**
  - Ticagrelor preferred due to results from the PLATO trial
  - Significantly less vascular mortality in ticagrelor group at 12-months

- **Established CAD**

<table>
<thead>
<tr>
<th>Established CAD</th>
<th>≤ 1 year post-ACS</th>
</tr>
</thead>
<tbody>
<tr>
<td>No PCI</td>
<td>Dual therapy (1B)</td>
</tr>
<tr>
<td></td>
<td>ticagrelor 90 mg BID + aspirin 81 mg daily</td>
</tr>
<tr>
<td></td>
<td>clopidogrel 75 mg daily + aspirin 81 mg daily</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PCI w/ stent</th>
<th>Dual therapy (1B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ticagrelor 90 mg BID + aspirin 81 mg daily</td>
<td></td>
</tr>
<tr>
<td>clopidogrel 75 mg daily + aspirin 81 mg daily</td>
<td></td>
</tr>
<tr>
<td>prasugrel 10 mg daily + aspirin 81 mg daily</td>
<td></td>
</tr>
</tbody>
</table>

**Secondary Prevention**

- Ticagrelor preferred due to results from the PLATO trial
- Significantly less vascular mortality in ticagrelor group at 12-months

---

**Prevention of CV Disease**

- **Secondary Prevention**
  - Drug Eluting Stent

<table>
<thead>
<tr>
<th>No Stent</th>
<th>Base Metal Stent</th>
<th>Drug Eluting Stent</th>
</tr>
</thead>
<tbody>
<tr>
<td>First month (1C)</td>
<td>Dual antiplatelet (aspirin 75-325 mg + clopidogrel 75 mg daily)</td>
<td>Dual antiplatelet (aspirin 75-325 mg + clopidogrel 75 mg daily)</td>
</tr>
<tr>
<td>First month (1C)</td>
<td>Dual antiplatelet (aspirin 81 mg + clopidogrel 75 mg daily)</td>
<td>Dual antiplatelet (aspirin 81 mg + clopidogrel 75 mg daily)</td>
</tr>
<tr>
<td>After 6 months* (1A)</td>
<td>Dual antiplatelet (aspirin 81 mg + clopidogrel 75 mg daily)</td>
<td>Single antiplatelet therapy</td>
</tr>
<tr>
<td>≥ 12 months (1B)</td>
<td>Dual antiplatelet (aspirin 81 mg + clopidogrel 75 mg daily)</td>
<td>Single antiplatelet therapy</td>
</tr>
</tbody>
</table>

* 3 months for –limus stents; 6 months for –taxol stents
Summary

• ACCP Chest Guidelines are impossible to memorize

• Full guidelines have a lot of supplemental information, and information on where to find primary literature

• Use the guidelines as guidelines, not as scripture verse

• Pay attention to the level of evidence associated with the recommendations

Exhausted...

Questions?

kevin-schleich@uiowa.edu