If you watch network prime-time news programs at all, you can’t help but be impressed by the number of direct-to-consumer (DTC) ads that dominate the commercials. It seems the demographics of the viewers of these programs are older folks, ideal targets for all manner of medication-focused commercials. The conditions that dominate the DTC ad space are inflammatory disorders—Crohn’s disease, rheumatoid arthritis, psoriasis, psoriatic arthritis, and eczema. The ads tout remarkable results and urge viewers to ask their doctors if certain drugs are “right” for them.

Of course, the goal is to get physicians to “write” prescriptions. Most physicians think of themselves as being immune from such pressures. But, apparently, the pharmaceutical companies have reason to think otherwise—which is why these ads are prevalent.

In the United States, DTC advertising expenditures were about $6.13 billion in 2017.

DTC ads are banned everywhere except in the United States and New Zealand—and there are processes under way in New Zealand to ban them again.

The New Zealand Medical Association has opposed the law allowing DTC ads since 2006. The American Medical Association has opposed DTC advertising.
This surprise billing situation is changing daily. Stay apprised of how ACEP is fighting for you and your patients at www.acep.org/surprise-billing. Now that administrative and congressional attention to the issue is intensifying, we need you to raise your voice and help us advocate for the fleet. Our new toolkit provides messaging guidance and other resources to help promote ACEP’s advocacy position. Thank you for all you do to fight for the millions of emergency patients who count on us every day. View the toolkit—only available to ACEP members—to help promote ACEP’s advocacy position.
INDICATION
ELIQUIS is indicated for the treatment of deep vein thrombosis and pulmonary embolism.

IMPORTANT SAFETY INFORMATION

WARNING: (A) PREMATURE DISCONTINUATION OF ELIQUIS INCREASES THE RISK OF THROMBOTIC EVENTS,
(B) SPINAL/EPIDURAL HEMATOMA
(A) Premature discontinuation of any oral anticoagulant, including ELIQUIS, increases the risk of thrombotic events. If anticoagulation with ELIQUIS is discontinued for a reason other than pathological bleeding or completion of a course of therapy, consider coverage with another anticoagulant.
(B) Epidural or spinal hematomas may occur in patients treated with ELIQUIS who are receiving neuraxial anesthesia or undergoing spinal puncture. These hematomas may result in long-term or permanent paralysis. Consider these risks when scheduling patients for spinal procedures. Factors that can increase the risk of developing epidural or spinal hematomas in these patients include:
• use of indwelling epidural catheters
• concomitant use of other drugs that affect hemostasis, such as nonsteroidal anti-inflammatory drugs (NSAIDs), platelet inhibitors, other anticoagulants
• a history of traumatic or repeated epidural or spinal punctures
• a history of spinal deformity or spinal surgery
• optimal timing between the administration of ELIQUIS and neuraxial procedures is not known
Monitor patients frequently for signs and symptoms of neurological impairment. If neurological compromise is noted, urgent treatment is necessary. Consider the benefits and risks before neuraxial intervention in patients anticoagulated or to be anticoagulated.

Please see additional Important Safety Information and Brief Summary of Full Prescribing Information, including Boxed WARNINGS, on adjacent pages.
**AMPLIFY** Study Design

A randomized, double-blind, phase III trial to determine whether ELIQUIS was noninferior to enoxaparin/warfarin for the incidence of recurrent venous thromboembolism (VTE)* or VTE-related death in 5400 patients with objectively confirmed, symptomatic proximal DVT/PE. 2693 patients were randomized to ELIQUIS 10 mg orally twice daily for 7 days followed by 5 mg orally twice daily for 6 months, and 2707 patients were randomized to standard of care, which was initial enoxaparin 1 mg/kg twice daily subcutaneously for at least 5 days (until INR ≥2), followed by warfarin (target INR range: 2.0-3.0) orally for 6 months. The primary efficacy endpoint was recurrent VTE* or VTE-related death, and the primary safety endpoint was major bleeding.

≈90% of patients in the AMPLIFY trial had an unprovoked DVT/PE at baseline.1

1. The 10% of patients with a provoked DVT/PE were required to have an additional ongoing risk factor in order to be randomized

1*Recurrent symptomatic VTE (nonfatal DVT or nonfatal PE).

1Risk factors included previous episode of DVT/PE, immobilization, history of cancer, active cancer, and known prothrombotic genotype.

**IMPORTANT SAFETY INFORMATION (CONT’D)**

**CONTRAINDICATIONS**

- Active pathological bleeding
- Severe hypersensitivity reaction to ELIQUIS (e.g., anaphylactic reactions)

**WARNINGS AND PRECAUTIONS**

- **Increased Risk of Thrombotic Events after Premature Discontinuation:** Premature discontinuation of any oral anticoagulant, including ELIQUIS, in the absence of adequate alternative anticoagulation increases the risk of thrombotic events. An increased rate of stroke was observed during the transition from ELIQUIS to warfarin in clinical trials in atrial fibrillation patients. If ELIQUIS is discontinued for a reason other than pathological bleeding or completion of a course of therapy, consider coverage with another anticoagulant.

- **Bleeding Risk:** ELIQUIS increases the risk of bleeding and can cause serious, potentially fatal, bleeding.
  - Concomitant use of drugs affecting hemostasis increases the risk of bleeding, including aspirin and other antiplatelet agents, other anticoagulants, heparin, thrombolytic agents, SSRIs, SNRIs, and NSAIDs.
  - Advise patients of signs and symptoms of blood loss and to report them immediately or go to an emergency room. Discontinue ELIQUIS in patients with active pathological hemorrhage.
  - The anticoagulant effect of apixaban can be expected to persist for at least 24 hours after the last dose (i.e., about two half-lives). An agent to reverse the anti-factor Xa activity of apixaban is available. Please visit www.andexxa.com for more information on availability of a reversal agent.

- **Spinal/Epidural Anesthesia or Puncture:** Patients treated with ELIQUIS undergoing spinal/epidural anesthesia or puncture may develop an epidural or spinal hematoma which can result in long-term or permanent paralysis.

   The risk of these events may be increased by the postoperative use of indwelling epidural catheters or the concomitant use of medicinal products affecting hemostasis. Indwelling epidural or intrathecal catheters should not be removed earlier than 24 hours after the last administration of ELIQUIS. The next dose of ELIQUIS should not be administered earlier than 5 hours after the removal of the catheter. The risk may also be increased by traumatic or repeated epidural or spinal puncture. If traumatic puncture occurs, delay the administration of ELIQUIS for 48 hours.

   Monitor patients frequently and if neurological compromise is noted, urgent diagnosis and treatment is necessary. Physicians should consider the potential benefit versus the risk of neuraxial intervention in ELIQUIS patients.

- **Prosthetic Heart Valves:** The safety and efficacy of ELIQUIS have not been studied in patients with prosthetic heart valves and is not recommended in these patients.

- **Acute PE in Hemodynamically Unstable Patients or Patients who Require Thrombolysis or Pulmonary Embolectomy:** Initiation of ELIQUIS is not recommended as an alternative to unfractionated heparin for the initial treatment of patients with PE who present with hemodynamic instability or who may receive thrombolysis or pulmonary embolectomy.

**ADVERSE REACTIONS**

- The most common and most serious adverse reactions reported with ELIQUIS were related to bleeding.

**TEMPORARY INTERRUPTION FOR SURGERY AND OTHER INTERVENTIONS**

- ELIQUIS should be discontinued at least 48 hours prior to elective surgery or invasive procedures with a moderate or high risk of unacceptable or clinically significant bleeding. ELIQUIS should be discontinued at least 24 hours prior to elective surgery or invasive procedures with a low risk of bleeding or where the bleeding would be noncritical in location and easily controlled. Bridging anticoagulation during the 24 to 48 hours after stopping ELIQUIS and prior to the intervention is not generally required. ELIQUIS should be restarted after the surgical or other procedures as soon as adequate hemostasis has been established.

**DRUG INTERACTIONS**

- **Combined P-gp and Strong CYP3A4 Inhibitors:** Inhibitors of P-glycoprotein (P-gp) and cytochrome P450 3A4 (CYP3A4) increase exposure to apixaban and increase the risk of bleeding. For patients receiving ELIQUIS doses of 5 mg or 10 mg twice daily, reduce the dose of ELIQUIS by 50% when ELIQUIS is coadministered with drugs that are combined P-gp and strong CYP3A4 inhibitors (e.g., ketoconazole, itraconazole, or ritonavir). In patients already taking 2.5 mg twice daily, avoid coadministration of ELIQUIS with combined P-gp and strong CYP3A4 inhibitors.

**Clarithromycin**

Although clarithromycin is a combined P-gp and strong CYP3A4 inhibitor, pharmacokinetic data suggest that no dose adjustment is necessary with concomitant administration with ELIQUIS.
ELIQUIS increases the risk of bleeding and can cause serious, potentially fatal, bleeding:
- Discontinuation rate due to bleeding events: 0.7% in ELIQUIS-treated patients vs 1.7% with enoxaparin/warfarin
- In AMPLIFY, the most commonly observed adverse reactions in ELIQUIS-treated patients (incidence ≥1%) were epistaxis, contusion, hematuria, menorrhagia, hematoma, hemoptyisis, rectal hemorrhage, and gingival bleeding

Major bleeding was defined as clinically overt bleeding accompanied by at least one of the following:
1) A decrease in hemoglobin of ≥2 g/dL; 2) A transfusion of 2 or more units of packed red blood cells; 3) Bleeding that occurred in at least 1 of the following critical sites: intracranial, intraspinal, intracutaneous, pericardial, intra-articular, intramuscular with compartment syndrome, or retroperitoneal; 4) Fatal bleeding

ARR=absolute risk reduction; CI=confidence interval; HR=hazard ratio; INR=international normalized ratio; RR=relative risk; RRR=relative risk reduction.

Events associated with each endpoint were counted once per subject, but subjects may have contributed events to multiple endpoints.

IMPORTANT SAFETY INFORMATION (CONT’D)

DRUG INTERACTIONS (cont’d)
- Combined P-gp and Strong CYP3A4 Inducers: Avoid concomitant use of ELIQUIS with combined P-gp and strong CYP3A4 inducers (e.g., rifampin, carbamazepine, phenytoin, St. John’s wort) because such drugs will decrease exposure to apixaban.
- Anticoagulants and Antiplatelet Agents: Coadministration of antiplatelet agents, fibrinolytics, heparin, aspirin, and chronic NSAID use increases the risk of bleeding. APPRAISE-2, a placebo-controlled clinical trial of apixaban in high-risk post-acute coronary syndrome patients treated with aspirin or the combination of aspirin and clopidogrel, was terminated early due to a higher rate of bleeding with apixaban compared to placebo.

PREGNANCY CATEGORY B
- There are no adequate and well-controlled studies of ELIQUIS in pregnant women. Treatment is likely to increase the risk of hemorrhage during pregnancy and delivery. ELIQUIS should be used during pregnancy only if the potential benefit outweighs the potential risk to the mother and fetus.

References:

Please see Brief Summary of Full Prescribing Information, including Boxed WARNINGS, on adjacent pages.
ELIQUIS® (apixaban) tablets, for oral use

Brief Summary of Prescribing Information. For complete prescribing information see full Prescribing Information pocket card.

WARNINGS: (A) PREMATURE DISCONTINUATION OF ELIQUIS INCREASES THE RISK OF THROMBOTIC EVENTS (B) SPINAL/EPIDURAL HEMATOMA

(A) PREMATURE DISCONTINUATION OF ELIQUIS INCREASES THE RISK OF THROMBOTIC EVENTS

Prophylaxis discontinuation of any oral anticoagulant, including ELIQUIS, increases the risk of thrombotic events. A randomized clinical trial of ELIQUIS vs. vitamin K antagonist was conducted in patients with recent major surgery. Consider coverage with another anticoagulant (see Dosage and Administration, Warnings and Precautions, and Clinical Studies). (2.4) in full Prescribing Information.

(B) SPINAL/EPIDURAL HEMATOMA

Spinal or epidural hematomas may occur in patients treated with ELIQUIS who are receiving neuraxial anesthesia or undergoing spinal puncture. These hematomas may result in long-term or permanent neurologic injury. Consider scheduled patients for spinal procedures. Factors that can increase the risk of neuraxial hematomas include those that may affect the risk of spontaneous epidural hematoma, such as repeated or multiple lumbar punctures, bleeding diatheses, anticoagulant therapy, and catheter placement. Consider the following when planning procedures scheduled for patients taking ELIQUIS:

- use of intrathecal catheters
- concurrent use of other drugs that affect hemostasis, such as nonsteroidal anti-inflammatory drugs (NSAIDs), platelet inhibitors, other anticoagulants
- a history of traumatic or repeated epidural or spinal punctures
- history of spinal deformity or spinal surgery
- spinal or epidural bleeding
- spinal surgery

Spinal or epidural hematomas may occur in patients taking ELIQUIS who are scheduled for spinal procedures. Factors that can increase the risk of neuraxial hematomas include:

- use of intrathecal catheters
- concurrent use of other drugs that affect hemostasis, such as nonsteroidal anti-inflammatory drugs (NSAIDs), platelet inhibitors, other anticoagulants
- a history of traumatic or repeated epidural or spinal punctures
- history of spinal deformity or spinal surgery
- spinal or epidural bleeding
- spinal surgery

Consult the benefits and risks before neuraxial intervention in patients anticoagulated or being anticoagulated (see Warnings and Precautions).

INDICATIONS AND USAGE

- Restriction of Risk and Stroke and Systemic Embolism in Nonvalvular Atrial Fibrillation—ELIQUIS® (apixaban) is indicated to reduce the risk of stroke and systemic embolism in patients with nonvalvular atrial fibrillation who are at risk of stroke and systemic embolism.
- Prophylaxis of Deep Vein Thrombosis Following Hip or Knee Replacement Surgery—ELIQUIS is indicated for the prophylaxis of DVT in patients undergoing hip or knee replacement surgery (HTRS) (that, referred to as peripheral or deep vein thrombosis), for oral use.

Thrombosis of Deep Vein Thrombosis—ELIQUIS is indicated for the treatment of DVT in patients initiating therapy with ELIQUIS and before the planned initiation of surgery or other procedures as soon as adequate hemostasis has been established. (For Table 1, 2, 3, see full Prescribing Information.)

Dosage and Administration (2.1) in full Prescribing Information and Adverse Reactions.

- Bleeding

Bleeding during the treatment period in the Phase 3 studies is shown in Table 4. Bleeding was treated in the Period 2 phase studies.

Determinations of bleeding in these clinical trials were based on the definitions used in each clinical study (see Table 4 and 5 in full Prescribing Information).

Bleeding was assessed in patients with nonvalvular atrial fibrillation in the ARISTOTLE and ADVANCE studies. Table 1 shows the number of patients experiencing major bleeding during the treatment period and the bleeding risk grading of subjects with at least one bleeding event per 100 patient-years in ARISTOTLE and ADVANCE.

In ARISTOTLE, the results for major bleeding were generally consistent across all major subgroups including age, weight, CHADS2, and CHA2DS2-VASc. Studies involving pregnant or breastfeeding women were not made, nor do they reflect the effect of a particular factor after adjustment for all other factors. Apparent homogeneity or heterogeneity of groups should not be over-interpreted.

In the ADVANCE-3 studies, the results for major bleeding were generally consistent across major subgroups including age, weight, CHADS, and CHA2DS2-VASc. Studies involving pregnant or breastfeeding women were not made, nor do they reflect the effect of a particular factor after adjustment for all other factors. Apparent homogeneity or heterogeneity of groups should not be over-interpreted.

Bleeding in patients with Nonvalvular Atrial Fibrillation in ARISTOTLE and ADVANCE

Table 4 shows the number of patients experiencing major bleeding during the treatment period and the bleeding risk grading of subjects with at least one bleeding event per 100 patient-years in ARISTOTLE and ADVANCE.

The most common reason for treatment discontinuation in both studies was bleeding-related adverse reactions; in ARISTOTLE this occurred in 11.1% and 2.3% of patients treated with ELIQUIS and warfarin, respectively, and in ADVANCE, in 1.5% and 1.3% on ELIQUIS and aspirin, respectively.

Table 4: Bleeding Events in Patients Undergoing Elective Hip or Knee Replacement Surgery

<table>
<thead>
<tr>
<th>BLEEDING</th>
<th>ELIQUIS</th>
<th>Placebo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major*</td>
<td>137 (13.2%)</td>
<td>215 (20.3%)</td>
</tr>
<tr>
<td>Non-major†</td>
<td>137 (13.2%)</td>
<td>215 (20.3%)</td>
</tr>
<tr>
<td>Fatal‡</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
</tr>
</tbody>
</table>

Table 1: Bleeding Events in Patients With Nonvalvular Atrial Fibrillation in ARISTOTLE

<table>
<thead>
<tr>
<th>BLEEDING</th>
<th>ELIQUIS</th>
<th>Placebo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major*</td>
<td>353 (0.8%)</td>
<td>130 (0.3%)</td>
</tr>
<tr>
<td>Non-major†</td>
<td>207 (0.4%)</td>
<td>98 (0.2%)</td>
</tr>
<tr>
<td>Fatal‡</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
</tr>
</tbody>
</table>

Table 2: Bleeding Events in Patients With Nonvalvular Atrial Fibrillation in ADVANCE

<table>
<thead>
<tr>
<th>BLEEDING</th>
<th>ADVANCE-3</th>
<th>ADVANCE-2</th>
<th>ADVANCE-2</th>
<th>ADVANCE-2</th>
<th>ADVANCE-2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major*</td>
<td>27 (2.2%)</td>
<td>17 (3.7%)</td>
<td>9 (2.5%)</td>
<td>10 (2.7%)</td>
<td>11 (2.5%)</td>
</tr>
<tr>
<td>Non-major†</td>
<td>128 (10.5%)</td>
<td>110 (23.5%)</td>
<td>73 (20.2%)</td>
<td>51 (13.3%)</td>
<td>50 (11.2%)</td>
</tr>
<tr>
<td>Fatal‡</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
</tr>
</tbody>
</table>

Table 3: Bleeding During the Treatment Period in Patients Undergoing Elective Hip or Knee Replacement Surgery

<table>
<thead>
<tr>
<th>BLEEDING</th>
<th>ELIQUIS</th>
<th>Placebo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major*</td>
<td>1 (0.4%)</td>
<td>0 (0.0%)</td>
</tr>
<tr>
<td>Non-major†</td>
<td>13 (7.6%)</td>
<td>9 (5.3%)</td>
</tr>
<tr>
<td>Fatal‡</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
</tr>
</tbody>
</table>

Figure 1: Major Bleeding Hazard Ratios by Baseline Characteristics—Characteristics

Note: The figures above presents effects in various subgroups, all of which are baseline characteristics and all of which were prespecified, if not the groupings. The 95% confidence bands that are shown are not adjusted for multiplicity. No adjustments for multiplicity were made, nor do they reflect the effect of a particular factor after adjustment for all other factors. Apparent homogeneity or heterogeneity of groups should not be over-interpreted.

In the ADVANCE-3 studies, the results for major bleeding were generally consistent across major subgroups including age, weight, CHADS, and CHA2DS2-VASc. Studies involving pregnant or breastfeeding women were not made, nor do they reflect the effect of a particular factor after adjustment for all other factors. Apparent homogeneity or heterogeneity of groups should not be over-interpreted.

In the ADVANCE-3 studies, the results for major bleeding were generally consistent across major subgroups including age, weight, CHADS2, and CHA2DS2-VASc. Studies involving pregnant or breastfeeding women were not made, nor do they reflect the effect of a particular factor after adjustment for all other factors. Apparent homogeneity or heterogeneity of groups should not be over-interpreted.

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Adverse reactions occurring in ≥1% of patients undergoing hip or knee replacement surgery in the 1 Phase study and the 3 Phase studies are listed in Table 4.

Table 4: Adverse Reactions Occurring in ≥1% of Patients in Either Group Undergoing Hip or Knee Replacement Surgery in the 1 Phase Study

<table>
<thead>
<tr>
<th>Event</th>
<th>ELIQUIS (apixaban), n (%)</th>
<th>Enoxaparin/Warfarin, n (%)</th>
<th>Placebo, n (%)</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arterial ischemic stroke</td>
<td>2.1 (28)</td>
<td>1.2 (15)</td>
<td>1.1 (12)</td>
<td></td>
</tr>
<tr>
<td>Myocardial infarction</td>
<td>2.8 (35)</td>
<td>2.2 (28)</td>
<td>2.1 (24)</td>
<td></td>
</tr>
<tr>
<td>Stroke</td>
<td>1.6 (20)</td>
<td>1.4 (17)</td>
<td>1.1 (12)</td>
<td></td>
</tr>
<tr>
<td>Death</td>
<td>1.7 (21)</td>
<td>1.2 (15)</td>
<td>1.1 (12)</td>
<td></td>
</tr>
<tr>
<td>Nonmajor</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wound secretion</td>
<td>6.8 (83)</td>
<td>6.3 (72)</td>
<td>5.9 (68)</td>
<td></td>
</tr>
<tr>
<td>Incision-site hemorrhage</td>
<td>2.7 (33)</td>
<td>2.1 (25)</td>
<td>1.8 (21)</td>
<td></td>
</tr>
</tbody>
</table>

Adverse reactions occurring in ≥1% of patients in the AMPLIFY-EXT study are listed in Table 5.

Table 5: Adverse Reactions Occurring in ≥1% of Patients Treated for DVT and PE in the AMPLIFY-EXT Study

<table>
<thead>
<tr>
<th>Event</th>
<th>ELIQUIS (apixaban), n (%)</th>
<th>Enoxaparin/Warfarin, n (%)</th>
<th>Placebo, n (%)</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arterial ischemic stroke</td>
<td>2.4 (29)</td>
<td>2.0 (24)</td>
<td>2.1 (24)</td>
<td>p&lt;0.05</td>
</tr>
<tr>
<td>Myocardial infarction</td>
<td>2.6 (30)</td>
<td>2.0 (23)</td>
<td>2.1 (24)</td>
<td>p=0.004</td>
</tr>
<tr>
<td>Stroke</td>
<td>1.3 (15)</td>
<td>1.6 (19)</td>
<td>1.6 (19)</td>
<td></td>
</tr>
<tr>
<td>Death</td>
<td>1.3 (15)</td>
<td>1.6 (19)</td>
<td>1.6 (19)</td>
<td></td>
</tr>
<tr>
<td>Nonmajor</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wound secretion</td>
<td>5.8 (68)</td>
<td>5.2 (60)</td>
<td>5.4 (62)</td>
<td></td>
</tr>
<tr>
<td>Incision-site hemorrhage</td>
<td>2.0 (23)</td>
<td>1.8 (20)</td>
<td>1.9 (21)</td>
<td></td>
</tr>
</tbody>
</table>

Adverse reactions occurring in ≥1% of patients in the AMPLIFY-EXT study are listed in Table 6.

Table 6: Adverse Reactions Occurring in ≥1% of Patients Undergoing Extended Treatment for DVT and PE in the AMPLIFY-EXT Study

<table>
<thead>
<tr>
<th>Event</th>
<th>ELIQUIS (apixaban), n (%)</th>
<th>Enoxaparin/Warfarin, n (%)</th>
<th>Placebo, n (%)</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arterial ischemic stroke</td>
<td>2.3 (28)</td>
<td>2.1 (24)</td>
<td>2.1 (24)</td>
<td></td>
</tr>
<tr>
<td>Myocardial infarction</td>
<td>2.6 (30)</td>
<td>2.0 (23)</td>
<td>2.1 (24)</td>
<td></td>
</tr>
<tr>
<td>Stroke</td>
<td>1.6 (19)</td>
<td>1.9 (21)</td>
<td>1.9 (21)</td>
<td></td>
</tr>
<tr>
<td>Death</td>
<td>1.6 (19)</td>
<td>1.9 (21)</td>
<td>1.9 (21)</td>
<td></td>
</tr>
<tr>
<td>Nonmajor</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wound secretion</td>
<td>6.3 (72)</td>
<td>5.5 (60)</td>
<td>6.0 (62)</td>
<td></td>
</tr>
<tr>
<td>Incision-site hemorrhage</td>
<td>2.5 (29)</td>
<td>2.2 (24)</td>
<td>2.3 (24)</td>
<td></td>
</tr>
</tbody>
</table>

Adverse reactions occurring in ≥1% of patients in the AMPLIFY-EXT study are listed in Table 7.

Table 7: Bleeding Results in the AMPLIFY-EXT Study

<table>
<thead>
<tr>
<th>Event</th>
<th>ELIQUIS (apixaban), n (%)</th>
<th>Enoxaparin/Warfarin, n (%)</th>
<th>Placebo, n (%)</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arterial ischemic stroke</td>
<td>2.4 (29)</td>
<td>2.0 (24)</td>
<td>2.1 (24)</td>
<td>p&lt;0.05</td>
</tr>
<tr>
<td>Myocardial infarction</td>
<td>2.6 (30)</td>
<td>2.0 (23)</td>
<td>2.1 (24)</td>
<td>p=0.004</td>
</tr>
<tr>
<td>Stroke</td>
<td>1.3 (15)</td>
<td>1.6 (19)</td>
<td>1.6 (19)</td>
<td></td>
</tr>
<tr>
<td>Death</td>
<td>1.3 (15)</td>
<td>1.6 (19)</td>
<td>1.6 (19)</td>
<td></td>
</tr>
<tr>
<td>Nonmajor</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wound secretion</td>
<td>5.8 (68)</td>
<td>5.2 (60)</td>
<td>5.4 (62)</td>
<td></td>
</tr>
<tr>
<td>Incision-site hemorrhage</td>
<td>2.0 (23)</td>
<td>1.8 (20)</td>
<td>1.9 (21)</td>
<td></td>
</tr>
</tbody>
</table>

Adverse reactions occurring in ≥1% of patients in the AMPLIFY-EXT study are listed in Table 8.

Table 8: Adverse Reactions Occurring in ≥1% of Patients Undergoing Extended Treatment for DVT and PE in the AMPLIFY-EXT Study

<table>
<thead>
<tr>
<th>Event</th>
<th>ELIQUIS (apixaban), n (%)</th>
<th>Enoxaparin/Warfarin, n (%)</th>
<th>Placebo, n (%)</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arterial ischemic stroke</td>
<td>2.3 (28)</td>
<td>2.1 (24)</td>
<td>2.1 (24)</td>
<td></td>
</tr>
<tr>
<td>Myocardial infarction</td>
<td>2.6 (30)</td>
<td>2.0 (23)</td>
<td>2.1 (24)</td>
<td></td>
</tr>
<tr>
<td>Stroke</td>
<td>1.6 (19)</td>
<td>1.9 (21)</td>
<td>1.9 (21)</td>
<td></td>
</tr>
<tr>
<td>Death</td>
<td>1.6 (19)</td>
<td>1.9 (21)</td>
<td>1.9 (21)</td>
<td></td>
</tr>
<tr>
<td>Nonmajor</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wound secretion</td>
<td>6.3 (72)</td>
<td>5.5 (60)</td>
<td>6.0 (62)</td>
<td></td>
</tr>
<tr>
<td>Incision-site hemorrhage</td>
<td>2.5 (29)</td>
<td>2.2 (24)</td>
<td>2.3 (24)</td>
<td></td>
</tr>
</tbody>
</table>

Adverse reactions occurring in ≥1% of patients in the AMPLIFY-EXT study are listed in Table 9.

Table 9: Adverse Reactions Occurring in ≥1% of Patients Undergoing Extended Treatment for DVT and PE in the AMPLIFY-EXT Study

<table>
<thead>
<tr>
<th>Event</th>
<th>ELIQUIS (apixaban), n (%)</th>
<th>Enoxaparin/Warfarin, n (%)</th>
<th>Placebo, n (%)</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Arterial ischemic stroke</td>
<td>2.4 (29)</td>
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<td>2.1 (24)</td>
<td>p&lt;0.05</td>
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<tr>
<td>Myocardial infarction</td>
<td>2.6 (30)</td>
<td>2.0 (23)</td>
<td>2.1 (24)</td>
<td>p=0.004</td>
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<tr>
<td>Stroke</td>
<td>1.3 (15)</td>
<td>1.6 (19)</td>
<td>1.6 (19)</td>
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</tr>
<tr>
<td>Death</td>
<td>1.3 (15)</td>
<td>1.6 (19)</td>
<td>1.6 (19)</td>
<td></td>
</tr>
<tr>
<td>Nonmajor</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wound secretion</td>
<td>5.8 (68)</td>
<td>5.2 (60)</td>
<td>5.4 (62)</td>
<td></td>
</tr>
<tr>
<td>Incision-site hemorrhage</td>
<td>2.0 (23)</td>
<td>1.8 (20)</td>
<td>1.9 (21)</td>
<td></td>
</tr>
</tbody>
</table>

Adverse reactions occurring in ≥1% of patients in the AMPLIFY-EXT study are listed in Table 10.

Table 10: Adverse Reactions Occurring in ≥1% of Patients Undergoing Extended Treatment for DVT and PE in the AMPLIFY-EXT Study

<table>
<thead>
<tr>
<th>Event</th>
<th>ELIQUIS (apixaban), n (%)</th>
<th>Enoxaparin/Warfarin, n (%)</th>
<th>Placebo, n (%)</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arterial ischemic stroke</td>
<td>2.3 (28)</td>
<td>2.1 (24)</td>
<td>2.1 (24)</td>
<td></td>
</tr>
<tr>
<td>Myocardial infarction</td>
<td>2.6 (30)</td>
<td>2.0 (23)</td>
<td>2.1 (24)</td>
<td></td>
</tr>
<tr>
<td>Stroke</td>
<td>1.6 (19)</td>
<td>1.9 (21)</td>
<td>1.9 (21)</td>
<td></td>
</tr>
<tr>
<td>Death</td>
<td>1.6 (19)</td>
<td>1.9 (21)</td>
<td>1.9 (21)</td>
<td></td>
</tr>
<tr>
<td>Nonmajor</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wound secretion</td>
<td>6.3 (72)</td>
<td>5.5 (60)</td>
<td>6.0 (62)</td>
<td></td>
</tr>
<tr>
<td>Incision-site hemorrhage</td>
<td>2.5 (29)</td>
<td>2.2 (24)</td>
<td>2.3 (24)</td>
<td></td>
</tr>
</tbody>
</table>
NETWORK NOT FOUND

Insurance companies force emergency departments out of network and shift costs to patients

by ERIN L. SIMON, DO, FACEP; CARRIE DE MOOR, MD, FACEP; JOHN DAYTON, MD, FACEP, FAEM; AND GILLIAN R. SCHMITZ, MD, FACEP

The cost of out-of-network care has come under scrutiny and grabbed media attention as physicians, insurance companies, and legislators grapple with the issue of “surprise billing.” Emergency physicians have cited narrow networks and skimpy insurance coverage as the major reasons costs have been shifted to patients. Insurance companies, meanwhile, have promoted the narrative that emergency physicians intentionally stay out of network in order to charge higher prices.

The insurance industry has been particularly critical of independent freestanding emergency departments (FSEDs), which have been a disruptor to the market in Texas. Some FSEDs exist as hybrid models, combining an emergency department with an urgent care facility to try to improve price transparency and reduce costs for lower-acuity visits. There are studies suggesting that FSEDs may decrease emergency room use and shift costs to patients. Insurance companies, meanwhile, have promoted the narrative that emergency physicians intentionally stay out of network in order to charge higher prices.

We administered a survey in 2017 to investigate the percentage of independent FSEDs in Texas, and data were collected from most of the major health plans. This allowed us to understand why physicians were unable to arrive at an in-network contract with insurance companies.

In the survey, 66 percent of FSEDs said they had not been contacted by an insurance company or had been unable to get an insurance company to return phone calls about contracting. Failure to obtain in-network status occurred most frequently because rates were unreasonably low (45 percent), the insurance company refused to offer the FSED any rate (27 percent), and the insurance company did not want to contract with any FSED (13.6 percent). Physician groups did not want to contract with insurers only 5 percent of the time (see Figure 1).

Thus, despite a demonstrated desire of FSEDs to provide in-network care, only 27 percent were able to secure a contract with insurance companies.

The most common reason FSEDs were not in-network is that insurance companies did not offer to contract with them, ignored repeated attempts by physicians to negotiate, or offered unreasonably low rates and were unwilling to negotiate. Although this study looked specifically at independent FSEDs in Texas, the concern is that insurance companies are using similar tactics nationwide. This is particularly challenging for small groups that have less leverage to negotiate, rural hospitals, and disproportionate share hospitals (ie, hospitals that are a high number of low-income patients and receive payments from the Centers for Medicaid and Medicare Services to cover the costs for uninsured patients), which have slimmer margins.

The health plans have a perverse incentive to avoid fair contracting because they know emergency departments are beholden to EMTALA and will take care of any patient, regardless of their ability to pay. Knowing that patients will be cared for regardless, insurance companies have little incentive to offer fair reimbursement rates.

Health plans need to be held accountable for offering reasonable in-network rates and providing adequate networks of care. Failure to do so results in increased access and cost shifting to patients. Placing the blame on emergency providers only dirties the wound.

Reference

DR. SIMON is associate professor at the Northeast Ohio Medical University in Rootstown, research director for Cleveland Clinic Akron General emergency department in Akron, Ohio, and Medical Director of the Cleveland Clinic Bath emergency department.

DR. DE MOOR is CEO of Code 3 Emergency Partners in Frisco, Texas, and chair and founder of Code 3 Emergency Physicians.

DR. DAYTON is adjunct assistant professor at the University of Utah in Salt Lake City, FSED Alpha Team for US Acute Care Solutions, and chair of ACEP’s Freestanding Emergency Centers Section.

DR. SCHMITZ is associate professor at the F. Edward Hébert School of Medicine at the Uniformed Services University of the Health Sciences at San Antonio Military Medical Center.
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As 2019 is EMRA’s 45th anniversary, please define your thoughts and beliefs about residency training in emergency medicine, illustrated through your personal experiences.

**Jon Mark Hirshon, MD, PhD, MPH, FACEP**

Current Professional Positions: professor, department of emergency medicine and department of epidemiology and public health, University of Maryland School of Medicine, Baltimore; senior vice-chair of the University of Maryland, Baltimore Institutional Review Board

Internships and Residency: emergency medicine residency, Johns Hopkins Hospital, Johns Hopkins University, Baltimore; preventive medicine residency, Johns Hopkins Bloomberg School of Public Health

Medical Degree: MD, University of Southern California School of Medicine, Los Angeles (1990)

Response: It seems like just yesterday that I walked through the doors of Johns Hopkins Emergency Department to join eight fellow interns as we started our residency training and our careers in emergency medicine. Back then, we were still doing 24-hour shifts on the surgical side of the ED. As a newly minted doctor still trying to comfortably wear the recently-acquired mantle of physician responsibility and authority, it was both an awe-inspiring and somewhat intimidating experience. Despite the challenges of a new city, a new job, and a new role in life, I squared my shoulders and successfully stepped forward with the support of faculty, family, and friends. Three years later, after appropriate (and, at times, painful) guidance and training, I transitioned out of academia to the finishing school of community emergency practice in Baltimore for five years. Or, as one of my attendings said at the time, to go out and “get real-world experience” before teaching others.

While my emergency residency training was just one step in a long and successful career, it remains a critical and pivotal period in my professional development and personal growth. EM is a clinical, patient-focused specialty—our clinical expertise helps to define us professionally. We are, first and foremost, clinicians. For me, the personal satisfaction of treating patients is irreplaceable and remains one of the best parts of my practice. However, it was through residency training that I gained the knowledge and experience to be able to provide high-quality emergency care. As I tell my current residents, for me the two greatest clinical learning years were my internship year and my first year as an attending in the community. Without the outstanding training I received in residency, my knowledge and skills would not have enabled me to provide high-quality emergency care.

There is no question that residency training is the standard for developing outstanding emergency physicians. When EM first started 30 years ago, there were no EM training programs. I remain forever thankful for the heroic efforts of our founding leaders in developing our wonderful specialty. However, at 30 years, we are a fully developed member of the house of medicine. Our current and future value is based on quality residency training in combination with increasing our knowledge base through research. As ACEP Vice President, I have had the real pleasure of being the ACEP Board liaison to the EMRA Board of Directors this past year. It has been a natural fit for me after more than two decades of being a faculty member at outstanding residency programs. While patient care remains an important and valued aspect of my professional life, equally important is my role as teacher and mentor to young clinicians and researchers. Helping to guide young physicians as they develop into self-confident, excellent physicians remains one of the best aspects of my career, and I feel honored to be able to continue to serve in this role.

Still, there are a number of concerning issues and current trends related to EM residency training. These include: 1) the rapid expansion of residency programs (from 153 in 2010 to more than 240 today) and how this will impact the educational environment, future workforce needs, and young physicians’ employment opportunities; 2) the ongoing challenges of integrating osteopathic and allopathic training programs and how this impacts current and future trainees; and 3) the Accreditation Council for Graduate Medical Education’s removal of protected time for EM faculty with the new common program requirements despite strong and united opposition from ACEP, EMRA, and other EM organizations. We must remain vigilant and dedicated to ensuring that our emergency physicians in training are receiving outstanding education and guidance within appropriately designed and supported educational environments.

At 45 years, EMRA remains a youthful, vibrant, trailblazing organization led by incredibly talented
and thoughtful physicians. Their energy, drive, and creativity are exemplary, and I continue to learn much from them as they help develop the future of our specialty. Still, we need to carefully navigate between the shoals on our left of increasing bureaucratic demands and physician burnout and the raging storm to our right of economic pressures to decrease health care costs and the financial burdens on patients (as exemplified by the current congressional battles related to out-of-network billing and inadequate insurance coverage). As stated in my speech in front of the Council last year, it is imperative that we work together to: 1) improve our lives at the bedside in the ED; 2) ensure we can deliver the highest-quality emergency care possible; and 3) make sure that we receive fair compensation for the care we deliver. This will be accomplished in the future through graduates of high-quality EM residency training programs and the exceptional, committed resident leaders in EMRA.

Mark Rosenberg, DO, MBA, FACEP
Current Professional Positions: chairman of emergency medicine, chief innovation officer, and associate professor of emergency medicine, St Joseph’s Health, Paterson, New Jersey
Internships and Residency: emergency medicine internship and residency, Metropolitan Hospital, Philadelphia
Medical Degree: DO, Philadelphia College of Osteopathic Medicine (1978)

Response

EM residencies have become the standard for training and education, and maintaining these rigorous standards and curriculum is critical. Across our country, there are more than 240 residency programs and more than 2,200 EM residency slots. I value residency training so much that in 2009, I started an EM residency at St. Joseph’s University Medical Center, which is now affiliated with New York Medical College. The program is accredited by the Accreditation Council for Graduate Medical Education and has 24 residents. We have 12 core faculty and systemwide support. I think it is critically important for each of us to protect and defend our emergency residency programs. Residency training is fundamentally important as the cornerstone of our specialty of emergency medicine. Because of my experience in the early years of the specialty, I have always been a staunch advocate of residency programs, supporting EM residencies throughout my career and having developed an EM residency program at my current practice. Without belaboring the point, as we all know the history of EM, I believe a few words focusing on the early growth of our specialty are relevant to this question as it profoundly influenced my professional life and commitment to residency programs. As Brian Zink said, “Unlike the residents of today, those physicians who pursued emergency medicine residency training in the early 1970s faced an uncertain future. They had no opportunity to be certified by a specialty board and had no guarantee their chosen field would persist. They were pioneers and mavericks in spirit and action. And despite the severe lack of teachers, curricula, and resources, they managed to learn and become leaders by relying on each other.” But some of the very docs who fought for EM to be a specialty were the same docs who were at risk of losing everything due to their lack of standardized training. I have had the distinct privilege of participating in those tumultuous years of our specialty.

My own residency experience is one I can never forget as it influenced my career decisions over years of clinical practice. In 1978, I began my internship at Metropolitan Hospital in Philadelphia just as a new emergency department medical director joined the staff. He was residency-trained in EM from one of the few residency programs in the country. The ED was under the department of surgery, and one of the core EM textbooks at the time was written by surgeons! After completing my internship, I started working in the ED with hands-on training from the medical director/program director. We had a shared vision to get the training accredited as a residency program, and I would be the first graduating resident. But things did not work out as I had planned. The program never became accredited, and my program director decided to leave Philadelphia and go back to Florida where he trained.

I continued working as an emergency physician, and in 1980, I joined the EM faculty at Philadelphia College of Osteopathic Medicine. This was the first osteopathic emergency medicine residency program that started in 1979. All the faculty were from other specialties, not EM, but all were dedicated to making the specialty what it is today. To address the situation of those EM physicians who did not have a residency, ACEP and the American Board of Emergency Medicine (ABEM) developed a practice pathway, which closed in 1988. For a limited time, this group of physicians had the opportunity to meet the requirements established by ABEM, making them eligible to sit for the boards. That is how physicians such as myself became board-certified in EM. I am proud to say I am triple boarded, with EM boards from ABEM and the American Osteopathic Board of Emergency Medicine, and palliative medicine boards through ABEM.

The practice pathway was a window of opportunity that recognized the significant contribution of those physicians prior to residencies and also recognized the significant growth of our specialty. As EM grew, so did the need for validation of practice standards and board certification as in other specialties. Today, a practice pathway is no longer relevant. I strongly believe that EM residency training programs are the only pathway to EM practice and board certification. We are the specialty of EM with a mandate of 24/7/365 in every ED across this country. Because of our irrevocable commitment to EM residencies, we continue to achieve this mandate every day. ☛

Reference
Optimizing Our Collaboration with Advanced Practice Providers

ACEP task force reviewing best practices for working with PAs and NPs in emergency medicine

by DANIEL FREESS, MD, FACEP

One of the most discussed and debated issues in emergency medicine over the past few years has been our workforce and how we interact with physician assistants (PAs) and advanced practice registered nurses (APRNs), including nurse practitioners (NPs). While some see advanced practice providers (APPs) as valued team members who enhance our ability to streamline patient flow and better match patient acuity to clinical resources, others raise concerns that independent practice by APPs threatens quality patient care and physician job security. Similarly, ACEP has heard concerns that some emergency physicians are required to sign charts of patients seen independently by PAs/NPs, which some feel to be both unethical and a possible medicolegal risk.

For decades, ACEP has had guidelines and policies providing guidance on these issues, including policies on unsupervised care (https://bit.ly/2YTVVTh) and the role of PAs and APRNs in the emergency department (https://bit.ly/2xcYBMA). While these policies have provided valued consistency over time, many feel they need to be updated, revised, and strengthened to better reflect current industry trends and expectations for emergency care.

In response to the needs of the specialty and our membership, ACEP has formed a task force to gather data and provide guidance on the best practices for collaboration with APPs in everyday emergency medicine. This task force initially met this past October at ACEP18 and will complete its work at ACEP19 this coming October. While there have been a few papers and guidelines published by emergency physicians on this topic over the past few years, ACEP felt that the most comprehensive information and meaningful recommendations would come from a collaborative approach where all parties are able to provide their unique perspectives. As emergency medicine is rooted in team-based care, multiple stakeholder organizations were invited to actively participate in the task force. These include the American Academy of Emergency Nurse Practitioners (AAENP), American Academy of Emergency Medicine (AAEM), AAEM Resident and Student Association (RSA), American College of Osteopathic Emergency Physicians (ACOEP), and the Society of Emergency Medicine Physician Assistants (SEMPA).

Over the past few months, we have been hard at work reviewing anything and everything related to APPs in the emergency medicine workforce, including how they are trained, what unique emergency medicine training and certifications are offered, laws about supervision and collaboration, variations in how APPs are currently supervised, current physician-to-APP ratios, billing issues and requirements related to APPs, and the regional distribution of both emergency physicians and APPs in the current workforce. Though some physicians have asked the committee to provide “preliminary guidelines” and quick updates to existing ACEP policy, due to the comprehensive nature of our review and the desire for the finished product to be thorough and comprehensive, we have elected to avoid such “quick releases” until our work is complete and we are able to provide our final recommendations.

With that said, a few interesting facts and misconceptions that have been noted relate to current APP independent practice. Despite the publicized experiences of a few, the vast majority of APPs are, in fact, directly supervised for patients with Emergency Severity Index levels 1–3. Similarly, both SEMPA and AAENP advocate for supervised and real-time collaborative practice with emergency physicians rather than independent practice. Finally, though it is not uncommon for physicians to be “required” to sign off on APP charts for patients they did not personally have direct or indirect involvement with, there is rarely any billing or legal requirement for this signature (although many states do require a degree of physician supervision for APPs). If you do find yourself in this situation and it makes you uncomfortable, take a moment to sit down with your director or administrator to discuss whether the practice is, in fact, required or simply an electronic medical record or hospital “checkoff” that could potentially be removed with no change in billing or patient care. APPs serve an integral role in emergency care that can only be improved with better communication, guidelines, and education. As such, we look forward to being able to present the various works and recommendations of our task force with ACEP’s general membership and the medical community as a whole over the next few months. In the interim, feel free to reach out to me, your local ACEP chapter, or national ACEP with your concerns, opinions, and experiences working with APPs. The more voices that are heard and that we can represent, the stronger our work and recommendations will be.

ACEP Emergency Physician Workforce Task Force Study Under Way

ACEP’s fourth and most comprehensive workforce study is under way. This two-year study aims to describe the current and future workforce in emergency medicine as well as projections of the workforce supply and demands.

ACEP’s previous workforce studies were published in 1998, 2002, and 2009. Although these studies demonstrated a significant shortage of the workforce, much has changed since the last study. We practice in an environment of ever-increasing numbers of annual emergency department visits. The Centers for Disease Control and Prevention (CDC) recently reported a record high of 454.6 million annual ED visits in the United States in 2016.1 To help train the workforce needed to treat these patients, there are currently 240 emergency medicine residency programs, more than at any time in the history of our specialty.

ACEP’s Workforce Task Force includes experts from AAENP, American Board of Emergency Medicine, ACEP, ACOEP, American Osteopathic Board of Emergency Medicine, CORD, EMRA, SAEM, and SEMPA. The following organizations were also invited to participate but declined: AAEHM, AAEM/RSA, AACEM, SAEM/RAMS. ACEP has contracted with George Washington University’s Health Workforce Institute to perform a study. The task force plans a multifaceted approach to the study, including analysis of CDC ambulatory visit data, Medicare claims data, American Medical Association data, focus groups, surveys of practicing emergency physicians and emergency medicine resident programs and program directors, and other sources of data.

The final report is expected to be released in 2021.

Reference


DR. FREESS is assistant professor of emergency medicine at the University of Connecticut and clinical attending at Hartford Hospital in Hartford, Connecticut. He is Chair of the ACEP Task Force on the Utilization of PAs/NPs in Emergency Care.
INCERTMENTALIZATION of the CUNNINGHAM TECHNIQUE

by RICHARD M. LEVITAN, MD

In my own career and from watching hundreds of colleagues, residents, and other clinical staff, I am convinced that job performance, competence, and satisfaction are intertwined. The clinicians who are the most competent are the most content, the most calm under fire, and the best at communicating with patients and coworkers. They have made peace with the job and its demands—and it reflects in all of their interactions. It shows on their face and in every aspect of their practice.

Through 20 years of monthly cadaveric courses focused on airway procedural education, I now know that “expertise” is not an accident. Being good at a task comes through practice and, more important, through mastering an incrementalized, engineered approach to the task. “Incrementalization” is a term I use to describe breaking down complex tasks into smaller tasks. Especially under stressful situations, it is critical that operators approach complex tasks in small, well-rehearsed, well-designed steps. The steps must be achievable (operators envision themselves successfully completing each step) and believable (operators believe the steps will work). Our procedures should be “engineered”—designed step-wise—to maximize success, patient safety, and operator confidence.

In my previous Airway columns, I have advocated a step-wise approach to oxygenation, laryngoscopy, and the emergent surgical airway. I now embrace an equally incrementalized approach to every procedure I perform, including even routine ones that I used to take for granted. I engineer the tiny steps of suturing the vermilion border in a ketamized child—how I hold instruments, rest my hands and elbows, and use loupes. (You don’t use loupes? How many plastic surgeons have you seen not use loupes?)

I take a similarly detailed approach to cardioversion: position the patient’s head to 40–45 degrees; provide nasal oxygenation; directing it against the patient’s side with the right hand, helping them rotate the shoulders clockwise. The assistant holds the shoulders square while massaging the right and left trapezii. If the right shoulder is dislocated, the patient will rest the right arm on your right shoulder.

The Cunningham Technique

A few years ago—before my “conversion” to incrementalization—I heard about the Cunningham technique. This remarkable drug-free approach to anterior shoulder reduction by a single operator was developed by Austral-ian physician Neil Cunningham, MBBS. There are some great videos on YouTube showing the reduction itself!

This is such a gentle technique that I do not routinely X-ray patients before reduction, assuming the patient is cognitively intact, the injury is obviously isolated, and the mechanism of injury is unlikely to have caused a fracture. I rarely do pre-reduction films for the recurrent dislocator.

There are times when the Cunningham technique won’t work. You can expect difficulty with very obese patients. Some patients are too anxious or are in too much distress to relax and assist with positioning. In general, reductions are more difficult in patients with delayed presentations; I usually use medication in these cases and obtain post-reduction films. I rarely combine medication with the Cunningham technique. However, if needed, an intra-articular injection of 20 cc of lidocaine beneath the acromion can be effective enough to avoid the need for sedation while permitting a more forceful manipulation technique.

The Technique’s Many Benefits

Deploying the Cunningham technique has exponentially positive effects. It dramatically lessens length of stay and minimizes use of departmental resources. I believe that the gentle massaging of the patient has a significant analgesic effect. Coordinating your efforts with the second operator (nurse or techni-cian) makes the procedure go more smoothly. It is great for team building, allowing others to participate in a successful procedure.

Incrementalizing your procedures so you perform better can translate into positive effects on your job perception. It can lower stress because you are operating well within your comfort zone due to an approach that favors small, achievable, and believable steps. It allows you to transmit confidence and reassurance to the patient. Patients greatly appreciate the reassurance and acknowledge that your expertise allows you to take good care of them.

What I love about incrementalization is that it makes you good at even difficult tasks, like running sedation checklists and getting unnecessary radiographs. I am happier in my job—and better at it—since I started engineering and incrementalizing my practice. It even allows me to be present for the patients themselves. If you embrace incrementalization, I believe you’ll find your own ways to improve your practice and thereby even your own wellness. In the meantime, start with the incrementalized two-person Cunningham—it’s awesome.

**Reference**


DR. LEVITAN is an adjunct professor of emergency medicine at Dartmouth’s Geisel School of Medicine in Hanover, New Hampshire, and a visiting professor of emergency medicine at the University of Maryland in Baltimore. He works clinically at a critical care access hospital in rural New Hampshire and teaches cadaveric and fiber-optic airway courses.
Pocket ultrasound devices have arrived! With their price points set at less than $3,000, the era of personally owned ultrasound machines has begun. We finally have devices we can throw into our bags that upgrade easily, help us get images for "teleguidance," transmit images wirelessly, and improve diagnostic accuracy via machine learning. Their scalability is enticing for many reasons, but there are important considerations when trying to integrate them into clinical practice. The 2018 Appropriate Use Criteria for Handheld/Pocket Ultrasound Devices produced by the ACEP Emergency Ultrasound Section and available at www.acep.org/patient-care/policy-statements/appropriate-use-criteria-for-handheld-pocket-ultrasound-devices serves as a starting point when contemplating use of these systems.

WHO SHOULD BUY IT: ME OR THE HOSPITAL?
The physician consumer is most protected when the hospital approves and purchases these devices, using the same processes that we use with our traditional cart-based machines. Advancing technologies bring increasing security fears and information technology (IT) challenges, particularly regarding HIPAA compliance, transmission of wireless data, and cloud storage. Purchasing decisions need to be made in conjunction with the vendors, department administration, IT and security, risk management, and clinical engineering departments. Emergency departments pursuing this technology often use hospital-encrypted phones or tablets. If these units are lost, tablets can be wiped of patient information quickly and the probes deactivated.

However, their relative inexpensiveness entices people to purchase their own devices for novelty and convenience. This may be fine for use in nonclinical educational settings, but bringing personal devices into clinical environments for either diagnostic or educational purposes without appropriate approval can lead to trouble, including HIPAA or other statutory or regulatory violations. The ACEP Emergency Ultrasound Section has heard accounts of early adopters being fired for using personal systems and encourages those interested to thoroughly explore the requirements with their facility prior to purchasing.

ARE THEY GOOD ENOUGH?
The image quality of these latest devices has improved dramatically from prior units, giving

CONTINUED on page 17

COMPARISON OF POCKET ULTRASOUND MACHINES

<table>
<thead>
<tr>
<th>PHILIPS LUMIFY</th>
<th>SONOSITE IVIZ</th>
<th>GE VSCAN EXTEND</th>
<th>CLARIUS</th>
<th>BUTTERFLY IQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>COST</td>
<td>$200/month per probe + $75/month warranty</td>
<td>$1,999 + $420/year for cloud user license</td>
<td>Starts at $2,995</td>
<td>Starts at $6,900</td>
</tr>
<tr>
<td>OPERATING SYSTEM</td>
<td>Android</td>
<td>iOS</td>
<td>Proprietary system based on Android/Linux</td>
<td>iOS and Android</td>
</tr>
<tr>
<td>PROBES</td>
<td>Separate linear, curvilinear, and phased array probes</td>
<td>Separate linear, curvilinear, and phased array probes</td>
<td>Dual probe (curvilinear and linear)</td>
<td>Three-in-one single probe that covers linear, curvilinear, and phased array</td>
</tr>
<tr>
<td>PROBE TECHNOLOGY</td>
<td>Crystals (piezoelectric)</td>
<td>Crystals (piezoelectric)</td>
<td>Crystals (piezoelectric)</td>
<td>Crystals (piezoelectric)</td>
</tr>
<tr>
<td>STORAGE</td>
<td>Can be configured for DICOM PACS, cloud offered via Tricefy</td>
<td>Can be configured for DICOM PACS, cloud offered via Tricefy</td>
<td>Can be configured for DICOM PACS, cloud offered via Tricefy</td>
<td>Cloud-based via free Clarius cloud (can be configured for DICOM PACS but may need retrieval from cloud first)</td>
</tr>
<tr>
<td>ADDITIONAL FEATURES</td>
<td>Has first teleguidance add-on via REACTS, AI integrations pending</td>
<td>Rugged drop-proof design</td>
<td>Has AI integration for auto-ejection fraction available</td>
<td>Waterproof, AI integrations pending</td>
</tr>
<tr>
<td>WEBSITE</td>
<td>lumify.philips.com</td>
<td>sonosite.com</td>
<td>gehealthcare.com</td>
<td>clarius.com</td>
</tr>
</tbody>
</table>

Definitions: AI = artificial intelligence; CMOS = complementary metal–oxide–semiconductor; CMUT = capacitive micromachined ultrasonic transducer; DICOM = digital imaging and communications in medicine; PACS = picture archiving and communication system; REACTS = Remote Education, Augmented Communication, Training and Supervision
only since 2015. The study of most DTC advertising centers on the psychosocial aspects of the various targeted diseases. Ads for psoriasis depict embarrasment when a patient’s involved skin is exposed to the public on the beach. Ads for monoclonal antibodies against Crohn’s disease depict the unexpected and socially inconvenient urge to go to the bathroom. Generally, the focus is curbing the pathology in order to deal with the embarrassment and limitations these conditions impose on patients and not just the clinical symptoms.

MEET THE “MABS”

Let’s take a look at anti-inflammatory monoclonal antibodies, which many of us now casually refer to as “mabs.” In the past, steroids were used to suppress inflammation, but they had widespread effects that were often problematic. Over time, scientists were able to develop anti-inflammatory drugs that had more dominant effects on certain organs or tissues. The analogy to steroids is important in that, although they target certain organs, mabs still can have some systemic effects, just like steroids.

As of 2017 there were 73 mabs approved by the US Food and Drug Administration (FDA). Ten new ones were approved in 2017, up from one in 2015. As of February, a total of 33 new mabs have been approved in the United States. Of the 73, 34 are for cancer, 26 for infections. Of the 73, 34 are for cancer, 26 for infections, three are for cardiovascular disease, and six are for other problems. It is anticipated that worldwide sales of mabs will approach $25 billion by 2020.

The names of the specific mabs and their relatives are infamously unpronounceable, but there is a method to the apparent madness of how they are named. The original source of the mab is established by the letters before “-mab.” Specifically:

- o-: mouse (all mouse)
- x-: chimeric (part human, part nonhuman)
- z-: humanized (mostly human, part nonhuman)
- u-: human (all human)

The target for the mab in the body is usually determined by one or two letters before the source:

- b(a)-: bacterium
- s(o)-: bone
- c(i)-: circulatory system
- f(u)-: fungus
- g(o)-: growth factor
- k(i)-: interleukin
- l(i)-: immune system
- n(e)-: nervous system
- t(o)-: toxin
- t(u)-: tumor
- v(o)-: virus

What do emergency clinicians need to know about mabs? First, these drugs cause immunosuppression, predisposing patients to infections. All of the TV ads warn that patients must be checked for latent infections such as tuberculosis or deep fungal infections before starting a mab. Risks of bacterial infections and sepsis are also increased.

Unfortunately, mabs can occasionally cause an array of other side effects, many of which are not likely to be anticipated when only considering their anti-inflammatory effects. These can include:

- New or worsening heart failure
- Blood problems (anemia and pancytopenia)
- Nervous system problems (new or worsening multiple sclerosis and Guillain-Barré syndrome, depression, headaches)
- Paradoxical development of immune disorders, which are often unrelated to the disorder being treated (psoriasis, inflammatory bowel disease, and lupus-like syndromes)
- Weight loss
- Liver abnormalities
- Allergy/anaphylaxis
- Cancer (lymphomas)
- The usual assortment of minor side effects associated with (but not definitively caused by) most drugs (rash, itching, diarrhea, you name it)

MABS TO COMBAT CANCER

By far, one of the most miraculous aspects of mabs is their ability to treat cancer. In 2000, former President Jimmy Carter announced that he had malignant melanoma that was in his liver and brain. I figured he was a dead man walking. But four years on, Jimmy Carter is alive and well and still teaching Sunday school in Plains, Georgia. He was treated with a drug called Keytruda (pembrolizumab, a mab from most human sources that modulates the immune system). The drug was fast-tracked by the FDA and approved in 2014, and Jimmy Carter got it in 2015. Keytruda and another heavily marketed competitor, Opdivo (nivolumab), are the only intensively DTC-marketed drugs for the treatment of cancer. Their commercials don’t talk about cures but rather imply a better (and perhaps longer) quality of life in people with advanced cancer. Commercially typically focus on happy family gatherings. Keytruda had sales reaching $99 million in the first nine months of 2016 alone.

**CONTINUED on page 26**
How do they work? Keytruda and Opdivo are cancer cell unlooking agents (also called checkpoint inhibitors). Many cancer cells have the ability to “hide” from the immune system, and as such, the body’s own defenses are inhibited from destroying them. More specifically, there are molecules on immune cells that need to be turned on to recognize and attack foreign cells. Cancer cells have the ability to prevent these molecules from being activated. The cancer cells activate what are called checkpoint, and these checkpoints prevent the immune cell from being mobilized. These two drugs inhibit these checkpoints and allow the body’s own immune system to detect and then attack the cancers. Checkpoint inhibitors are often used in conjunction with drugs that boost the immune system, in essence providing a one-two punch. Vervoy (ispilimumab) is one such drug.

The side effect profile of checkpoint inhibitors is markedly different from the anti-inflammatory mabs. Checkpoint inhibitors side effects include:
• Immune-mediated pneumonitis
• Immune-mediated colitis
• Immune-mediated hepatitis
• Immune-mediated endocrinopathies (thyroid disorders, type I diabetes, hypophysitis)
• Immune-mediated nephritis
• Immune-mediated adverse skin reactions including Stevens-Johnson syndrome and toxic epidermal necrolysis
• Infusion-related reactions

THEN THERE’S THE COST
Most people have no idea how expensive mabs are. For example, the psoriasis pill Olezla (apremilast) costs $4,069 for 60 30-mg pills

NUZYRA™ (omadacycline) injection for intravenous use NUZYRA™ (omadacycline) tablets, for oral use

BRIEF SUMMARY OF FULL PRESCRIBING INFORMATION
For complete details, please see Full Prescribing Information.

INDICATIONS AND USAGE
Community-Acquired Bacterial Pneumonia (CAPB)
NUZYRA is indicated for the treatment of adult patients with community-acquired bacterial pneumonia (CAPB) caused by the following susceptible microorganisms: Streptococcus pneumoniae, Staphylococcus aureus (methicillin-susceptible and -resistant isolates), Staphylococcus lugdunensis, Streplococcus pyogenes, Staphylococcus epidermidis. (Includes S. aureus, S. intermedius, and S. carnosus), Enterococcus faecalis, Enterobacter cloacae, and Klebsiella pneumoniae.

Acute Bacterial Skin and Skin Structure Infections (ABSSSIs)
NUZYRA is indicated for the treatment of adult patients with acute bacterial skin and skin structure infections (ABSSSIs) caused by the following susceptible microorganisms: Staphylococcus aureus (methicillin-susceptible and -resistant isolates), Staphylococcus lugdunensis, Streplococcus pyogenes, Staphylococcus epidermidis. (Includes S. aureus, S. intermedius, and S. carnosus), Enterococcus faecalis, Enterobacter cloacae, and Klebsiella pneumoniae.

USAGE: To reduce the development of drug-resistant bacteria and maintain the effectiveness of NUZYRA and other antibacterial drugs, NUZYRA should be used only to treat or prevent infections that are proven or strongly suspected to be caused by susceptible bacteria. When culture and susceptibility information are available, they should be considered in selecting or modifying antibacterial therapy. In the absence of such data, local epidemiology and susceptibility patterns may contribute to the empiric selection of therapy.

CONTRAINDICATIONS: NUZYRA is contraindicated in patients with known hypersensitivity to tetracyclines or tetracycline-class antibacterial drugs, or to any of the excipients.

WARNINGS AND PRECAUTIONS
Mortality/Imbalance in Patients with Community-Acquired Bacterial Pneumonia
Mortality imbalance: Mortality imbalance was observed in the CAPB trial with eight deaths (2%) occurring in patients treated with NUZYRA compared to four deaths (1%) in patients treated with moxifloxacin. The cause of the mortality imbalance has not been established.

All deaths, in both treatment arms, occurred in patients ≥65 years of age, most patients had multiple comorbidities. The cause of death varied and included worsening and/or complications of infection and underlying conditions. Closely monitor clinical response to therapy in CAPB patients, particularly in those at higher risk for mortality.

Tooth Development and Enamel Hypoplasia
The use of NUZYRA during tooth development (last half of pregnancy, infancy, and childhood up to the age of 8 years) may cause permanent discoloration of the teeth (yellow-gray-brown). This adverse reaction is more common during long-term use of the tetracycline class drugs, but it has been observed following repeated short-term courses. Enamel hypoplasia has also been reported with tetracycline-class drugs. Advise the patient of the potential risk to the fetus if NUZYRA is used during the second or third trimester of pregnancy.

Inhibition of Bone Growth
The use of NUZYRA during second and third trimester of pregnancy, infancy, and childhood up to the age of 8 years may cause reversible inhibition of bone growth. All tetracyclines form a stable calcium complex in any bone-forming tissue. A decrease in tetracycline plasma levels has been observed in premature infants given tetracycline in doses of 25 mg/kg every 6 hours. This reaction was shown to be reversible when the drug was discontinued. Advise the patient of the potential risk to the fetus if NUZYRA is used during the second or third trimester of pregnancy.

Hypersensitivity Reactions
Hypersensitivity reactions have been reported with NUZYRA.

Life-threatening hypersensitivity reactions have been reported with other tetracycline-class antibacterial drugs. NUZYRA is structurally similar to other tetracycline-class antibacterial drugs and is contraindicated in patients with known hypersensitivity to tetracycline-class antibacterial drugs. Discontinue NUZYRA in an allergic reaction occurs.

Clostridium difficile-Associated Diarrhea
Clostridium difficile-associated diarrhea (CDAD) has been reported with use of nearly all antibacterial agents and may range in severity from mild diarrhea to fatal colitis. Treatment with antibacterial agents alters the normal flora of the colon leading to overgrowth of C. difficile which produces toxins A and B which contribute to the development of CDAD. Hypertoxinemia positive strains of the C. difficile cause increased morbidity and mortality, as these infections can be refractory to antimicrobial therapy and may require colectomy. C. difficile must be considered in all patients who present with diarrhea following antibacterial drug use. Closely monitor patients receiving NUZYRA and discontinue therapy if CDAD is suspected or confirmed, ongoing antibacterial drug use not directed against C. difficile may need to be discontinued. Appropriate fluid and electrolyte management, protein supplementation, antibacterial drug treatment of C. difficile, and surgical evaluation should be instituted if clinically indicated.

Tetracycline Class Effects
NUZYRA is structurally similar to tetracycline-class of antibacterial drugs and may have similar adverse reactions. Adverse reactions including phototoxicity, pseudotumor cerebri, and anti-anabolic action (which has led to increased BUN, azotemia, acidosis, hyperphosphatemia, pancreatitis, and abnormal liver function tests), have been reported for other tetracycline-class antibacterial drugs, and may occur with NUZYRA. Discontinue NUZYRA if any of these adverse reactions are occur.

Development of Drug-Resistant Bacteria
Prescribing NUZYRA in the absence of a proven or strongly suspected antibacterial infection is unlikely to provide benefit to the patient and may increase the risk of development of drug-resistant bacteria.

ADVERSE REACTIONS:
The following clinically significant adverse reactions are described in greater detail in the Warnings and Precautions section:
• Mortality/Imbalance in Patients with Community-Acquired Bacterial Pneumonia
• Tooth Development and Enamel Hypoplasia
• Hypersensitivity Reactions
• Tetracycline-Class Effects

Clinical Trials Experience
Because clinical trials are conducted under widely varying conditions, adverse reaction rates observed in the clinical trials of a drug cannot be directly compared to rates in the clinical trials of another drug and may not reflect the rates observed in practice.

Overview of the Safety Evaluation of NUZYRA: NUZYRA was evaluated in three Phase 3 clinical trials (Trails 1, 2 and 3). These trials included a single Phase 3 trial in CABP patients (Trail 1) and two Phase 3 trials in ABSSSIs patients (Trails 2 and 3). Across all Phase 3 trials, a total of 1073 patients were treated with NUZYRA (382 patients in Trial 1 and 691 in Trials 2 and 3) of which 368 patients were treated with only NUZYRA (322 in Trial 2 and 46 in Trials 2 and 3). Across all Phase 3 trials, a total of 2731 patients were treated with NUZYRA, moxifloxacin and placebo (1489/642/598 respectively). Across all Phase 3 trials, a total of 1073 patients were treated with NUZYRA (382 patients in Trial 1 and 691 in Trials 2 and 3). Across all Phase 3 trials, a total of 1073 patients were treated with NUZYRA, moxifloxacin and placebo (1489/642/598 respectively). Across all Phase 3 trials, a total of 1073 patients were treated with NUZYRA, moxifloxacin and placebo (1489/642/598 respectively).

Adverse Reactions Occurring in ≥10% of Patients Receiving NUZYRA in Trial 1

<table>
<thead>
<tr>
<th>Adverse Reaction</th>
<th>NUZYRA (N = 382)</th>
<th>Moxifloxacin (N = 388)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serious adverse reactions</td>
<td>37/36 (9.7%)</td>
<td>66/68 (17.1%)</td>
</tr>
<tr>
<td>Hypersensitivity</td>
<td>34/36 (8.9%)</td>
<td>28/36 (7.6%)</td>
</tr>
<tr>
<td>Gamma-glutamyl transferase increased</td>
<td>26/36 (6.8%)</td>
<td>21/36 (5.4%)</td>
</tr>
<tr>
<td>ALT increased</td>
<td>26/36 (6.8%)</td>
<td>21/36 (5.4%)</td>
</tr>
<tr>
<td>ALT/AST increased</td>
<td>26/36 (6.8%)</td>
<td>21/36 (5.4%)</td>
</tr>
<tr>
<td>Total bilirubin increased</td>
<td>26/36 (6.8%)</td>
<td>21/36 (5.4%)</td>
</tr>
<tr>
<td>creatinine increased</td>
<td>26/36 (6.8%)</td>
<td>21/36 (5.4%)</td>
</tr>
</tbody>
</table>

Adverse Reactions Occurring in ≥10% of Patients Receiving NUZYRA in Trials 2 and 3

<table>
<thead>
<tr>
<th>Adverse Reaction</th>
<th>NUZYRA (N = 382)</th>
<th>Moxifloxacin (N = 388)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serious adverse reactions</td>
<td>49/382 (12.8%)</td>
<td>80/388 (20.7%)</td>
</tr>
<tr>
<td>Hypersensitivity</td>
<td>44/382 (11.5%)</td>
<td>30/388 (7.7%)</td>
</tr>
<tr>
<td>Gamma-glutamyl transferase increased</td>
<td>36/382 (9.4%)</td>
<td>26/388 (6.7%)</td>
</tr>
<tr>
<td>ALT increased</td>
<td>36/382 (9.4%)</td>
<td>26/388 (6.7%)</td>
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<td>ALT/AST increased</td>
<td>36/382 (9.4%)</td>
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<td>36/382 (9.4%)</td>
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<tr>
<td>creatinine increased</td>
<td>36/382 (9.4%)</td>
<td>26/388 (6.7%)</td>
</tr>
</tbody>
</table>
at Walmart. Once on a maintenance program, the dose is two tablets a day—totaling about $50,000 a year for a chronic disease that may last a lifetime.

That pales in comparison to the price tag for Keytruda, which is given as an infusion of 200 mg every three weeks. Keytruda costs $50,000 a year for a chronic disease that may last a lifetime.2

With more and more patients taking immunomodulating mab, it will just be a matter of time until emergency clinicians see the diverse range of side effects that can be caused by these medications. And given that it will be impossible to remember all of the side effects of these drugs, clinicians should have a low threshold for considering patient’s symptoms to be manifestations of the mals in the ever-growing number of patients who are, and will be, taking them.

REFERENCES

DR. BUKATA is medical director for The Center for Medical Education.

POCKET ULTRASOUND

NUZYRA® (omadacycline) injection for intravenous use

NUZYRA® (omadacycline) tablets, for oral use

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ABEM has a plan to make certification more meaningful and accessible

Emergency medicine certification is undergoing an evolution. The American Board of Emergency Medicine (ABEM) will soon begin a pilot of its new certification examination, MyEMCert. An alternative to the ConCert Examination—one of the four components of maintenance of certification—MyEMCert was developed based on extensive conversations with emergency physicians and related professional organizations. The new exam will consist of eight modules that can be taken remotely.

Robert L. Muellerman, MD, FACEP, ABEM President and professor and past chair of the department of emergency medicine at the University of Nebraska Medical Center in Omaha, recently responded in writing to ACEP Now’s questions about ABEM’s efforts to redesign its certification program.

Q: It sounds like ABEM has moved forward with developing MyEMCert. What’s guiding your approach?

A: The short answer is that emergency physicians are guiding our approach. Once ABEM decided to change the options for how a physician can stay certified, we sought advice from every corner of the specialty. We held a national summit that was attended by leaders from every emergency medicine organization as well as a testing expert from the American Board of Medical Specialties (ABMS). [ACEP President-Elect] Bill Jaquis and [ACEP Executive Director] Dean Willkerson attended that summit, and Bill was a significant contributor. One of our richest sources of information was from leaders of ACEP state chapters. We also held a focus group with leaders from the American Academy of Emergency Medicine. Finally, we surveyed all 36,000 ABEM-certified emergency physicians and heard back from about 13,000 of them.

We heard some clear messages. First, physicians wanted job and career security, and second, they wanted the process to stay certified to help them become better doctors. There was a clear desire to shift recertification from testing to learning. Another important signal we got was that emergency physicians wanted to interact with ABEM about once per year.

MyEMCert is different than any other recertification approach by any other specialty because it’s being designed to meet the needs of emergency physicians as they themselves have described. That includes being able to take the modules remotely without going to a Pearson VUE testing center. The modules will include 50 to 90 questions and will be open book. Because the modules will be time-limited, physicians will still need to use their judgment about when they want to look something up. Finally, it’s ABEM’s intent to share key testing points and medical advances on our website so that physicians can anticipate what material they need to learn.

Q: What is the implementation timeline?

A: ABEM will be conducting a pilot in 2020. To be clear, that’s not when physicians will be able to recertify using MyEMCert. The pilot is an important step for us to make sure that MyEMCert is functioning properly and will meet the educational objectives to remain certified. If the pilot goes well, we will introduce most but not all modules in 2021. In 2022, all of the eight different modules will be available.

Q: Who will be able to recertify using MyEMCert?

A: Physicians whose certification ends in and after 2022 will be able to recertify using MyEMCert. It’s important for physicians who are interested in recertifying by MyEMCert to complete as many of the modules as possible in 2021 when they are first available. I think trying to complete eight modules in a single year will be a tremendous amount of work, and you might be better off taking ConCert.

Q: What will ACEP’s role be in MyEMCert?

A: ACEP has an important role. MyEMCert will focus on assessment for learning. But as you know, ABEM has a traditional emphasis on developing standards for the specialty and in physician assessment. We believe that MyEMCert can drive the transformation of our specialty, but in order to do that, ACEP and other emergency medicine organizations will need to be the educational engines for emergency physicians. A point-in-time test or even repetitive testing won’t be as effective unless there is a sophisticated educational program that reinforces and promulgates the information. That’s the kind of work that ACEP is really good at.

Q: It seems like ABEM has been making some adjustments to ConCert. What can you tell us about that?

A: We realize that physicians who recertify before 2022 want changes now, and so we’re doing just that. This year, we started offering ConCert twice per year so that physicians who don’t pass won’t have to wait 12 months before taking it again. And by offering ConCert two times per year, physicians can choose which examination date works best for them. Another change that will start in 2020 is to provide physicians a reference to look up information. Even though most of the test questions on ConCert are not fact-recall questions, we do want to offer an online resource to physicians while taking ConCert. A final decision about what reference to provide has not been made. However, of the physicians who answered the ABEM all-diplomate survey, most identified UpToDate as their preference.

Q: With MyEMCert, what does the future of ConCert look like?

A: In the short term, ConCert will still be available to physicians who want to use it, which we think will be around 20 percent of physicians. A couple of the challenges with keeping ConCert is physician cost. Providing physicians options is expensive and could drive up the costs of staying certified. We’re very sensitive to that, so we’ll be watching those numbers closely and will need to constantly reexamine the viability of keeping ConCert.

Q: Why did ABEM drop its Continuing Medical Education (CME) reporting requirement?

A: ABEM is constantly examining its certification program. We value physician input and read every comment on every survey we receive. We received more than 30,000 survey responses in various forms last year. Because the Lifelong Learning and Self-Assessment (LLSA) activity is designed to function as a CME activity, we asked for and received a waiver from ABMS to discontinue requiring physicians to attest to obtaining CME credits. Obviously, most physicians have a CME requirement to maintain their license. Nonetheless, if ABEM can reduce the number and complexity of the requirements for staying certified, we want to do that. For example, we eliminated the patient satisfaction survey requirement, we eliminated the patient safety LLSA requirement, and we eliminated the need to attest to obtaining self-assessment CME requirements. Another way we’ve added value to staying certified is that physicians who pass the Oral Certification Examination or ConCert in 2018 or afterward can receive 60 AMA PRA Category 1 credits at no cost through an arrangement with the American Medical Association.

Q: How will the recommendations included in the final report of the ABMS Vision Commission on redesigning continuing certification affect ABEM?

A: ABEM has closely reviewed the recommendations coming from the Vision Commission. The commission, convened by the ABMS, was a 27-member panel made up of representatives of every major stakeholder group in medicine, such as state medical societies, specialty societies like ACEP, consumer groups, clinical physicians, and others. The American Board was charged with redesigning continuing certification. ABEM believes that MyEMCert is on track to be closely aligned with the recommendations of the Vision Commission, so we don’t think any of their recommendations will run counter to the development of MyEMCert. That’s important because the design of MyEMCert is being driven by what emergency physicians are requesting, and ABEM wants to create a process and credential for the specialty that meets the needs of the public, physicians, and specialty.
ATTENTION EMERGENCY PHYSICIANS

Table 1: ELECTRONIC HEALTH RECORDS

<table>
<thead>
<tr>
<th>AREA OF CONCERN</th>
<th>ACEP’S ADVOCACY STANCE</th>
<th>WHAT IT MEANS FOR EMERGENCY PHYSICIANS</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUC Program</td>
<td>The underlying legislation creating the AUC program exempts emergency services defined</td>
<td>This clarification is huge for us. Requiring you to consult AUC in potential emergency situations would have put patients’ lives at risk. Seconds matter in these cases, and you don’t have time to consult AUC tools that may not even be applicable to your patients. With this clarification, you can move quickly to treat patients who may have an emergency medical condition.</td>
</tr>
<tr>
<td></td>
<td>as “applicable imaging service ordered for an individual with an emergency medical condition” from the requirements. As a result of our advocacy, CMS clarified that this exemption includes cases where an emergency medical condition is suspected but not yet confirmed. In other words, if you think your patient is having a medical emergency (even if they wind up not having one), you are excluded from the AUC requirements in that particular case.</td>
<td></td>
</tr>
<tr>
<td>Promoting Interoperability of MIPS</td>
<td>Under current CMS regulations, emergency physicians who report as a group lose the PI exemption status if one of the group members isn’t categorized as “hospital-based.” ACEP has repeatedly educated CMS that the “all-or-nothing” MIPS exemption for hospital-based individual physicians unfairly penalizes clinicians who work in multispecialty groups. We’re also encouraging physicians to apply for an exemption to the PI category of MIPS.</td>
<td>Under MIPS, clinicians receive a bonus or penalty based on Quality, Cost, Improvement Activities, and PI. These bonuses/penalties can have a major impact on your revenue. The PI category of MIPS represents 25 percent of a clinician’s total MIPS score. If granted a hardship exemption from CMS, the 25 percent PI allocation is redistributed to the Quality category. It’s easier for you to meet the MIPS Quality requirements, especially if you report through ACEP’s Clinical Emergency Data Registry (CEDR).</td>
</tr>
<tr>
<td>EHRs and Data Sharing</td>
<td>CMS and ONC say the main purpose of their proposals is to make health care data available to consumers. We support improving access to data, but we don’t support the increasing pressure on providers to invest in and implement new sharing technology. We’re pushing CMS and ONC for more time for everyone to weigh in on the proposed rules and asking to delay any penalties until two years after the rule to give providers more implementation time.</td>
<td>CMS is proposing to require health plans to make information about a patient encounter available to consumers within one business day after receiving the data. We are concerned that health plans will impose short, unrealistic turnaround times on you that could potentially increase your administrative costs.</td>
</tr>
<tr>
<td>EHR Burden</td>
<td>We supported the recommendations included in ONC’s draft strategy on improving EHR usability and information exchange but suggested other ways to reduce provider burden. We expressed disappointment that ONC’s draft strategy does not address the effectiveness of qualified clinical data registries or how to encourage data registries as a way of reporting quality measures.</td>
<td>Studies have shown poor EHR usability has led to certain types of medical errors, and there is increasing evidence showing the association between usability issues and patient safety. We know it’s challenging for emergency physicians to provide comprehensive care to patients who arrive without an easily accessible medical record. We support federal policies that reduce administrative burden while enhancing your ability to receive and exchange patient information.</td>
</tr>
</tbody>
</table>

CONTINUED on page 23
This graph is an easy-to-understand guideline to help determine if a patient’s clinical status is likely to improve with naloxone administration.

How to Use the Graph
Assess patient’s level of consciousness, respiratory rate, pupil size, and oxygen saturation. Plot those four assessments on the graph. Naloxone administration should be strongly considered in patients who fall into the highlighted quadrant.

Notes: Some patients may not show all of the signs of opioid toxicity. Some opioids do not cause pinpoint pupils (eg, meperidine and propoxyphene). Visit ACEPNow.com for a list of resources for further reading about opioid overdose management.

Naloxone Dosing
Opioid-naive patients: 0.4 mg IV should reverse or improve respiratory depression. This dose may be repeated and sequentially increased up to a 10 mg dose.

Opioid-dependent patients: 0.04–0.1 mg IV should reverse or improve respiratory depression without inducing severe precipitated opioid withdrawal. This dose may be repeated and sequentially increased up to a 10 mg dose.

If reversal of respiratory depression does not occur at a naloxone dose of 10 mg IV push, the diagnosis of opioid intoxication must be reconsidered.

Naloxone Facts
• Naloxone binds to all three recognized opioid receptors (delta, kappa, and mu), with a particularly high affinity for the mu receptor. This causes a competitive antagonism and displacement of opioids, primarily in the central nervous system.
• Naloxone causes a reversal of the opioid-induced toxic effects, with a primary goal of improving ventilation by reversing respiratory depression and obtundation.
• Although naloxone is synthesized from thebaine (paramorphine), a natural compound obtained from the opium poppy plant, it has no opioid effects.
• Naloxone has no intrinsic toxicity in opioid-naive patients even at high doses. It is safe for use in children and adults.
• Naloxone is well-absorbed by most parenteral routes, most commonly intravenous, intramuscular, subcutaneous, and intranasal.
• Onset of action depends on route of administration and rate of absorption, ranging from one to six minutes.
• Naloxone’s duration of effect is 20 to 90 minutes, depending upon the route of administration.
• Continuous infusion of naloxone, at two-thirds the bolus dose that resulted in arousal, may be required in patients with repeated episodes of respiratory depression or re-sedation.

DR. HACK is an emergency physician and medical toxicologist.
Open Forearm Fracture Management

by LANDON JONES, MD, and RICHARD M. CANTOR, MD, FAAP, FACEP

The best questions often stem from the inquisitive learner. As educators, we love, and are always humbled by, those moments when we get to say, “I don’t know.” For some of these questions, you may already know the answers. For others, you may never have thought to ask the question. For all, questions, comments, concerns, and critiques are encouraged. Welcome to the Kids Korner.

Question: In children, can open forearm fractures be nonoperatively managed?

Open fractures are classified according to the Gustillo-Anderson scheme into three types: type I (small wound <1 cm; eg, poke hole), type II (wound >1 cm without significant soft tissue damage), and type III (extensive). For types II and III, operative fixation is the general consensus. For type I, though, potential nonoperative treatments are being evaluated. For this question, we are only exploring type I open fractures.

A retrospective article by lobst et al reviewed 40 type I open fractures—32 forearm and eight tibial—in children ages 4 to 15 years. All children received IV antibiotics, cleansing/irrigation of the wound with betadine and saline solution, bacteriostatic petrolatum gauze over the wound (no wounds were closed primarily), tetanus as needed, and closed reduction and splinting. Children were admitted for 48 to 72 hours for IV antibiotics (most commonly cefazolin) and observation. At discharge, most children were not prescribed oral antibiotics.4 They prospectively managed 45 children with this protocol from 2004–08 and reported no infections (0 of 45). Another retrospective study by Doak and Ferrick evaluated the nonoperative management of 25 children (ages 2 to 15 years) with type I open fractures who were discharged from the emergency department or admitted to the hospital for less than 24 hours.6 ED management of the patients included irrigation of the wound with saline, application of an antibiotic-embedded dressing, and IV antibiotics. The patients were discharged with oral antibiotics for one to seven days. Injuries included five tibial fractures and 20 forearm fractures. Of these 25 patients, 11 were immediately discharged from the emergency department and 14 were admitted and discharged in less than 24 hours. A 4 percent (1 of 25) infection rate was observed, and the typical follow-up time was seven to 10 days. Fracture union was not adversely affected by nonoperative management. Another retrospective study by Iobst et al found similar results.5

A multicenter retrospective study (four sites) by Godfrey et al evaluated type I open fractures in 219 children ages 2 to 18 years. Fracture locations included forearm 59.8 percent (131 of 219), wrist 32.4 percent (71 of 219) and tibia 7.8 percent (17 of 219). Twenty-two percent (49 of 219) were managed nonoperatively. Cefazolin was the first antibiotic given in most cases, and the average irrigation volume for ED washout was 1,518 mL. There were no wound infections in the operative group and one infection in the nonoperative group (P=0.06). In the operative group, though, there were nine complications, including compartment syndromes, neuropraxia, malunion, and delayed union. In the nonoperative group, one patient lost reduction, requiring repeat reduction in the surgical suite.

While the data are limited, overall these studies suggest that nonoperative management of type I open fractures might be a reasonable option compared to surgical correction.

Summary

Nonoperative management is a trend you may see for type I open forearm fractures in children. There are growing retrospective (but very limited prospective) data on this topic.

References
Spot True Urinary Tract Infections
Managing pediatric UTI in the 2- to 24-month-old age group

by ANTON HELMAN, MD, CCFP(EM), FCFP

Pediatric patients between the ages of 2 and 24 months who present with fever without a known source present a particular challenge because of the exceedingly nonspecific clinical presentation. Asymptomatic bacteriuria and true urinary tract infections (UTIs) are often difficult to distinguish, which has led to overtreatment, overdiagnosis, and overtreatment in otherwise healthy children. In this column, I’d like to dispel some common myths and misperceptions about pediatric UTI that will better arm you to tackle this challenging problem. I’ll outline a standardized approach to pediatric UTI so that you know who to screen, how to screen, and what to do with the screen results, thereby reducing the risk of harm caused by excessive antibiotic use.

While observational data reveal that 7 percent of children 2 to 24 months of age presenting to the emergency department with isolated fever without an obvious source have a UTI, the prevalence of urosepsis in otherwise healthy, immunocompetent children has been estimated to be only 1 in 25,000.1

The most important clinical predictors of UTI in the 2- to 24-month age group include temperature >39°C, fever >24 hours, suprapubic tenderness, jaundice, and, in males, lack of circumcision.2 While “history of prior UTI” was shown to be predictive of UTI, it is important to recognize that prior false positives can be misleading, as earlier diagnoses may have been made speculatively without cultures or the culture results themselves may have been false positives. Placing patients in a high-risk category for UTI when they present with fever without a source based on a “history of UTI” is therefore a common pitfall that leads to overdiagnosis and overtreatment.

Negative predictors of pediatric UTI include an alternate obvious source of infection. A question that frequently arises is, does a bile duct or bladder outlet obstruction present rule out UTI? A recent meta-analysis found the incidence of UTI in patients with bladder outlet obstruction to be 0.8 percent, far lower than in previous studies suggesting testing for UTI in febrile bladder outlet patients.3 It appears that most positive urine cultures in infants >2 months of age with suprapubic tenderness result from contamination or asymptomatic bacteriuria.

Urine specimen interpretation can lead to misdiagnosis. No single element of a urinalysis is sensitive enough to rule a UTI in or out; while nitrites are highly specific but not sensitive, leukocyte esterase is sensitive but not very specific.4

UTI Calculator
A risk-stratification decision tool (https://uti-calculator.pitt.edu) has been developed to help physicians decide which infants 2-24 months of age require testing for UTI and which of those patients require treatment with antibiotics while cultures are pending.5 It involves a two-step process. In the first step, five questions are asked:

1. Age <12 months?
2. Maximum temperature >39°C (102.2°F)?
3. Self-described race as black (fully or partially)?
4. Female or uncircumcised male?
5. Other fever source identified?

If the calculator generates a score corresponding to a <2 percent risk for UTI, it indicates that no urine testing is required. When the generated score indicates higher risks, providers then must move to a second step, which assesses the subsequent urinalysis results. Based on the combination of the presence or absence of nitrites, leukocyte esterase, bacteria on Gram’s stain, and the white blood cell/mm3 concentration, the calculator generates a probability of UTI. When the calculated probability is >5 percent, no empirical antibiotics are required.

Sometimes, the diagnosis hinges on the eventual culture results. Whether delayed treatment causes renal impairment and hypertension later in life is controversial. American Academy of Pediatrics (AAP) guidelines suggest that delays in appropriate treatment could increase the risk of renal damage. Some studies suggest that early antibiotic therapy within 72 hours is necessary to prevent renal scarring. However, these studies didn’t assess patient-oriented outcomes or long-term complications like chronic renal failure and hypertension. We simply do not know whether treating pediatric UTI prevents clinically relevant renal disease.

In higher-risk patients (>2 percent risk on step 1 of the UTI calculator) or those who appear toxically ill, it may be appropriate to treat with antibiotics empirically. Always discuss the need to have the culture results reviewed to make the definitive diagnoses (and either continue therapy or stop it based on the culture results) with the family. If the patient is at lower risk (either <2 percent via step 1 of the calculator or <5 percent via step 2) and appears well, a watchful waiting approach whereby empiric antibiotics are not administered is reasonable.

How to Test the Urine
Once you’ve decided to order a urinalysis, the question is how best to obtain the sample. In the 2- to 24-month age group, the AAP guidelines suggest two options: obtain urine either through catheterization or suprapubic aspiration for culture and urinalysis or through the most convenient means to perform a urinalysis. If the urinalysis suggests a UTI (leukocyte esterase or nitrite test positive, or microscopic analysis results for leukocytes or bacteria), then a second urine specimen should be obtained through catheterization or suprapublic aspiration and cultured. Specimens obtained via urine bag have been shown to be effective to exclude UTI diagnosis; however, urine bags should not be sent for culture due to high risk of contamination.7 All positive urine bag dipsticks/urinalyses must be confirmed with a catheterized or midstream specimen before sending for culture.

As we all know, infants do not produce urine on command in the emergency department. To help speed up the clean catch process (while obtaining a sample less prone to contamination), two effective methods have been described. The Quick-Weer Method involves gentle suprapubic cutaneous stimulation (circular movement) using gauge soaked in cold fluid (for infants ages 1–12 months) until the clean catch urine is obtained.8

The Bladder Tap Technique involves three providers.9 The patient is fed 25 minutes prior. One provider gently taps the suprapubic area, at a rate of 100 taps per minute, for 30 seconds. The other provider then massages the lumbar paravertebral area in the lower back for 30 seconds. Both maneuvers are repeated until the third provider collects a clean catch urine sample.

There is little, if any, role for imaging in the emergency department for pediatric UTI. The latest AAP guideline no longer recommends voiding cystourethromograms after a single UTI. AAP and Canadian Paediatric Society guidelines both recommend children <2 years of age be investigated with a renal bladder ultrasound after their first febrile UTI to identify any significant renal abnormalities (albeit a level C recommendation).10 There is no convincing evidence suggesting that ultrasound improves patient-oriented outcomes, and ultrasound imaging may lead to further invasive testing that can cause harm.

My hope is that if we all think carefully about the predictive value of the clinical features of pediatric UTI, less unnecessary testing will occur. Consider using the UTI calculator and treating appropriately with antibiotics only when truly indicated and without imaging. By doing this, we can collectively reduce the harms that we are currently causing by overtreating, overdiagnosing, and overtreating pediatric UTI.

Special thanks to Dr. Michelle Science and Dr. Olivia Ostrouw for their contributions to the EM Cases podcast that inspired this article.

References
to these EHR issues so you can see where we started, what’s happening now, and where we are heading next.

SEPT. 2018
PI Category of MIPS: We strongly advocated for a change to the “all-or-nothing” MIPS exemption for hospital-based individual physicians in our official response to a major Medicare proposed regulation impacting physician payments.

AUC Program: ACEP implored CMS to clarify the exemption for emergency medical conditions in our response to this same regulation.

OCT. 2018
AUC Program: ACEP met with the Office of Management and Budget, the final decision-maker for regulatory policies, on our concerns related to the exemption for emergency medical conditions.

NOV. 2018
AUC Program: In response to ACEP’s comments, CMS clarified in the final Medicare physician regulation that the AUC exemption for emergency medical conditions includes cases where an emergency medical condition is suspected but not yet confirmed. Examples include severe allergic reactions and pain.

DEC. 2018
PI Category of MIPS: We sent out an action alert to ACEP members recommending physicians apply for a hardship exemption to the PI category of MIPS. If granted the exemption, the 25 percent PI allocation is usually redistribut ed to the Quality category, giving physicians more control over meeting the necessary requirements so they can avoid negative impacts on revenue.

JAN. 2019
EHR Burden: We responded to ONC’s draft strategy on ways to reduce burden for providers using EHRs.

FEB. 2019
EHRs and Data Sharing: We summarized two rules released by CMS and ONC related to interoperability and data blocking.

MAY 2019
EHRs and Data Sharing: We submitted detailed comments on both CMS and ONC interoperability and data blocking proposed rules.

What’s Next? Help Us Help You!
CMS acknowledges that providers are having trouble keeping up with its regulations and has launched “Patients Over Paperwork,” a new initiative to streamline its regulations to reduce provider burden while improving patient experience. CMS is seeking comments on how to further streamline documentation and reporting requirements and better align them across Medicare, Medicaid, and other insurers.

The agency also wants to know how to simplify current rules and policies to make them easier to understand and implement.

ACEP has submitted ideas for reducing emergency physician burden in the past, but we’d love additional input and ideas from ACEP members. If you’d like to weigh in on this issue and brainstorm more ideas for reducing administrative burden that we can submit to CMS, contact Jeffrey Davis, ACEP’s director of regulatory affairs, at jdavis@acep.org.

ACEP has resources available to ACEP members to help you minimize EHR frustration. Visit www.acep.org/administration/electronic-health-records to find:

• Smart phrases to shortcut the excessive clicks of your EHR
• Policy statements about data exchange, data registry quality measures, ED patient records, and more
• Articles and case studies examining new ways to make EHRs more efficient
• Information papers with EHR best practices for efficiency and throughput
• EM Informatics Section information to connect you with those working on these problems

MS. GRANTHAM is ACEP’s communications manager.
MR. DAVIS is ACEP’s director of regulatory affairs.
**Make the Call**

Could we cut a quarter of ED visits just by picking up the phone?

_by CEDRIC DARK, MD, MPH_

I love picking up the phone, calling a patient, and finding out that they are feeling better in the day or two following their emergency department visit. Even when the patient doesn’t always improve as expected, it affords me an opportunity to adjudge treatment, if necessary, and perhaps another emergency department visit can be averted.

Almost all patients express gratitude that I have taken time to reach out to them—prior studies indicate it improves patient satisfaction metrics. The only difficulty with doing these follow-up calls is finding time to fit them into our workflow. Sure, we can come into the job 30 minutes earlier to make a few phone calls, but our employers likely won’t be paying for our time.

Fortunately, our nursing staff makes this a routine practice, calling patients the day after their emergency department visit. They check on whether prescriptions have been picked up, if follow-up has been arranged, and if the patients feel better.

A recent study, reviewed in the EMRA+PolicyRx Health Policy Journal Club article reprinted here, demonstrated physician callbacks might reduce future visits among patients initially discharged from the emergency department. Patients had private telephone coverage with an integrated delivery system. The content of the callback was designed to promote the health system’s Appointment and Advice Call Center. The call center was designed to direct patients away from future ED visits by utilizing nurses and doctors to provide telemedicine-style consultations, scheduling urgent appointments, and messaging primary care physicians. Follow-up calls also directed patients to online resources to obtain medication refills and view lab results.

In an integrated health care system, these activities should easily divert unscheduled acute care from the emergency department to other appropriate venues, ultimately reducing health care costs. However, for patients without a robust primary care infrastructure and for clinicians without similar incentives, the emergency department will likely remain a major access point for care during nights, weekends, or other times when primary care remains unavailable.

Though not addressed by this study, I find it beneficial to call our patients, not for their sake but rather for our own. We will never know if someone returned unexpectedly or if a diagnosis is incorrect unless we follow up. And if we don’t, we might miss out on an opportunity to hone our craft.

**Reference**


**EMRA+POLICYRx HEALTH POLICY JOURNAL CLUB**

Phone Calls and Letters from Physicians Significantly Cut Future Emergency Visits

_by YAGNARAM RAVICHANDRAN, MBBS, MD, FAAP_

The meteoric rise in health care costs in the United States is in part attributed to the rise in emergency department visits for primary care–treatable illness and other low-acuity visits. These visits place additional strain on emergency departments already overcrowded from boarding admitted patients and places a burden on emergency physicians to function with fewer rooms, fewer support staff, and fewer resources. As a result, quality of care suffers; costs and wait times increase, corresponding to decreases in patient and provider satisfaction.

To date, interventions attempting to reduce ED utilization have utilized non-physicians (care managers and nurses) to provide generic nonmedical information about alternative care options; they have had variable success. A new study—a multi-facility, randomized control trial—aimed to evaluate the impact of a brief educational phone call by an emergency physician and/or mailed information following an ED visit on subsequent six-month ED utilization rates in low-acuity adult patients.

The study found statistically significant decreases in ED use by 22 percent among patients over 65 years of age who received follow-up phone calls and by 27 percent among patients under 65 years of age receiving a follow-up mailing.

Targeted educational interventions have had varying effectiveness as they are subject to a variety of barriers including the complex interplay of geographic, cultural, and socioeconomic factors. Another important limiting factor of any communication is the receiver. They may be variably receptive to the information provided or may variably change their behavior. Although adherence to treatment care plans is far from optimal in health care, patients still want to hear mostly from their physician.

This same group of researchers conducted another study that found significant reductions in future ED utilization when emergency physicians made post-visit phone calls. However, no change occurred when emergency nurses made similar contact, suggesting that patients were perhaps more receptive to receiving information from emergency physicians.

While “decompressing” certain aspects of health care like ED utilization, this intervention could also potentially place increasing stress and demands on emergency physicians to make these follow-up calls. Who pays for the physician’s time? Isn’t increasing the demands on emergency physicians, asking them to do more and more with less and in less time, what’s already causing toxic stress in the health care system in the first place?

**Reference**


**DR. RAVICHANDRAN is a pediatric emergency medicine fellow at the Children’s Hospital of Michigan in Detroit.**
This displays an efficiency that is unheard of. Length of stay (LOS) averages are 95 minutes. Door-to-doctor times are a mere 11 minutes, and overall admission rate is 8.4% (which is not a daily occurrence), there is a mechanism to open a third-eight-bed area, called Mod III. Interestingly, the Mod III area was originally conceived as an observation unit, but in practice, they were unable to consistently populate it with patients. This is turning out to be a common situation in pediatric emergency departments nationwide. As productive and useful as ED-based adult observation units have proven to be, pediatric observation units have not proven as successful as a concept in practice. Dr. Lanphere points out that, unlike adult emergency medicine, pediatric emergency medicine does not have many conditions that easily populate an observation unit year-round (like chest pain, angina, and closing areas, and staffing are based on the success that this overarching theme has brought. Although all decisions about zone size, opening and closing areas, and staffing are based on what is best for the patients and their families, in the community, they developed a flow model based on the patient population they serve (see Table 2). Note the lower-acuity breakdown. HDV sees more Emergency Severity Index (ESI) 4 and 5 patients and fewer ESI 1,2. (It also admits fewer patients than average.) For comparison, an ED pediatric cohort with 75 emergency departments admitted 10 percent. Using this information, HDV created acuity-based zones. While ESI has been a good place to start in the streaming of patients, most ED stakeholders have found it is not a good LOS predictor. Therefore, the leaders developed a flow model (see Figure 1) that placed only 40 percent of patients in a traditional ED room and bed. This area, called Mod I, consists of 12 beds. Ambulances arrive there directly. Patients who can be treated and discharged in under one hour are streamed to Mod II, the Rapid Assessment Zone (RAZ).

Table 1: Pediatric Emergency Department Benchmark Metrics

<table>
<thead>
<tr>
<th></th>
<th>HELEN DEVOS 2018</th>
<th>EDBA PEDIATRICS 2017</th>
<th>EDBA PEDIATRIC TRAUMA 2017</th>
<th>AAAEM PEDIATRICS 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>x</td>
<td>75</td>
<td>29</td>
<td>12</td>
</tr>
<tr>
<td>Annual Volume</td>
<td>54,129</td>
<td>33,900</td>
<td>30,613</td>
<td>25,768</td>
</tr>
<tr>
<td>Daily Volume</td>
<td>148</td>
<td>93</td>
<td>84</td>
<td>70</td>
</tr>
<tr>
<td>Admission Rate</td>
<td>8.4%</td>
<td>10%</td>
<td>12%</td>
<td>14.5%</td>
</tr>
<tr>
<td>Treatment Spaces</td>
<td>27</td>
<td>22</td>
<td>22</td>
<td>17</td>
</tr>
<tr>
<td>Patients/Room/Year</td>
<td>1,933</td>
<td>1,714</td>
<td>1,486</td>
<td>1,515</td>
</tr>
<tr>
<td>Door to Doctor Time</td>
<td>11</td>
<td>21</td>
<td>22</td>
<td>22</td>
</tr>
<tr>
<td>Length of Stay Overall</td>
<td>95</td>
<td>148</td>
<td>171</td>
<td>172</td>
</tr>
<tr>
<td>Length of Stay Admitted</td>
<td>218</td>
<td>274</td>
<td>299</td>
<td>294</td>
</tr>
<tr>
<td>Length of Stay Discharged</td>
<td>89</td>
<td>132</td>
<td>150</td>
<td>156</td>
</tr>
<tr>
<td>Admit Decision and Departure (Boarding)</td>
<td>51</td>
<td>96</td>
<td>104</td>
<td>90</td>
</tr>
<tr>
<td>Left Before Treatment Complete</td>
<td>0.06%</td>
<td>1.6%</td>
<td>1.0%</td>
<td>1.1%</td>
</tr>
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</table>

Table 2: Acuity Breakdown of Helen DeVos Versus Pediatric ED Averages

<table>
<thead>
<tr>
<th>ACUITY SEVERITY INDEX</th>
<th>HELEN DEVOS</th>
<th>EDBA PEDIATRICS (12 SITES)</th>
<th>AAAEM PEDIATRICS</th>
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<tr>
<td>1</td>
<td>0.9</td>
<td>0.3</td>
<td>0.3</td>
</tr>
<tr>
<td>2</td>
<td>12.7</td>
<td>14.3</td>
<td>13.6</td>
</tr>
<tr>
<td>3</td>
<td>30.0</td>
<td>41.4</td>
<td>41.4</td>
</tr>
<tr>
<td>4</td>
<td>43.3</td>
<td>31.6</td>
<td>31.6</td>
</tr>
<tr>
<td>5</td>
<td>12.7</td>
<td>5.0</td>
<td>5.0</td>
</tr>
<tr>
<td>Admission Rate</td>
<td>8.4%</td>
<td>14.5%</td>
<td></td>
</tr>
</tbody>
</table>

Planning for Higher Volumes

When the department exceeds capacity, it is operationally one of the most efficient (perhaps the most efficient) emergency department in the pediatric academic category. Table 1 compares its benchmarks with the Emergency Department Benchmarking Alliance (EDBA) and Academy of Administrators (AAAEM) data surveys of pediatric emergency departments.

HDV is a busy pediatric emergency department, seeing almost 150 patients per day. Astonishingly, it is able to put more than 1,900 patients through each treatment space per year (the typical pediatric emergency department moves about 1,500). Door-to-doctor times are a mere 11 minutes, and overall LOS averages are 95 minutes. This displays an efficiency that is unheard of across the country.

What are some of the secrets to its extraordinary efficiency? The physicians are members of Emergency Care Specialists, which staffs both adult and pediatric emergency departments, and the hospital is a Spectrum Health facility. Both organizations are known for innovation and operational efficiency. I spoke with one of the medical directors at HDV, Jackson Lanphere, MD. He practices both adult and pediatric emergency medicine and often brings innovative ideas from the adult emergency department to HDV. He, his co-director, Eric Michiels, MD, and their nursing leaders, Stephanie Flohr and Drew Peklo, run one of the most data-driven emergency departments in the country. Dr. Lanphere notes, “It is all productive and useful as ED-based adult obstetric emergency physicians have noted the difficulty in predicting which patients could be successfully turned around in the observation unit, creating myriad regulatory and compliance concerns.

The HDV emergency department also created a model of flexibility in scheduling. Shifts match the patient arrivals, not physician or nursing preference. There are daily shifts called “at-risk shifts.” Providers come in for a four-hour shift but know they may stay four to six hours longer depending on the situation and conditions in the department. Physicians and nurses huddle to decide the strategy for opening and closing areas and sending providers home in real time. They have well-articulated processes for most contingencies. All decisions about zone size, opening and closing areas, and staffing are based on data. HDV is one of the most data-driven departments I have encountered. Decisions are based on what is best for the patients and their parents, not on provider preference. Look at the success that this overarching theme has brought.
EPs Take Note

Does adding scribes improve ED efficiency?

by KEN MILNE, MD, MSC, CCFP-EM, FCFP, FRMMS

The Case
Your democratic ED group has embraced electronic medical records (EMRs). You have been doing computer physician order entry and full electronic documentation for a few years. Some members of the group are complaining about being expensive data entry clerks, and the metrics demonstrate a decrease in patient throughput. Is there a solution that can unburden physicians and increase productivity?

Background
It can take 4,000 clicks to get through a busy ED shift. Physicians spend more time on the EMR (40 percent) than performing direct patient care (30 percent). EMRs have been cited as an important cause of burnout, which is associated with lower quality of care. Scribes have been suggested as a possible solution by helping physicians with various EMR tasks (information retrieval, clinical encounter documentation, and discharge preparation). Most patients prefer scribe participation in their care, and most physicians prefer working with scribes.

Clinical Question
Can scribes improve physicians’ productivity and improve patient throughput?

Reference

• Population: Five Australian emergency departments
• Intervention: Physicians working shifts with scribes
• Comparison: Physicians working shifts without scribes

• Outcomes:
  • Primary Outcome: Patients seen per hour
  • Secondary Outcome: Primary patients/physician/hour, door-to-doctor time, door-to-discharge time, patients/physician/hour in different regions of emergency department, patient safety events (scribe group only, no comparator), and retrospective cost-benefit analysis

Authors’ Conclusions
“Scribes improved emergency physicians’ productivity, particularly during primary consultations, and decreased patients’ length of stay. Further work should evaluate the role of the scribe in countries with health systems similar to Australia’s.”

Key Results: Investigators studied five sites. Twelve scribes and 88 physicians were included in the trial. There were 589 shifts with scribes capturing 5,098 patient encounters. Findings were compared to 3,726 shifts without scribes capturing 23,838 patient encounters. The total number of patients seen per hour increased with scribes, and the cost analysis favored employing scribes.

• Primary Outcome: Patients seen per hour was 1.13 without a scribe and 1.31 with a scribe. This is an absolute increase of 0.18 more patients per hour (relative increase of 15.9 percent).
• Secondary Outcomes: Primary consultations per hour increased from 0.83 to 1.04, an absolute increase of 0.21 (relative increase of 25.6 percent). The door-to-doctor...
times were unchanged, while door-to-discharge times were reduced from 192 to 173 minutes. Within ED productivity changes, medical triage throughput increased by 0.53 patients per hour, acute area throughput increased by 0.10 patients per hour, sub-acute/short-stay throughput showed no changes, and pediatric throughput increased by 0.17 patients per hour. There was a minor patient safety event reported for one out of every 300 consultations.

Evidence-Based Medicine Commentary

1. Selection Bias: Scribes were not used at the discretion of the physician or if the patient declined. The number of times patients declined a scribe was not recorded. Scribes were also not present on nights and holidays. This could have introduced selection bias.

2. Lack of Blinding: It was not possible to blind the patients, physicians, and scribes. The lack of blinding could have introduced a Hawthorne effect, where individuals modify their behavior when they know they are being observed. This could bias the results, making the efficacy of scribes appear greater.

3. External Validity: This study was done in five Australian emergency departments. Their health care system is different than ours, as evidenced by a baseline throughput of 1.1 patient per hour. This is typically lower than what would be expected in an American emergency department.

Bottom Line

Scribes were cost-effective and had a positive impact on productivity in these Australian emergency departments.

Case Resolution

Your democratic group decides to conduct a trial period of using scribes. Their impact on physician satisfaction, cost-effectiveness, and throughput will be assessed after a few months. Whether scribe use decreases burnout has not been assessed. Remember to be skeptical of anything you learn, even if you heard it on the Skeptics’ Guide to Emergency Medicine.

References

Answer: According to Current Procedural Terminology (CPT), to properly bill for POCUS, physicians must document the report and store the images permanently. Physicians need not have performed the ultrasounds themselves in order to bill. Except in special circumstances (eg, repeat focused assessment with sonography for trauma [FAST] examination or echocardiogram when the patient deteriorates), Medicare and many other payers will only pay for one interpretation and report for a given category of ultrasound per day.

Where possible, report a diagnosis or complaint that describes the indication and/or the medical necessity for the ultrasound. Ideal documentation would include the indication, a description of the findings related to the reason for the study, your interpretation, and, when available, comparison to previous images. There is no rule requiring the report be on a separate page or note of the electronic health record, but highlighting it as a special section within your ED note is strongly recommended.

Typically, emergency physicians perform limited studies, as we don’t comment on all the required elements of a complete study of a given anatomical area. Some common limited POCUS CPT codes used in the emergency department include 76815 (ultrasound, cardiac), 78705 (ultrasound, abdomen), 93308 (echocardiogram), 78775 (ultrasound, retroperitoneum or renal), and 78604 (ultrasound, chest). When a code for limited ultrasound is not available (eg, transvaginal ultrasound), the -52 modifier is appropriate along with the -26 modifier. When the ultrasound machine is owned and maintained by the hospital, you would use the -26 modifier to stipulate that you are only billing for the professional component of the ultrasound.

See ACEP’s ultrasound FAQs at www.acep.org/administration/reimbursement/faqs/ultrasound-faqs for more details. 

Brought to you by the ACEP Coding and Nomenclature Committee.

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For consideration, please send a letter of intent and a curriculum vitae to:

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