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Also in this issue

18 Practice Management
A Return on Investment
Approach to Urgent Care
Marketing

25 Case Report
Chest Pain, Bradycardia,
and ECG Changes in
Acute Cholecystitis

Part 1

Repair of Lacerations of the Face and Scalp

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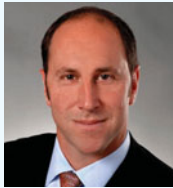


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LETTER FROM THE EDITOR-IN-CHIEF

The Role of Urgent Care in Reducing Hospital Readmissions



Early outpatient follow-up after hospital admission has been documented to be an important factor in reducing hospital readmission rates. Readmissions are also well known to cost billions of dollars annually. The problem with readmissions spans all socioeconomic classes and impacts all payors, public and private. As of 2013, the CMS began penalizing hospitals for readmissions, thus efforts are being made to limit these rates as much as possible. Numerous studies have evaluated the impact of early outpatient follow-up and all have demonstrated significant benefits, especially with regard to medication management and adherence, early identification of adverse reactions, decompensation and, of course, readmission.

So, we know that early outpatient follow-up is impactful. But what are the obstacles? Studies have shown that a full 90% of patients with an admission to a hospital report having a “usual source of care”.¹ However, having a usual source of care is no guarantee of access or follow up. In fact, only 66% of all adults with a hospital admission saw a doctor for follow up within 30 days of discharge. In this same study, only about one-third of these patients stated that their regular source of care was available on nights and weekends. And one in 10 said that office was difficult to get to.

It is clear that limited access to care impacts post-discharge follow-up. That has been known for some time. Yet, until recently, not one study had attempted to evaluate whether there was a true connection between “access to care” and readmission rates. In April of this year, researchers from the Health Research and Educational Trust did just that, examining readmission rates over a 3-year period at over 4,000 hospitals. The results are dramatic and actionable. Of all the independently associated community characteristics identified, measures of “access to care” were the most strongly associated with readmission rates. Less access, independent of demographics, independent of payor type and insurance status, was reproducibly associated with higher readmission rates.

Our dependence on primary care for post-discharge follow-up is a major factor. Consider these problems:

1. Transportation and logistics

- a. Primary care physicians often have one physical office, limiting choice of location.
 - b. Primary care offices are often buried in medical office buildings, creating both real and perceived physical obstacles to access. These obstacles are further exaggerated by the limited mobility common during the first few days after discharge.
2. Scheduling
 - a. Primary care physicians most often require scheduling, an access barrier that is also amplified in the post-discharge time period. Dependency on caregivers for transportation complicates this even more.
 - b. Limited hours and no weekend coverage are well-known access issues, made even more problematic for those who are still convalescing from illness.
 3. Lab and x-ray
 - a. The availability of lab and x-ray at the point of care is imperative for evaluation of the recently hospitalized patient.

Urgent care has been the most consistent access solution for the last 20 years and its rapid growth has led to broad urgent care coverage in most major markets. So, why not look to urgent care to remove the access barrier to early post-discharge follow-up? The following steps are necessary, but eminently achievable: 1) hospital records access (perhaps through a read-only agreement); 2) hospitalist consultation availability; 3) clinical protocols to drive decision-making; and 4) primary care collaboration.

A pilot study could easily be done and, if successful, would be a tremendous opportunity for urgent care to demonstrate value on a major national health policy initiative. ■

Reference

1. Medical Expenditure Panel Survey 2000-2008

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VOLUME 9, NUMBER 3



CLINICAL

8 Repair of Lacerations of the Face and Scalp: Part 1

Management of face and scalp lacerations requires an appreciation of the unique anatomy, sound repair technique, and consideration of patient expectations for cosmesis.

Toyin Fapohunda-Adekola, MD, MBA

PRACTICE MANAGEMENT



18 A Return on Investment Approach to Urgent Care Marketing

In a volume-driven business like urgent care, marketing should be viewed as an investment with a financial return that can be measured in order to allocate the center's advertising dollars among the tactics most effective in generating patient revenue.

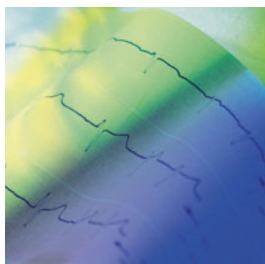
Alan A. Ayers, MBA, MAcc

CASE REPORT

25 Chest Pain, Bradycardia, and ECG Changes in Acute Cholecystitis

Urgent care clinicians should consider the possibility of cholecystitis when evaluating patients with cardiac symptoms. A delay in diagnosis may lead to serious complications, including sepsis.

Alona D. Angosta, PhD, APRN, NP-C, and Bryan Holmes, NREMT-P



IN THE NEXT ISSUE OF JUCM

Our two-part series on scalp and face lacerations concludes next month with a focus on the approach to management of lacerations of the ear, nose, cheek, lips, and tongue. The review provides concise information on when and when not to perform a surgical closure for these wounds, presentations that signal a need to rule out serious or potentially fatal injuries, anesthesia for laceration repair, and special considerations related to lacerations of the lips and tongue.

DEPARTMENTS

- 7 From the UCAOA Board
- 28 Health Law
- 31 Insights in Images
- 33 Abstracts in Urgent Care
- 36 Coding Q&A
- 40 Developing Data

CLASSIFIEDS

- 38 Career Opportunities

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editor@jucm.com

EDITOR

Judith Orvos, ELs

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Alan A. Ayers, MBA, MAcc

CONTRIBUTING EDITORS

Sean M. McNeeley, MD

John Shufeldt, MD, JD, MBA, FACEP

David Stern, MD, CPC

MANAGER, DIGITAL CONTENT

Brandon Napolitano

bnapolitano@jucm.com

ART DIRECTOR

Tom DePrenda

tdeprenda@jucm.com



120 N. Central Avenue, Ste 1N
Ramsey, NJ 07446

PUBLISHERS

Peter Murphy

pmurphy@braveheart-group.com • (201) 529-4020

Stuart Williams

swilliams@braveheart-group.com • (201) 529-4004

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JUCM The Journal of Urgent Care Medicine supports the evolution of urgent care medicine by creating content that addresses both the clinical practice of urgent care medicine and the practice management challenges of keeping pace with an ever-changing healthcare marketplace. As the Official Publication of the Urgent Care Association of America and the Urgent Care College of Physicians, *JUCM* seeks to provide a forum for the exchange of ideas and to expand on the core competencies of urgent care medicine as they apply to physicians, physician assistants, and nurse practitioners.

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This month's cover story is the first of a two-part series that underscores the importance of an appreciation for anatomy and repair technique when managing scalp and face lacerations. In Part 1 of the series, Toyin Fapohunda-Adekola, MD, reviews appropriate repair preparation and technique for wounds to the scalp, forehead, eyelid, and eyebrow. Included is information on indications for imaging, the role of facial tension lines in a cosmetically acceptable outcome for the forehead, and when to use sutures versus skin adhesives.

Toyin Fapohunda-Adekola, MD, is a 2014 graduate of the Urgent Care Fellowship at the University Hospital of Cleveland, Department of Family Medicine, Case Western Reserve, Cleveland, Ohio.



The patient was a 36-year-old woman with severe, sudden-onset substernal chest pain associated with palpitations and nausea. Her

family medical history was positive for coronary artery disease, diabetes, and hypertension. An ECG showed sinus bradycardia with frequent premature ventricular contractions. The diagnosis was acute cholecystitis. As authors Alona D. Angosta, PhD, APRN, NP-C, and Bryan Holmes, NREMT-P, remind urgent care providers in this month's case report, patients with the condition can present with ECG abnormalities and it should be diagnosed promptly to avoid serious complications.

Alona D. Angosta, PhD, APRN, NP-C, is a board-certified Nurse Practitioner at Advanced Urgent Care in Henderson, Nevada. She is also an Assistant Professor at the University of Nevada, Las Vegas. Bryan Holmes, NREMT-P, is the Medical Services Supervisor at Advanced Urgent Care in Henderson, Nevada.

Meeting profit objectives is critical for urgent care centers but it can take years to build a business based on referrals and repeat visits from satisfied patients and word of mouth.



That's why many urgent care centers market to the community to establish their brands. But how do you measure return on investment on these activities to ensure that they add to rather than subtract from the bottom line? Alan A. Ayers, MBA, MAcc, has the answer in this month's practice management article, which details how to calculate return on marketing investment and avoid mistakes when doing such an analysis.

Alan A. Ayers, MBA, MAcc, is on the Board of Directors, Urgent Care Association of America, Associate Editor, *Journal of Urgent Care Medicine*, and Vice President, Concentra Urgent Care.

Also in this issue:

In Health Law this month, **John Shufeldt, MD, JD, MBA, FACEP**, discusses unusual variations of HIPAA-related scenarios that he has experienced or can envision an urgent care provider facing.

Sean M. McNeeley, MD, and **The Urgent Care College of Physicians** review new abstracts on literature germane to the urgent care clinician, including the role of electronics in nickel allergy, pulse oximetry and decision-making about hospitalization, and the best test for nephrolithiasis.

In Coding Q&A, **David Stern, MD, CPC**, discusses coding for revenue per patient, prescription drug management for MDM, and Medicare and HCPCS J3301 denials.

Our Developing Data end piece this month looks at urgent care as a cost-effective setting for care outside the hospital. ■

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JUCM, *The Journal of Urgent Care Medicine* encourages you to submit articles in support of our goal to provide practical, up-to-date clinical and practice management information to our readers—the nation's urgent care clinicians. Articles submitted for publication in **JUCM** should provide practical advice, dealing with clinical and practice management problems commonly encountered in day-to-day practice.

Manuscripts on clinical or practice management topics should be 2,600–3,200 words in length, plus tables, figures, pictures, and references. Articles that are longer than this will, in most cases, need to be cut during editing. The information you provide should be of practical use to our readers, who have come to practice in an urgent care setting from a variety of clinical back-

grounds. Your article should take their perspective into account by considering several key issues, such as: What immediate management is indicated? What labs or diagnostics are required? What are the next steps; with whom should the patient follow up? Who should be admitted or referred to the emergency room? Imagine yourself in the reader's shoes and ensure your article includes the answers to questions you'd be asking.

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FROM THE UCAOA BOARD

Call for Nominations for UCAOA Awards

■ ROGER HICKS, MD

UCAOA invites you to recognize the achievements of your colleagues through its awards program. The UCAOA Awards Committee, chaired by me, seeks nominations for 2015 awards. Nominations may be made via an online form found at www.ucaoa.org/AwardNominations. Designated criteria for each award are noted below.

Outstanding Achievement Award

This award is the highest honor given by UCAOA. It is awarded to recognize significant achievements in the field of urgent care medicine. The nominee should have clinical, managerial and/or administrative achievements in the field of urgent care medicine that have had an impact on the industry. Nominees may be an individual, an organization, or a company and do not have to be members of UCAOA.

Lifetime Membership Award

Significant contributions of an individual UCAOA member to the Urgent Care Association of America are recognized with awarding of lifetime membership. The awardee will be granted complimentary membership in UCAOA for life as well as complimentary registration to the UCAOA National Urgent Care Convention the year he or she receives the award.

Advocacy Award

Individuals, organizations, companies or others who step up to represent the industry and its patients by being advocates through education and outreach to state or national level decision makers will be recognized. Nominees do not have to be members of UCAOA.



Roger Hicks, MD is on the Board of Directors, Urgent Care Association of America, and UCAOA Awards Chair.

*"The deadline for nominations
is February 16, 2015 at 5 pm
Central time."*

Innovation

Significant innovation in the field of urgent care medicine may be recognized in the area(s) of clinical practice, clinical research, practice management, clinic design, or marketing. Nominees may be individuals, organizations or exhibitors and must be members of UCAOA.

Community Service

A noteworthy medical volunteer contribution by an individual, organization, or exhibitor that has had a positive impact on the health of that nominee's community will be recognized. Nominees must be members of UCAOA.

Humanitarian

A substantial medical volunteer contribution by an individual, organization, or exhibitor which is medically related and has a positive impact on a national or international cause or event will be recognized. Nominees must be members of UCAOA.

The general criteria for awards are as follows. Nominations may be made by members, committees, the Board of Directors, exhibitors, staff, or anyone else interested in highlighting worthy efforts. You may submit a nomination for you and your center or company or for the work of a colleague or friend. Current Directors and Awards Committee members are not eligible for awards.

The Awards Committee will review the entries and make recommendations for award recipients to the Board of Directors. The Board reserves the right to make awards only if qualified candidates are nominated. Awards will be presented at the Members Meeting during the 2015 National Urgent Care Convention in April 2015. The deadline for nominations is February 16, 2015 at 5 pm Central time. ■

Repair of Lacerations of the Face and Scalp: Part 1

Urgent message: Management of face and scalp lacerations requires an appreciation of the unique anatomy, sound repair technique, and consideration of patient expectations for cosmesis.

TOYIN FAPOHUNDA-ADEKOLA MD, MBA

Lacerations of the scalp and face are commonly seen in the urgent care setting. While these injuries can cause anxiety for both patient and practitioner, the basic tenets and techniques for repair are already well known. Following a systematic approach and appreciating the unique anatomic considerations of the face will allow the urgent care practitioner to manage these wounds confidently and with optimal results. In addition to applying a sound technical approach to repair, understanding and responding to patient expectations and concerns are an important part of the evaluation and management of these injuries. Because disfiguring facial lacerations can cause significant emotional and psychological problems, long-term cosmesis must be a central component of decision-making around management.

In this two-part series, we will review the approach to the face and scalp wounds most commonly seen in the urgent care setting. Anatomic considerations that influence the evaluation and management of these injuries also will be explored, as will identification of the steps necessary for an optimal repair.

General Approach

The objectives of laceration care are avoidance of infection and achievement of a practical and cos-

Toyin Fapohunda-Adekola, MD, is a 2014 graduate of the Urgent Care Fellowship at the University Hospital of Cleveland, Department of Family Medicine, Case Western Reserve, Cleveland, Ohio.



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metically acceptable scar. Lacerations of the face and scalp may involve blood loss, change in mental status or choking hazards. Therefore, initial management must include assessment of stability and hemodynamics, and attention to the ABC guidelines (i.e., Airway, Breathing and Circulation). Prior to treatment, a thorough patient history is necessary, with meticulous attention paid to factors that could adversely affect wound healing.

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MOXEZA[®] Solution is for topical ophthalmic use only and should not be injected subconjunctivally or introduced directly into the anterior chamber of the eye.

Hypersensitivity Reactions - In patients receiving systemically administered quinolones, including moxifloxacin, serious and occasionally fatal hypersensitivity (anaphylactic) reactions have been reported, some following the first dose. If an allergic reaction to

moxifloxacin occurs, discontinue use of the drug.

Prolonged Use - Prolonged use may result in overgrowth of non-susceptible organisms, including fungi. If superinfection occurs, discontinue use and institute alternative therapy.

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Growth of Resistant Organisms with Prolonged Use

As with other anti-infectives, prolonged use may result in overgrowth of non-susceptible organisms, including fungi. If superinfection occurs, discontinue use and institute alternative therapy. Whenever clinical judgment dictates, the patient should be examined with the aid of magnification, such as slit-lamp biomicroscopy, and, where appropriate, fluorescein staining.

Avoidance of Contact Lens Wear

Patients should be advised not to wear contact lenses if they have signs or symptoms of bacterial conjunctivitis.

ADVERSE REACTIONS

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 the rates in the clinical trials of another drug and may not reflect the rates observed in practice. The data described below reflect exposure to MOXEZA® solution in 1263 patients, between 4 months and 92 years of age, with signs and symptoms of bacterial conjunctivitis. The most frequently reported adverse reactions were eye irritation, pyrexia and conjunctivitis, reported in 1-2% of patients.

USE IN SPECIFIC POPULATIONS

Pregnancy

Pregnancy Category C. Moxifloxacin was not teratogenic when administered to pregnant rats during organogenesis at oral doses as high as 500 mg/kg/day (approximately 25,000 times the highest recommended total daily human ophthalmic dose); however, decreased fetal body weights and slightly delayed fetal skeletal development were observed. There was no evidence of teratogenicity when pregnant Cynomolgus monkeys were given oral doses as high as 100 mg/kg/day (approximately 5,000 times the highest recommended total daily human ophthalmic dose). An increased incidence of smaller fetuses was observed at 100 mg/kg/day. Since there are no adequate and well-controlled studies in pregnant women, MOXEZA® solution should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers

Moxifloxacin has not been measured in human milk, although it can be presumed to be excreted in human milk. Caution should be exercised when MOXEZA® solution is administered to a nursing mother.

Pediatric Use

The safety and effectiveness of MOXEZA® solution in infants below 4 months of age have not been established. There is no evidence that the ophthalmic administration of moxifloxacin has any effect on weight bearing joints, even though oral administration of some quinolones has been shown to cause arthropathy in immature animals.

Geriatric Use

No overall differences in safety and effectiveness have been observed between elderly and younger patients.

CLINICAL PHARMACOLOGY

Microbiology

The antibacterial action of moxifloxacin results from inhibition of the topoisomerase II (DNA gyrase) and topoisomerase IV. DNA gyrase is an essential enzyme that is involved in the replication, transcription and repair of bacterial DNA. Topoisomerase IV is an enzyme known to play a key role in the partitioning of the chromosomal DNA during bacterial cell division. The mechanism of action for quinolones, including moxifloxacin, is different from that of macrolides, aminoglycosides, or tetracyclines. Therefore, moxifloxacin may be active against pathogens that are resistant to these antibiotics and these antibiotics may be active against pathogens that are resistant to moxifloxacin. There is no cross-resistance between moxifloxacin and the aforementioned classes of antibiotics. Cross-resistance has been observed between systemic moxifloxacin and some other quinolones. In vitro resistance to moxifloxacin develops via multiplestep mutations. Resistance to moxifloxacin occurs in vitro at a general frequency of between 1.8×10^{-9} to $< 1 \times 10^{-11}$ for Gram-positive bacteria.

NONCLINICAL TOXICOLOGY

Carcinogenesis, Mutagenesis, Impairment of Fertility

Long-term studies in animals to determine the carcinogenic potential of moxifloxacin have not been performed. Moxifloxacin was not mutagenic in four bacterial strains used in the Ames Salmonella reversion assay. As with other quinolones, the positive response observed with moxifloxacin in strain TA 102 using the same assay may be due to the inhibition of DNA gyrase. Moxifloxacin was not mutagenic in the CHO/HGPRT mammalian cell gene mutation assay. An equivocal result was obtained in the same assay when v79 cells were used. Moxifloxacin was clastogenic in the v79 chromosome aberration assay, but it did not induce unscheduled DNA synthesis in cultured rat hepatocytes. There was no evidence of genotoxicity in vivo in a micronucleus test or a dominant lethal test in mice. Moxifloxacin had no effect on fertility in male and female rats at oral doses as high as 500 mg/kg/day, approximately 25,000 times the highest recommended total daily human ophthalmic dose. At 500 mg/kg orally there were slight effects on sperm morphology (head-tail separation) in male rats and on the estrous cycle in female rats.

PATIENT COUNSELING INFORMATION

Avoid Contamination of the Product

Patients should be advised not to touch the dropper tip to any surface to avoid contaminating the contents.

Avoid Contact Lens Wear

Patients should be advised not to wear contact lenses if they have signs and symptoms of bacterial conjunctivitis.

Hypersensitivity Reactions

Systemically administered quinolones, including moxifloxacin, have been associated with hypersensitivity reactions, even following a single dose. Patients should be told to discontinue use immediately and contact their physician at the first sign of a rash or allergic reaction.

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Figure 1. Surgical Staples in a Scalp Wound

Source: Versageek/Wikimedia Commons/Own Work
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Anatomical Considerations

A basic appreciation of anatomy and the neurovascular supply of the face is critical prior to any discussion about evaluation and management of lacerations. Facial lacerations often include traumatic injuries to nerves and vessels that can have significant impact on healing, cosmesis and neurologic function. In addition, repair of these injuries requires an intimate knowledge of anatomy and cosmesis to achieve optimal results. Finally, because use of regional anesthesia is an important part of successful repair of the delicate tissues of the face and scalp, an appreciation of cranial nerve anatomy is paramount.

Anatomically, the scalp extends anteriorly from the supraorbital ridges to the external occipital protuberance posteriorly. Laterally, the boundaries are to the temporal lines. The scalp is composed of five layers: The skin (epidermis and dermis), the dense superficial fascia (fibro-fatty tissues), the galea aponeurotica, loose areolar connective tissue, and the pericranium or periosteum.

Within the dense superficial layer lies a rich supply of venous and arterial blood vessels. These vessels do not retract on laceration, which is important to note because any superficial laceration therefore has the potential to result in significant bleeding with hypovolemia and hypotension.

Most of the sensation in the face is provided by cranial nerve V (trigeminal), which has three major divisions: ophthalmic, maxillary, and mandibular. The ophthalmic division (V1) provides sensation to the upper third of the face, including the eyes and the nose down to the tip. The maxillary division (V2) provides

sensation to the midface through the infraorbital nerve. The mandibular division (V3) supplies sensation to the lower third of the face.

Important muscles of the face include the muscles of facial expression that are innervated by cranial nerve VII (facial nerve), which travels through a narrow canal within the temporal bone. Facial fractures often are associated with injury to this nerve. The muscles of chewing are innervated by the fifth nerve, the trigeminal nerve, which controls jaw movement and nerves IX, and X (glossopharyngeal and vagus respectively), which control palatal movement.

Scalp Lacerations

Initial assessment of a scalp injury should include a rapid evaluation for potentially life-threatening situations, starting with evaluation of the ABCs to determine a patient's stability. Pertinent history questions include the mechanism of injury and associated symptoms. Special attention should be paid to inquiring about symptoms associated with more significant head injury or concussion. Changes in mental status, coordination, speech, and behavior all should be assessed and risk of a co-existing c-spine injury should be assessed by evaluating for neck pain, step offs, weakness, paresthesias, and numbness. The possibility of a foreign body should be investigated when questioning a patient about the mechanism of injury. All of a patient's prescribed medications should be reviewed for possible adverse reactions that may have contributed to the injury or that may impact healing. Recreational drug and alcohol use also should be assessed.

A methodical examination is key for any patient with a scalp injury. A thorough scalp examination should look to rule out signs of increased intracranial pressure (ICP) such as nausea, vomiting, fixed dilated or non-reactive pupils and altered mental status. For most scalp lacerations, initial management consists of applying direct pressure to the wound for 15 minutes with or without lidocaine plus epinephrine to achieve hemostasis. The presence of profuse bleeding or hematomas warrants inquiry about hematologic pathology (i.e., hemophilia and other factor deficiencies).

Appropriate lighting and control of bleeding are important to ensure that any foreign bodies can be identified. If the situation allows, a quick evaluation for concussion can also be conducted with rapid evaluation tools such as the Sport Concussion Assessment Tool (SCAT), which gives a quick neurologic evaluation.

During the examination, characteristics of the

laceration should be noted, including the time of injury and the shape, length and, most importantly, the depth of the wound. The time of injury is important because laceration repair by primary closure is time-dependent. Wounds healed by secondary intention are at increased risk of scarring. Involvement of the galea should be noted because it necessitates repair to prevent deformity.

Indications for imaging. Neuroimaging is an important consideration in head trauma and, if available, can be used in the urgent care setting for patients deemed stable and without risk of a co-existing c-spine injury. A computed tomography (CT) scan is warranted for patients who sustain their injuries from falls from height, blunt force trauma or situations related to drugs and alcohol. Plain films are no longer favored for evaluation of face and scalp trauma. Imaging to rule out intracranial injury also is warranted in cases involving exposure of bone. If foreign bodies are a possibility, plain radiographs can be used to detect radiopaque objects such as glass, whereas ultrasound can detect non-radiopaque materials.

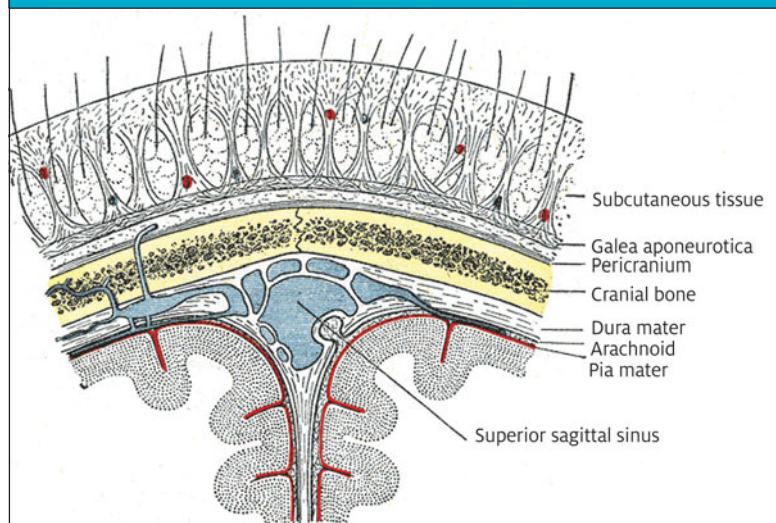
Repair preparation and technique. Although wound irrigation is a common practice in laceration repair, research shows that with the rich supply of blood to the scalp, wound infections are rare. Therefore, for clean, non-contaminated scalp wounds, irrigation before primary closure does not change the rate of infection or cosmetic appearance.¹

Anesthesia for scalp repair can be achieved using lidocaine with epinephrine (excluding the nose, eyelids and ears). (Epinephrine is included to provide additional hemostasis, as needed.) Although hair is seen by some as a contaminant, hair removal before closure is only called for in situations where the presence of the hair complicates the laying or knotting of the suture.² Hair can be easily cleaned with the same bactericidal solution used for the laceration.

For repair of most simple scalp lacerations, staples can be used and they have the benefit of being faster and less expensive than, and yielding results similar to those for sutures (**Figure 1**).

On the other hand, staples should NOT be used for lacerations involving the galea. An anchoring point for the frontalis muscle, the galea must be repaired separately to prevent deformities and asymmetry in facial expression

Figure 2. Layers Of The Scalp



Source: Gray's Anatomy/Wikimedia Commons/Public Domain
<https://commons.wikimedia.org/wiki/File:Gray1196.png>

(**Figure 2**). Repair can be achieved with 3.0 or 4.0 absorbable sutures (i.e. Vicryl, Monocryl etc.) using a single interrupted technique. Besides preserving muscle use, galeal repairs prevent subgaleal infections and the spread of infections throughout the scalp.

Less frequently used but equally effective for closing scalp wounds is the Hair Apposition Technique (HAT). This technique is best for hemostatic wounds that are less than 10 cm long and when the scalp hair is longer than 3 cm. With HAT, opposing hair strands are brought together with a simple twist and are locked with a drop of tissue adhesive.³

Empiric antibiotics are not usually indicated for scalp lacerations but are warranted for bites (animal and human) and excessively contaminated lacerations. All adults with scalp lacerations should receive tetanus (Td) or the Tetanus, diphtheria, pertussis (Tdap) vaccination if there is uncertainty about their vaccination status. Scalp lacerations that do not require pressure dressings can be left open to air and washed gently with soap and water after 24 to 48 hours. Staples or non-absorbable sutures can be removed in 5 to 7 days.

Forehead Lacerations

Lacerations of the forehead are common in both children and adults and have the potential to arouse a fair bit of anxiety in patients because of the possibility of scarring in a highly visible area. The tension lines on the forehead are discussed in detail here because an



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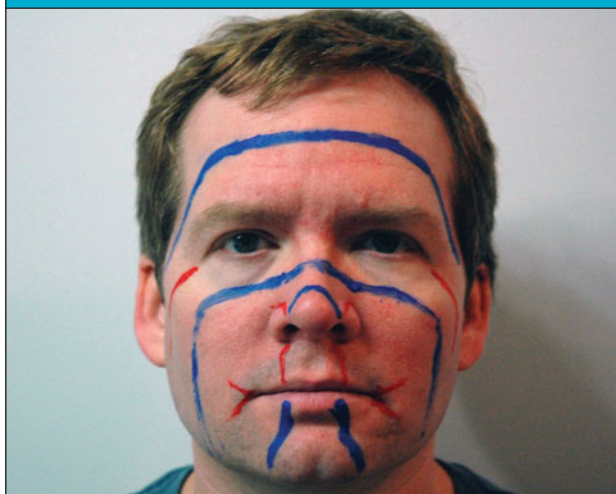
Figure 3. Relaxed Facial Tension Lines

Photo courtesy of Michael Jaszkevicz.

understanding of them is necessary to ensure a good cosmetic result.

Tension lines. Relaxed skin tension lines (RSTLs) generally run at right angles to the direction of the underlying musculature (**Figure 3**). Repair of lacerations in the direction of the tension can help minimize scarring and produce the best aesthetic results.⁴ A horizontal laceration of the forehead, for example, will be under minimal tension because it is parallel to tension lines, whereas a vertical laceration will be more gaping and difficult to repair and will heal with more scarring.

Research shows that repair according to RSTLs is the key to less scarring and actually is more important than the repair technique.⁵ Nevertheless, it is important for urgent care practitioners to counsel patients about expectations for surgical outcomes in cases when scarring is more likely. Revision of scars by a plastic surgeon is always an option, but if there is any concern about appearance, early referral and primary closure with cosmetic techniques should be considered.

Repair Preparation and Technique. The first step in preparation for repair of a forehead laceration is to inspect the wound carefully for foreign bodies so as to prevent traumatic tattooing, a phenomenon that occurs when foreign bodies are retained within tissue. Anesthesia for forehead lacerations is dependent on wound size. For small lacerations, 1% lidocaine or LET (lidocaine 4%, epinephrine 0.1%, and tetracaine 0.5%) can be used locally, but if the injury covers most of the forehead, a

Table 1. Features Suggestive of Penetrating Globe Injury

1. History of sharp or high-velocity injury
2. Deep eyelid lacerations
3. Distorted anatomy (globe, iris or pupil)
4. Subconjunctival hemorrhage
5. Conjunctival lacerations
6. Hyphema
7. Positive Seidel's test (Under slit lamp examination, fluorescein stain changes color upon contact with ocular fluid.)

regional block with lidocaine) may be appropriate.

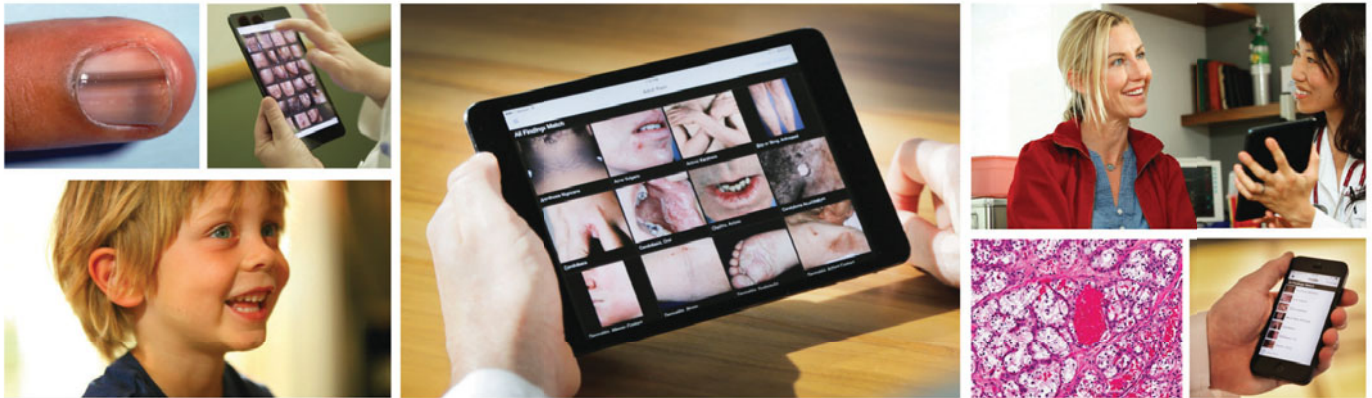
For forehead lacerations, use of adhesives such as octylcyanoacrylate (Dermabond® and Histocryl®) often is a consideration. It is imperative, however, that urgent care providers have a careful understanding of the conditions for use of these products and are experienced with proper application techniques. (For an in-depth article on adhesives, please view *Using Tissue Adhesives in Urgent Care* in the December 2013 edition of *JUCM*.) In order to promote optimal cosmesis with adhesives, hemostasis must be completed and perfect alignment of the edges must be ensured. Other important considerations include prevention of adhesive drips, particularly into the eyes and lips. In situations where the laceration is irregular, gaping, or approximation of the edges cannot be guaranteed, sutures should be exclusively used. The skin on the face is some of the thinnest on the human body, and thus, prone to tears and dimpling, risks which can be minimized by choosing the smallest size suture adequate for the job. In most cases, 6.0 suture (monofilament or rapid absorb) in a technique involving multiple small "bites" will mitigate the risk.

Home care and follow up. For forehead lacerations, a dressing usually is not required. Patients should be counseled to keep the site clean by gently washing (but not scrubbing) their face twice a day and to apply topical antibiotics thereafter.

Eyelid and Eyebrow Lacerations

Eyebrow lacerations are most often caused by blunt trauma to the supraorbital area. For any laceration involving the eye (brow, lid etc.), a full and careful examination of the eye is required before repair is performed. The examination should include assessment of visual acuity and extraocular movement, ophthalmic inspection for hyphemas, and fluorescein stain for corneal abrasions.

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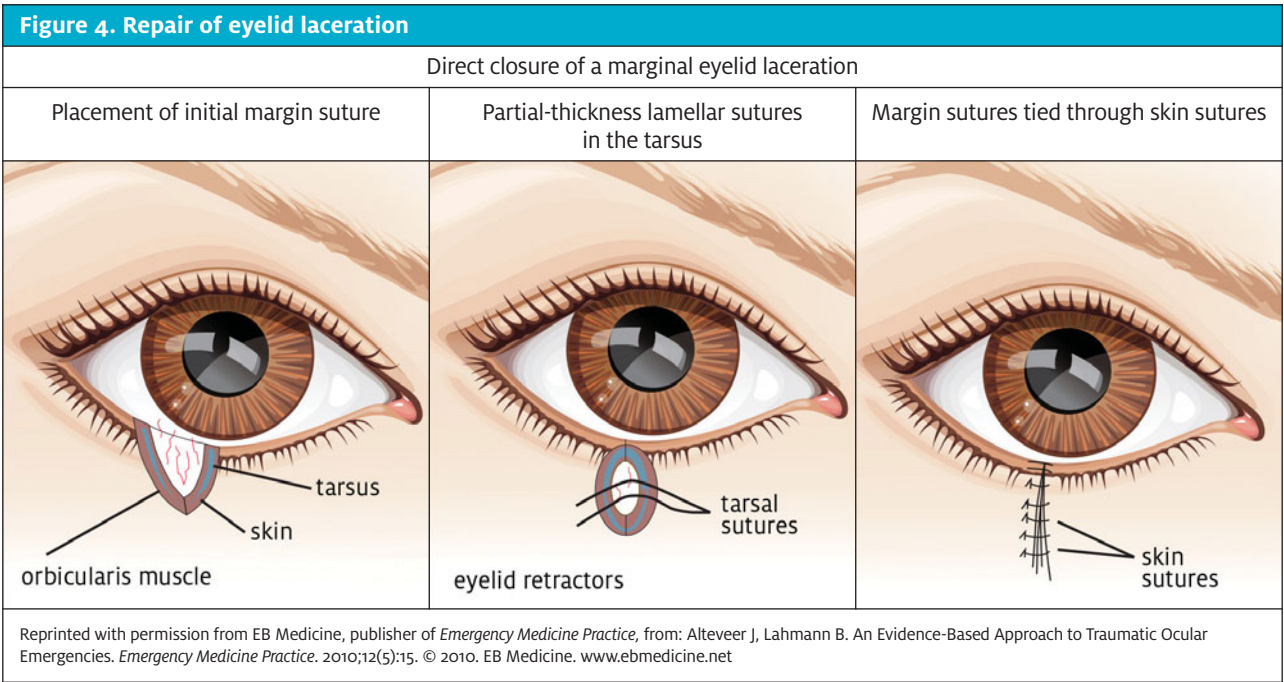
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Lacerations involving the medial canthus or the medial third of the upper or lower eyelid should raise suspicion for damage to the canalicular drainage system and require assessment by ophthalmology. Although canalicular injuries require specialty consultation, they can be repaired up to 48 hours after the injury, should that be necessary (weekends/after hours). Patching of the eye may be necessary to keep the wound clean and dry pending follow-up.

With injury to the eyebrow and eyelid, it is important to look for clinical clues that may raise suspicion of deeper injuries. Copious tears, for example, may indicate injury to the tear duct, whereas an acute case of strabismus post-injury indicates injury to the medial palpebral ligament. In addition, any laceration to the eye that results in protrusion of fatty tissue from the wound should raise concern for a torn orbital septum, and acute ptosis post injury may indicate injury to the levator palpebrae superioris. Urgent care providers should also have a low threshold for obtaining a CT scan to inspect the orbits and to rule out fractures when periorbital edema and ecchymosis are present.

If the examination reveals or raises suspicion of a penetrating globe injury (**Table 1**), the examination should be stopped and the patient should be referred immediately to an ophthalmologist or transferred to the emergency department. DO NOT manipulate the eye, apply any pressure to the globe, patch the eye or

measure intraocular pressure.

Repair preparation and technique. For lacerations to the eyebrow, the eyebrow hair should never be shaved because regrowth cannot be guaranteed. Sutures are not necessary for lacerations shorter than 0.25 cm that are located above or below the eyebrow; steri-strips or a topical triple antibiotic (i.e. neomycin) can be applied.¹

When sutures are necessary, the eyebrow should be sufficiently irrigated with normal saline (ensuring that the eye is protected) and the eyebrow anesthetized with LET or lidocaine with or without epinephrine. For eyelid lacerations, lidocaine alone should be used because epinephrine is contraindicated. Absorbable (6.0) or permanent sutures (6.0 or 7.0 nylon) are acceptable for suturing. For deep lacerations, each tissue layer may need to be repaired individually and care should be taken to realign the wound edges anatomically (**Figure 4**).

This can be achieved by suturing the superior and inferior margins first. When suturing the eyelids, special care must be exercised to avoid piercing the needle through-and-through the eyelid. Furthermore, never apply pressure on the globe of the eye while repairing eyelid wounds.

Adhesives for eyebrow lacerations. Given the ease of use and pain-free attributes of skin adhesives, urgent care providers

“Facial lacerations often include traumatic injuries to nerves and vessels that can have significant impact on healing, cosmesis and neurologic function.”

may be tempted to use them for repair of eyebrow lacerations. With standard, low-viscosity octylcyanoacrylate (OCA) skin adhesives, there is a risk of migration, and great care and significant skill are needed to avoid accidental tarsorrhaphy. High-viscosity OCA has been associated with dramatically less migration than are lower-viscosity products.⁶ Even with high-viscosity adhesives, great care should be exercised around the eye. For eyelid lacerations, adhesives should be avoided entirely.

After care. For eyebrow or eyelid lacerations, after care includes provision of tetanus prophylaxis, referral and follow-up as needed, and clear home care instructions. The laceration site should be gently cleaned twice a day; topical antibiotics also can be applied. Sutures can be removed in 3 to 5 days and steri-strips applied as necessary.

Conclusion

When presented with a patient who has lacerations of the face or scalp, an urgent care provider's initial concerns focus on eliminating choking hazards, controlling blood loss, and preventing infection. Decision-making about wound management also must take into consideration long-term cosmesis because of the potential for disfigurement. To help ensure the best possible outcome for patients with injuries to the scalp, forehead, eyelids, or eyebrows, an understanding of the anatomy and use of appropriate repair techniques, as described here, is critical. Part 2 of this article, in next month's issue, will examine the approach to lacerations of the ear, nose, cheek, lips, and tongue. ■

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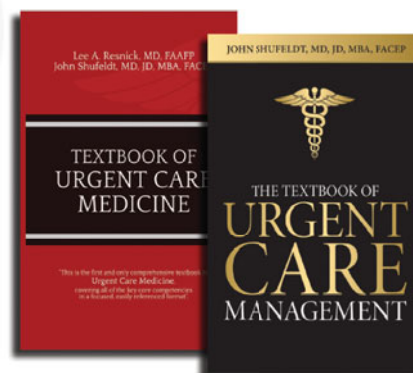
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Practice Management

A Return on Investment Approach to Urgent Care Marketing

Urgent message: In a volume-driven business like urgent care, marketing should be viewed as an investment with a financial return that can be measured in order to allocate the center's advertising dollars among the tactics most effective in generating patient revenue.

ALAN A. AYERS, MBA, MAcc

Success in the “business” of urgent care boils down to one factor: “feet through the door.” That’s because once a center’s fixed costs are covered, each additional patient visit contributes directly to the center’s bottom line. And while it’s been shown that satisfied patients “evangelizing” about your clinical outcomes and outstanding service delivery act as powerful allies in your ongoing effort to increase volumes,¹ word-of-mouth alone takes too long to achieve critical mass. To reach the minimum number of patient visits required for a center to operate profitably, it must effectively attract new patients from its surrounding community. **Table 1** illustrates some common marketing tactics utilized by urgent care centers.

Ideally, a center will employ a mix of these tactics to raise awareness and encourage prospective patients to try the center. A significant number of urgent care operators, however, view marketing not as a worthwhile business-building activity, but instead, as a “necessary evil.”² Hence, they either consistently underspend on advertising—believing themselves to be saving money—or worse, they slash their marketing budgets entirely in times of economic uncertainty.

Alan A. Ayers, MBA, MAcc, is Practice Management Editor of *JUCM*, serves on the Board of Directors of the Urgent Care Association of America, and is Vice President for Concentra Urgent Care.



This short-sighted and detrimental fiscal behavior occurs when urgent care operators incorrectly perceive marketing as a “cost” to be controlled or eliminated instead of an “investment” with a financial return.

Table 1. Common Marketing Tactics Used by Urgent Care Centers

Paid Advertising	Grassroots Involvement
<ul style="list-style-type: none"> • Billboards/Outdoor Advertising • Yellow Pages • Internet Banner/Pop-up/Sidebar Ads • Internet Search Engine Advertising • Website Search Engine Optimization • Newspapers and Magazines • Direct and Shared Mail • Radio and Television • New Movers Campaigns 	<ul style="list-style-type: none"> • Social Media • Chambers of Commerce/Networking Groups • Community Event Participation • Local Schools/Athletic Boosters • Hotels/Motels • Parks and Recreation/Sports Leagues • Churches/Religious Congregations • Ethnic Groups/Advocacy Organizations • Volunteer/Service Activities

Introducing Return on Marketing Investment

Return on Investment (ROI) calculates the rate or yield of return on some initial outlay (financial, time, or otherwise).³ Historically used in the context of long-term capital expenditures such as real estate, leasehold improvements, and equipment, the concept recently has been applied to measure the return from marketing endeavors. Therefore, Return on Marketing Investment (ROMI) can be defined roughly as the profit attributable to marketing (net of the marketing spend), divided by the amount of marketing “invested”:

Return on Marketing Investment (ROMI) =
[Incremental Revenue Attributable to Marketing (\$) X Contribution Margin (%) - Marketing Spending (\$)] / Marketing Spending (\$) X 100

Incremental revenue times contribution margin can also be expressed as revenues net of direct, variable expenses incurred in generating those revenues. Another way of calculating the financial contribution is the revenue brought in from the campaign minus the cost of serving those patients.

Using this formula, ROMI is expressed as a percentage (%). An ROMI of 25%, for example, indicates that every dollar invested in a marketing campaign has yielded (after all financial factors are considered) 25 cents in profit in addition to returning the original \$1 invested.

Similarly, a ROMI of 0% is breakeven: For every dollar spent, exactly \$1 is returned but there is no additional contribution to profit. A ROMI of less than zero indicates that the campaign cost more than it brought in and lost money.

Once you are able to determine how well (or how poorly) a marketing effort has performed in terms of a demonstrable ROI, you can proceed with the confidence

that allocating dollars for the marketing budget, far from being a cost, are in fact adding to your center's bottom line.

Steps in Calculating Return on Marketing Investment

Seven factors are considered when calculating the return on a marketing campaign for a health care entity like an urgent care center:⁴

- Consensus on the program or service being marketed
- Consensus on which revenue to count
- Total cost of the marketing effort
- Patient visits linked to the marketing activities
- Time period for tracking results
- Consensus on what constitutes “new business”
- Evaluation of revenues and costs of services

Consensus on the Program or Service Being Marketed. Before successfully measuring the return on a marketing investment, an urgent care operator must define exactly what he/she is marketing. While it's a given that urgent care revenue derives from patient encounters, a marketing campaign may focus on driving seasonal walk-in visits for illness and injury, specific services like flu shots and sports physicals, return of occupational medicine patients for their family's care, or attendance at events like a lunch-and-learn or open house. The objectives of the marketing campaign will drive the metrics that are used in the ROI analysis and should be defined long before the actual marketing campaign is launched.

To that end, individuals responsible for the center's marketing, operations, billing, finance, and information systems should all be working in concert to accurately capture:

- Financial results for the measurement period;
- Direct (or loaded) costs of the specific marketing activity; and
- Process to link incoming patients to the marketing effort.

Whether the activity being measured is, say, drive-thru flu shots, how many members of a distinct patient group (i.e., university students) respond to an ad, or utilization by a company's employee after presenting at the employer's benefits fair, each function of your organization should be in agreement as to what data needs to be captured for a thorough ROI analysis.

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Consensus on Which Revenue to Count. Because your urgent care center will earn revenue from many different patient services during a marketing campaign's tracking period, you'll have to decide how specific to be when deciding which revenue dollars to count.

The three basic marketing revenue classifications are:

- **Direct:** Utilization of a specific service during the tracking period as a result of the marketing of said service (e.g., received a flyer for a flu shot, redeemed coupon for flu shot)
- **Indirect:** Utilization of an unmarketed service during the tracking period (e.g., received a flyer for a flu shot but saw physician for treatment of a urinary tract infection)
- **Non-Credited:** Utilization unrelated to the marketing effort (e.g., received a flyer for a flu shot, but is visiting the center because employer sent them for a random drug screening)

Essentially, is the effectiveness of the marketing effort only being measured by how many patients seek out the specific marketed service, or will the ROI measure any revenue that results from the marketing effort? And will both direct and indirect revenues be factored into the final revenue count?

Ultimately, it's up to the marketing director to decide which classification to implement, depending on his/her specific goals for the ROI analysis.

Total Cost of the Marketing Effort. Ascertaining an accurate total cost of the marketing effort is crucial in calculating ROI. Examples of marketing campaign cost elements include:

- Allocated internal staff time (staff who either wouldn't be necessary or would be involved in other profit-generating activities if not for the marketing effort, including their overtime or supplemental pay)
- Costs of designing and printing/ordering promotion-related materials (either internal or outsourced)
- Costs of media advertising placements (including agency fees)
- Miscellaneous costs associated with event participation (booth rental fees, prizes, transportation, booth/tent setups, food/drink, etc.)

Failure to subtract all attributable marketing campaign costs from total revenue will result in an overstated ROI, which effectively undermines the credibility of the entire tracking effort.

Patient Visits Linked to Marketing Activities. Linking patient visits to marketing activities is the cornerstone of ROI analysis, as it's the only real way to isolate marketing campaign revenue from general, “non-marketing” revenue. There are a multitude of electronic and manual systems methods for connecting patients to marketing, and they each vary in size, scope, and complexity including:

- Paper or electronic coupons (e.g., \$20 sports physical, \$5 off flu shot)
- Coupon-like mechanisms (e.g., physician referral forms)
- Unique phone number or website URL

- Purchased direct marketing lists (e.g., mail or email)
- Patient identification collected at an event or through the center's website
- Questions asked during the registration process (e.g., "How did you hear about us?")

Linking patient visits to marketing activities (i.e., "How did you hear about us?" surveys) often produces unreliable information (front desk staff may not correctly capture information on registration forms, or patient recall as to which tactic—billboard, Yellow Pages, website, etc.—influenced their visit may be inaccurate).

Part of the reason urgent care operators struggle with marketing effort ROI is because utilization of urgent care doesn't take place until there is a viable clinical need, by which time the patient may have been exposed to multiple marketing tactics. Except for certain ancillary services such as flu shots or sports physicals, there is no "call to action" or "direct response" mechanism within urgent care to trigger patronage as there is with retail stores and restaurants. The natural delay between marketing message and utilization underscores the need for patience and a long-term, strategic view when measuring ROI in urgent care marketing campaigns.

Unable to link patients to a specific tactic, some centers just count all revenue during the measurement period but subtract, as a percentage, historical revenue levels and use that figure as the baseline. This way, any incoming revenue above the historical growth rate (typically anywhere from 5% to 15%) can be reasonably "attributed" to the marketing effort.

As mentioned, it's imperative that whichever tracking methods are employed in the marketing campaign be decided well in advance of the campaign kickoff so a process for data collection can be operationalized. It is wholly difficult to go back and obtain marketing metrics later if they weren't accurately captured while the campaign was "live."

Time Period for Tracking Results. Especially in health care where patient utilization is episodic, there must be sufficient time allowed for the eventual patient encounter that the marketing effort is designed to engender. From a broader perspective, enough time must elapse before the marketing effort can impact key audiences, allowing the center to achieve "top-of-mind" awareness among target audiences. Further, enough time must pass before the marketing "target" (prospective patient) incurs an urgent care need.

Except for short-term, seasonal or "one-off" promotions (i.e., school physicals and flu shots), 6 months is the usual minimum length advised by health care marketers for a campaign tracking period. Anything shorter and the resulting understated revenues will invariably result in an understated ROI. Therefore, you could have uncovered a profitable campaign model, but a premature revenue measurement left your eventual ROI calculation short,

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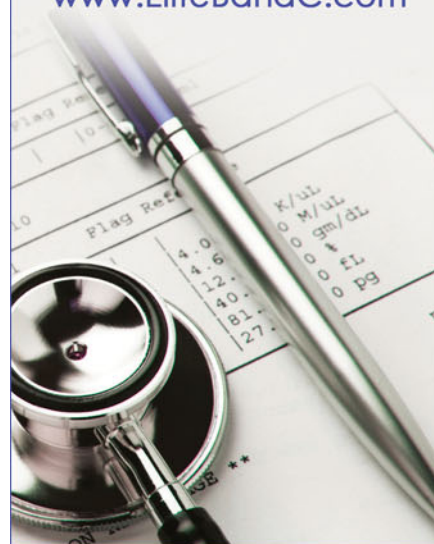


Table 2. Urgent Care Marketing ROI Case Study

What is the ROI of a university newspaper advertisement during the first week of the Fall Semester promoting the urgent care center as a discreet, off-campus, after-hours alternative to student health services?

1) Consensus on the program or service being marketed

- Non-scheduled physician visits for minor illness and injury

2) Consensus on which revenue to count

- Net revenues from physician/patient encounters including evaluation and management, x-ray, procedure, and supply-related CPT codes

3) Total cost of the marketing effort

- Cost of the newspaper advertisement for 2 weeks: \$1,500

4) Patient visits linked to marketing activities

- Patients using university health insurance can be queried from the billing system.
- Patients ages 18-25 residing in three campus-area zip codes can be queried from the billing system.
- Patients can be identified by their answer to "How did you hear from us?" on the intake form.

5) Time period for tracking results

- Start of Fall Semester; from placement date of the ad in September through December 31

6) Consensus on what constitutes "new business"

- Any patient who has not previously used the center

7) Evaluate net revenues and cost of services

- For the tracking period, there were 65 total visits linked that had an average collection of \$125, for a total of \$8,125 in net revenues.
- Direct variable expenses per visit = \$100 (Contribution Margin of 20%)
- Net revenues generated by newspaper ad = \$1,625

Return on Marketing Investment Calculation:

$$\text{ROMI} = [\text{Incremental Revenue Attributable to Marketing (\$)} \times \text{Contribution Margin (\%)} - \text{Marketing Spending (\$)}] / \text{Marketing Spending (\$)} \times 100$$

$$\text{ROMI} = [\text{Incremental Revenue Attributable to Marketing (\$8125)} \times \text{Contribution Margin (20\%)} - \text{Marketing Spending (\$1500)}] / \text{Marketing Spending (\$1500)} \times 100$$

$$\text{ROMI} = [\$8125 \times .20 - \$1500] / \$1500 \times 100$$

$$\text{ROMI} = 8.3\%$$

causing you to abandon future profitable campaigns using that same model.

On the flip side, using too long of a measurement period can distort results as patients are exposed to advertising from competitors or enough time has passed that they "forget" your advertising. Counting patients long after the campaign has ended will overstate its effectiveness.

Consensus on What Constitutes 'New Business.' Return on marketing investment should not count business

the center would have had regardless of whether the campaign occurred, so the focus should be on new business to the center. Some urgent care operators will want to ascertain whether their marketing efforts are bringing in new patients, as opposed to increasing utilization of loyal past patients, while others are concerned only with new revenue, regardless of source.

How new business is defined may include any volume that can be linked to the marketing campaign, regardless of whether the patient has visited the center before. Or, it may exclude all patients who have visited the center before, regardless of the reason. Some centers "temper" these designations with a time period (e.g., 2-3 years) or type of service. As with the other ROI calculation elements, the desired designation should be determined well in advance of the actual marketing initiative in order to obtain the most accurate final measurement.

Additionally, a detailed ROI calculation will include some factor for "business we would have gotten anyway." If you consider that almost any center open for business will get some volume irrespective of any particular marketing effort, allowing for this factor helps the provider more accurately arrive at the true ROI of a marketing campaign. This factor should also be applied to long-established marketing programs that have produced previous patient volumes.

Evaluation of Revenues and Cost of Services. Upon conclusion of the marketing campaign tracking period, net revenues (that can be linked to the marketing effort) and cost of services are calculated so they can be included in the ROI equation:

- Net revenues – Total collected revenue minus contractual allowances and bad debt. Contractual allowances are the difference between what the provider charges and what the insurance company will pay. A \$50 clinical charge presented to a payor with a \$40 insurance contract will leave a contractual adjustment of \$10. Bad debts are estimated amounts of credit losses for a given time period. Note: No marketing effort is without expenses, so gross charges should never be cal-

Table 3. Partial ROI Measures for Urgent Care

<ul style="list-style-type: none"> • Press releases resulting in press citations • Social media analytics • Website analytics • Occupational medicine contracts closed • Patient experience/satisfaction (i.e. Net Promoter Score) • Number of participants at community events 	<ul style="list-style-type: none"> • Word-of-mouth referral rate • Patient loyalty/repeat visit rate • Market share relative competitors • Size/growth of opt-in advertising email database • Acquisition cost of new patients • Unaided top-of-mind awareness 	<ul style="list-style-type: none"> • Number of primary care referral relationships • Number of patients from referral sources • Local business sponsorships • Community service hours • Payor mix • Conversion of existing patients to new services
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culated, as they will always result in an overstated ROI. Also consider that accounts receivables can take several months to mature, so revenue numbers can thereby be underreported during the marketing campaign tracking period.

- **Cost of Services** – Direct variable expenses generated from patient utilization of services (e.g., clinical staff time, medical supplies, billing fees, etc.). This figure should not include indirect and fixed expenses for clinical operations, as new patients who cover their incremental costs already contribute to most overhead and operational costs. Contribution margin is thus defined as the revenue per visit minus the variable cost per visit, with variable costs being those that fluctuate with patient volume including salaries and benefits, equipment and supplies, billing and technology costs, as well as purchased services including lab and x-ray.

Table 2 illustrates a real-world marketing campaign specific to urgent care that incorporates each of the seven key elements of a health care ROI analysis.

Mistakes to Avoid in Marketing ROI Calculations

For ROI measurements to be meaningful, the methodology and approach must be rigorous. However, due to both the inherent difficulty in tying advertising expenditures neatly to revenue and the desire to show a tangible return for their marketing investment, urgent care operators will often make the following mistakes:

- **Substituting hard revenue figures for “vanity” or “proxy” metrics:** The number of Facebook “likes,” email addresses collected at an event, entries for a prize drawing, or Internet website clicks, while important to branding goals, without being tied

to associated revenue, cannot be used in calculating ROMI. ROMI measures the cash “returned” to a center in exchange for a cash outlay; proxies do not constitute cash to the center.

- **Using “paid advertising equivalent” as a metric:** This approach evaluates the exposure of one marketing tactic against the exposure that could have been expected had the money been spent on a different tactic. For instance, a community event incurring \$500 in cost provided exposure to 10,000 people. Had that same \$500 been spent on, say, print media, it would have cost twice as much to reach the same 10,000 people, so an ROI is assumed based on the cost savings. While, in actuality, the event could have been successful in raising “top-of-mind awareness” and deemed “more effective” than print, ROMI requires tangible revenues for the center.
- **Choosing too many metrics to track:** The more metrics involved in the marketing campaign, the greater the difficulty in tracking and compiling all of the key elements of the ROI analysis. To obtain the best, most accurate ROI number, every financial contributor to both the numerator and the denominator must be accounted for. To that end, it’s best for a center to keep metrics as simple and straightforward as possible.

There are many more mistakes that can creep into the process; most involve deviating too far from the key elements of ROI analysis, or focusing on proxy metrics other than revenue. Production outcomes, marketing outcomes, and strategic outcomes all have their place in a healthy marketing function,⁵ but ROMI is the one metric that shows you exactly how much your marketing investments are returning to the practice.

Why 'Partial' ROI Matters

Granted, revenues and financial returns are at the heart of a meaningful ROI, but "partial" ROI efforts, especially in urgent care, are equally important in a different sense. Brand building, community goodwill, visibility, and "top-of-mind" awareness, for example, are all key factors in building patient volume over time, without which there are no revenues or ROI of which to speak. **Table 3** illustrates many of the production, marketing, and strategic outcomes that, while not technically ROI, still act as direct and indirect factors in increasing patient volume.

Urgent Care Marketing Tips & Strategies

When there is a full grasp and understanding of the particulars of marketing effort ROI, the next question the urgent care operator asks is, "Okay, so what campaigns have the best ROI? How do I get the most bang for my buck?" The following list is a compilation of urgent care marketing tips and strategies adapted from a multitude of authoritative urgent care & health care marketing web publications (not intended to be exhaustive):

- ROI works best, and is easiest to measure for ancillary services that have a direct response or call to action (e.g., sports physicals, flu shots, weight management). Additionally, many ancillary services boast high profit margins,⁶ which of course lead to high ROIs.
- The majority of the marketing budget should be spent during the "cold and flu" season (Nov-Mar), which is a center's busiest time of year (due to upper respiratory complaints, the number one cause of urgent care visits). Further, the warmer months are a great time to advertise ancillary services like allergy testing or medical weight loss to help boost lagging summertime revenues.
- Following the retail business model, an urgent care center should dedicate a portion of its operating revenues to "maintenance" of its marketing efforts (remember that marketing is a revenue center, not a cost center) but there is no "fixed" recommended percentage. The percentage of revenues spent on marketing will vary by location and market but will likely decrease over time because a new center with no business may need to spend more than 100% of its revenues in marketing, but as volume grows and stabilizes, the percentage spent could fall as low as 3% to 5%.
- Marketing ROI will eventually decline over time since markets are finite in size, so be sure to diversify your marketing mix as needed. When "top of

mind" reaches a critical mass, a market becomes saturated and it becomes increasingly difficult to reach new people who haven't previously heard of or used your center.

- Target patients where they spend their time in social, digital, and mobile channels and by grass-roots engagement with the community. Early adopters have a massive advantage over the competition as most competitors will still focus their marketing efforts on the more paid media tactics to drive patient volume.
- Multiple modalities (e.g., email, billboards, web, radio) work better in concert than single, isolated tactics and have even shown to have a synergistic effect on each other in boosting overall awareness.

Conclusion

In this volume-driven business, the biggest issue faced by many urgent care operators is simply how to get enough patients through their doors to meet their profit objectives. Referrals and repeat visits from satisfied patients are important but building a business on word-of-mouth alone can take years. That's why most urgent care centers establish their brand through marketing and promote it in their communities using multiple tactics, allowing time for campaigns to bear fruit. With a firm grasp of ROI, you can not only identify the bottom-line impact of your marketing activities but you can better allocate marketing dollars to the most effective tactics and even scale up those tactics for even greater returns.

In sum, marketing is not a cost; to the contrary, it's an investment in a thriving practice. Urgent care operators who commit themselves to learning the ins and outs of ROI calculation and analysis remain ahead of the competition, have lobbies bustling with patients, and enjoy favorable numbers across their bottom line. ■

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Case Report

Chest Pain, Bradycardia, and ECG Changes in Acute Cholecystitis

Urgent message: Urgent care clinicians should consider the possibility of cholecystitis when evaluating patients with cardiac symptoms. A delay in diagnosis may lead to serious complications, including sepsis.

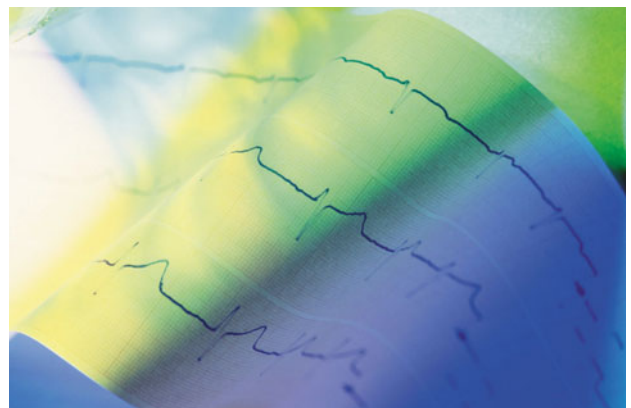
ALONA D. ANGOSTA, PhD, APRN, NP-C, and BRYAN HOLMES, NREMT-P

Introduction

Patients with acute cholecystitis typically complain of right-upper-quadrant pain that radiates to the right shoulder and back, fever, and leukocytosis.¹ The pain may also be associated with nausea or vomiting. However, acute cholecystitis can mimic cardiac symptoms such as chest pain, nausea, and electrocardiogram (ECG) changes.¹⁻⁵ Conversely, there are other conditions associated with ECG abnormalities that can mimic cardiac pathologies, including acute pancreatitis,⁶⁻¹⁰ peptic ulcer disease,^{11, 12} and pneumonitis.⁴ With the atypical presentations of acute cholecystitis and ECG changes, it can make diagnosis challenging.

Although the association and exact pathophysiologic mechanisms of ECG changes in non-cardiac conditions are poorly understood, multiple hypotheses have been reported, including vagal reflexes, disturbance of coronary blood flow, and coronary vasospasm.¹¹ The aims of this report are to discuss an unusual presentation of acute cholecystitis, provide a discussion of similar cases from evidence-based literature, and offer clinical pearls for the urgent care clinician.

Alona D. Angosta, PhD, APRN, NP-C is a Board Certified Nurse Practitioner at Advanced Urgent Care in Henderson, Nevada. She is also an Assistant Professor at the University of Nevada, Las Vegas. Bryan Holmes, NREMT-P is the Medical Services Supervisor at Advanced Urgent Care in Henderson, Nevada. The authors wish to thank Jose "Ray" Troche, PA-C, for giving them permission to report this case under his care.



Case Presentation

A 36-year-old white female presented with sudden-onset substernal chest pain associated with palpitations and nausea. The patient was awakened by pain in her chest, which she described as heaviness and pressure without radiation. There was no dyspnea or pain during inspiration, no hematemesis or melena. A pain score of 10/10 was provided by the patient without exacerbating or relieving factors. Her past medical history was unremarkable except for asthma and eczema. Family history was positive for coronary artery disease, diabetes, and hypertension. Social history was negative for nicotine, alcohol, or drug use. Her medications included an albuterol inhaler.

Figure 1.

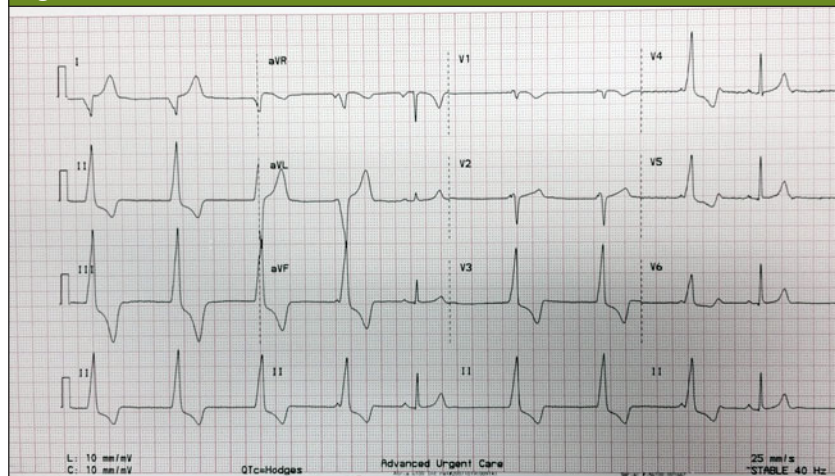


Figure 2.

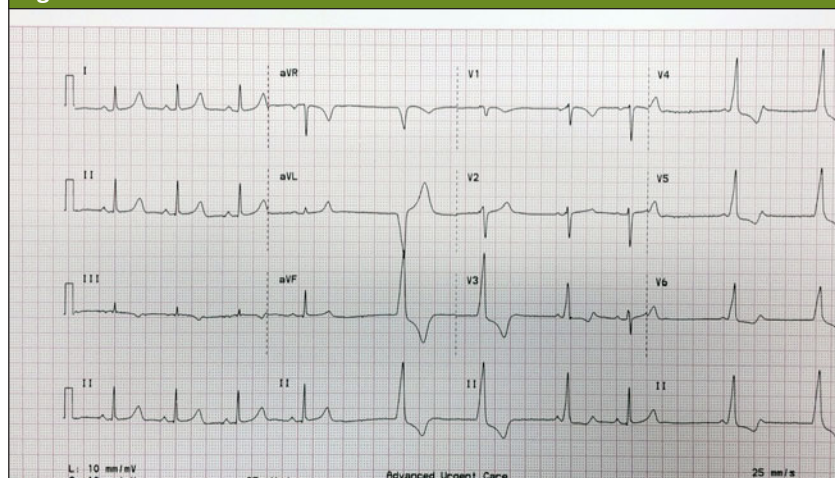
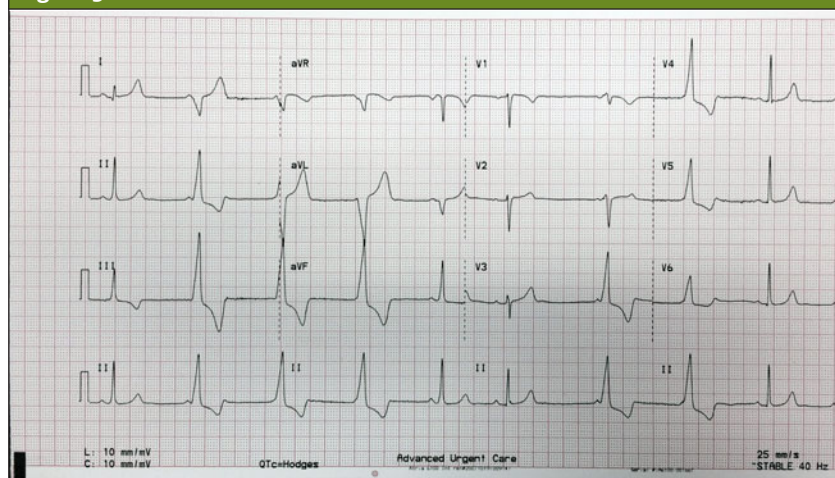


Figure 3.



Observation and Findings

During evaluation, the patient had the following vital signs:

- BP: 133/76
- P: 54
- R: 22
- T: 98.1°F
- O₂ sat: 99%
- Wt: 174 lb

On examination, the patient was anxious and her skin was clammy and cool to the touch. Her lungs were clear to auscultation bilaterally. Her heart rate was bradycardic and the rhythm was irregular. She did not have cardiac murmurs or heaves; no jugular venous distention was noted. The woman's abdomen was soft, with good bowel sounds without tenderness or masses. A 12-lead ECG revealed sinus bradycardia with frequent premature ventricular contractions (PVCs) (**Figures 1-3**).

Disposition

Due to the severity and nature of the patient's pain, and ECG abnormalities, she was transferred immediately to the nearest emergency department (ED) by emergency medical services. Upon ED presentation, the patient complained of increasing epigastric pain and decreasing chest pain, although she continued to show ECG abnormalities with bigeminal PVCs. Laboratory studies including troponins were normal (<0.01) except for a slightly elevated WBC count of 14.4. An abdominal ultrasound was ordered and showed cholelithiasis with gallbladder wall thickening, gallstones, sludge, and pericholecystic fluid. According to Steel and Brenner (2013), ultrasonography has about 90% to 95% sensitivity and 78% to 80% specificity for cholecystitis. For cholelithiasis, it is 98% sensitive and specific.¹³ Given the elevated WBC and abnormal ultrasound, the patient underwent a laparoscopic cholecystectomy. The pathology report confirmed cholecystitis. The patient was

completely asymptomatic post-surgery. Furthermore, ECG changes did not recur. Contact was made with the patient several weeks after hospital discharge. She reported a full, successful recovery, and continued to remain asymptomatic without any further cardiac-related complaints.

Discussion

ECG changes (both non-ischemic and ischemic) in acute cholecystitis have been reported in the literature.¹⁴ Franzel et al. reported a case of acute cholecystitis with ECG abnormalities and syncope.¹⁵ The case was a 48-year-old male who had severe abdominal pain and syncopal episode. He was bradycardic and his ECG showed complete atrioventricular (AV) block. He was treated for cholecystitis. Postoperatively, his ECG showed normal sinus rhythm without AV block or arrhythmias. His cardiac workup including echocardiogram was unremarkable. He did not have complications and he was discharged home in stable condition. Another case was reported by Akyl et al. of a 35-year-old male who complained of upper abdominal pain, nausea, and vomiting. His heart rate was 54 beats per minute and his ECG showed idioventricular rhythm. The patient was treated appropriately for cholecystitis and his symptoms resolved.

Bradycardia in acute cholecystitis, also known as the Cope's sign,¹⁶ has been observed in several cases including this case report. In addition, ECG changes have been reported. Although the exact etiology of bradycardia and ECG changes in cholecystitis is not well understood, the suspected etiology is excessive vagal stimulation.¹⁷ O'Reilly and Krauthamer indicate that "abdominal pain and gallbladder distention may aggravate vagal discharge and accordingly, bradycardia or conduction disturbances develop."¹⁶

Ischemic ECG changes have also been observed in acute cholecystitis. Aksay et al. reported a 42-year-old male with acute cholecystitis. The patient had epigastric pain, nausea, and vomiting and had T wave inversion on his ECG.² Following treatment, his symptoms and ECG changes resolved. The investigators believed that the ECG abnormalities were most likely due to the changes in myocardial blood flow rather than persistent coronary artery stenosis or atherosclerosis.²

A similar case was reported by Patel et al. of a 34-year-old white female who had acute cholecystitis.⁴ The patient complained of epigastric pain, bilateral posterior thorax pain, nausea, and vomiting, and was found to have ST segment elevations on her ECG. Following

laparoscopic cholecystectomy, the patient had a full resolution of the ST changes.⁴ Patel et al. indicated that the inflammation and distention of the gallbladder caused the ECG abnormalities.⁴ They concluded that irritation and spasticity of the surrounding structures creates reflex stimuli through the autonomic pathways, which leads to temporary alteration in coronary blood supply and causes conduction disturbances.⁴ Demarchi et al. also reported a case involving a 75-year-old female who presented with acute cholecystitis.¹ The patient had ST segment depression on her ECG and elevated troponin levels. Following treatment, the patient's symptoms disappeared.¹ Demarchi et al. suspected that the ECG changes and abnormal troponin levels were due to the inflammation and distention of the gallbladder.¹ In addition, gallbladder pain stimulates the vagus nerve, which in turn causes bradycardia. The pathophysiologic changes in gallbladder inflammation may reduce coronary blood flow and accordingly, troponin levels and abnormalities in the conduction system may occur.¹ ■

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HIPAA Hypos and Privacy Paradigms

■ JOHN SHUFELDT, MD, JD, MBA, FACEP

One of the moderately entertaining aspects of law school was answering hypotheticals (“hypos”) in class. They would go something like this: “Mr. Shufeldt, suppose that an off-duty police officer witnesses what she believes is an aggravated assault. Without identifying herself as a police officer, she disarms the assailant and, while doing so, the gun discharges and the bullet strikes and kills a bystander, who happens to be an emancipated minor. What causes of action, if any, do the child’s parents have against the gun manufacturer, the assailant, the officer, and the municipality?”

Using this method, let’s go through a few HIPAA hypos that you may run across in your practice. One caveat. I cannot tell you how many times I hear, “It’s against HIPAA!” People with little or no knowledge of this complex set of sometimes conflicting privacy regulations seem to throw out this comment all the time – particularly when they don’t want to do something. “Do you know where I can get a diet Mountain Dew?” “Yes, and I would tell you if it was not against HIPAA!” I’m not kidding. My response to those sorts of retorts is that, “I would kill you if it was not against HIPAA!” So if you only learn one thing from this article, please learn not to simply throw out that phrase “It’s against HIPAA!” like you have “HIPAA Tourette’s.”

Hypothetical #1

An employer sends in for evaluation a female employee who sustained a hip injury after a 3-foot fall while working. As part of their customary practice, the employer requests that a drug screen be performed. Before performing an x-ray of the pelvis, you appropriately perform a pregnancy test, which comes back positive. After informed consent, she refuses an x-ray of her pelvis and hip. The employer calls and wants to know the find-

“Most states do not have mandatory disclosure laws unless a violent crime was committed.”

ings of the exam and x-ray.

Question: Under HIPAA, are you allowed to tell the employer that the patient refused the x-ray because she is pregnant?

Answer: Not without the patient’s consent. Her pregnancy is (hopefully) not work-related and thus it is protected personal health information (PHI) and the employer has no right to know. Health information related to work is still protected PHI, the difference is that if the employee-patient wants her injuries to be paid for by the employer under Workers’ Compensation, then the employee waives her right to confidentiality regarding medical information related to the injuries at issue. They remain PHI but are disclosable because of implied (or express) consent. On the other hand, if employee-patient learns something during the course of your exam that she does not want disclosed and would rather forego Workers’ Compensation benefits to keep that information confidential, she has a right to do that and the doctors cannot disclose information to the employer (of course employee-patient will now foot the bill for the exam and subsequent treatment).

Question: While performing the urine drug screen, your staff observes the patient pour a vial of what is believed to be her dog’s urine into the container (yes, this happens). After she is confronted, she ultimately is able to void without the benefit of her canine and her drug screen comes back negative. Under HIPAA, are you allowed to tell her employer about her attempt to fabricate the results?

Answer: Yes. Her drug screen was obtained under the direction of her employer and they have a right to know about her attempt to alter the results. From a HIPAA perspective, the reason you can disclose it is because an attempt to conceal or fabricate test results isn’t PHI. The results of the test are PHI and can be disclosed to the employer IF THE PATIENT CONSENTS



John Shufeldt is CEO of Urgent Care Integrated Network and sits on the Editorial Board of JUCM. He may be contacted at jshufeldt@shufeldtconsulting.com.

(if the patient is submitting to treatment under Workers' Compensation then consent is implied), but the behavior on the part of the employee-patient to manipulate those results is not PHI, and so, not covered under HIPAA and thus disclosable for that reason.

Question: While being evaluated for her hip pain, the woman also complains about symptoms of a sexually transmitted disease (STD). Should you document the results of her pelvic exam and cultures in the same record as the exam for her hip contusion?

Answer: No. Her hip injury is a work-related injury for which she is seeking treatment where payment for that treatment will be made by Workers' Compensation, thus her consent to disclosure of work-related injury information is implied. The STD is not a health matter for which she is seeking treatment under Workers' Compensation and thus there is no implied consent to disclose this information; it remains confidential and cannot be disclosed.

Hypothetical #2

Now let's look at a different scenario. Two parents bring their teenage child in for an evaluation. The child refuses to interact with you and refuses any sort of exam or testing.

Question: If the parents demand that you test their child for drugs, are you obligated to straight-cath the child against his or her will? What information do you need to help with the determination?

First, some background information. Over the last decade, the ability of minors to consent to their own care has expanded dramatically, particularly as it relates to mental health, substance abuse, and sexual or reproductive health care services. HIPAA privacy rules encompass a compromise between the statute and state laws and the Federal Educational Rights and Privacy Act (FERPA) as well as provider discretion. These provisions represent a compromise between rival viewpoints about the importance of parental access to minors' health information versus the accessibility of confidential health care services available to minors.

In two large nationally representative studies, the predominant theme demonstrated was that adolescents would not seek health care if they believed that their parents would be notified. The overarching public policy is that although parental involvement in their minor child's care is desirable, many minors, as proven by the studies, will not seek the care they need if they know their parents will be contacted.

So, although the parents may want to know and even demand to know, different states have different standards for disclosure of protected health information. Although this is technically not "HIPAA-related," the information falls under what is deemed PHI and you thus need to understand your duties and the patient's rights.

Generally, in most states, the cutoff consent laws apply to

“Urgent care providers must be knowledgeable about their state’s minor consent laws, including provisions regarding disclosure of information to parents, particularly in instances where minors can consent for their own care.”

minors 12 and older. In some states however, the consent laws only apply if the minors are married, pregnant or are already parents. In a few states, the legislature has not enacted applicable laws and providers typically treat without parental, consent provided that they deem the minor mature enough to have capacity to understand.

Answer: No. If the minor is over 12, you cannot force treatment or testing (unless you believed it was in a life- or limb-threatening circumstance) treatment or testing.

Question: The parents demand that you “examine their child to see if they are sexually active.” The child who is not emancipated refuses. What are your duties? If the patient tells you in confidence that he or she is sexually active, are you obligated to tell the parents?

Answer: No. The minor, if over 12, does not need to submit to an exam nor should you share PHI with the parents under this circumstance.

Question: The parents demand that you determine if the child is pregnant. The child acquiesces and provides a urine specimen but affirmatively tells you not to disclose the results of the test to the parents. Is it a HIPAA violation if you do tell the parents the results?

Answer: Yes, it is protected PHI. However, there may be a caveat here when it deals with the child's health if the child is making choices that are against his or her best interest medically (and I don't mean having sex under age). For example, if a child who is over 12 is found to be sexually active and as a result has an STD or a pregnancy that may pose a health risk for the child based on previous health history and the child refuses treatment because he or she doesn't want parents to know, and the doctor believes it to be in the child's best health interest that he or she receive treatment for that condition, professional judgment will generally protect the provider if he or she discloses this to parents.

Hypothetical #3

A police officer brings in a suspect and demands you draw a blood alcohol test to determine if the patient was driving under the influence. The patient agrees but tells you in confidence that he or she was not drinking alcohol but had taken 20 mg of valium, which is why the test results are altered.

Question: Are you obligated, despite the patient's request not to disclose, to tell the police officer the real reason for the patient's altered mental status? What if the police officer demands a copy of the patient's medical record?

Answer: The police officer can only receive that information with a court-ordered subpoena. Even after receipt of the court order, it remains protected PHI but you now have the authority to disclose it. I make these distinctions only because if someone thinks this information loses its status as PHI after a court order, they may feel they are at liberty to disclose it to all more freely because it is no longer protected; that is not the case.

If the police ask for a blood alcohol level and the suspect agrees, then the provider can release the results of the blood alcohol test. There would be no reason to volunteer other information, especially if it wasn't asked for and this isn't a crime that is subject to mandatory reporting. But what if the police ask for a toxicology screen and the patient agrees to submit to it but then asks you not to release the results? This becomes much trickier. By agreeing to the screen in the first place, hasn't the suspect consented to disclosing the information? And if the suspect later says don't disclose, is that more akin to withdrawing consent, at which point the police would have to seek a court order to have results released? And, of course, if the suspect refuses to agree to the screen, then you can't even perform it without a court order.

Hypothetical #4

A patient presents to the urgent care center and tells you that he was beaten up by his domestic partner. You correctly determine that the patient is the victim of intimate partner violence. The patient tells you not to call the police. On exam you determine that the patient is bruised but has no fractures.

Question: Are you obligated to call the police since this was an assault? What other information do you need?

Answer: Most states do not have mandatory disclosure laws unless a violent crime was committed. This generally means the assault was carried out with a gun, knife or some other life-threatening object. This is a good example of how to deal with mandatory reporting rules but what about HIPAA implications? For example, what if police were on the scene, suspect DV, and ask you about it. Can you disclose then? Yes, but only with court order.

Question: The patient now states that he was pistol-whipped with a loaded gun, which was pointed at him. He still insists that you don't notify the police. Are you obligated to inform the police despite the patient's request and HIPAA?

Answer: I believe this crosses the threshold for a violent crime that has to be reported even if the state does not have mandatory reporting laws for intimate partner violence. As for HIPAA, this falls under the crimes exceptions where there is harm to others and disclosure is thus acceptable.

"When state and other laws are silent or vague, providers must exercise professional judgment and grant or deny parents' requests for information about care for which minors may legally consent. At the end of the day, do the right thing for patients and always act in their best interests."

Hypothetical #5

A patient presents who was out allegedly "celebrating" an 18th birthday and whose mental status is altered due to an unknown ingestion. A suicide note was found at the scene. The parents arrive and demand to know what you found. They also tell you that their child has had previous suicide attempts and relate a detailed history of the child's previous psychiatric diagnoses.

Question: You now have all the information and results back. The parents want to know the condition of their child. Can you tell them?

Answer: Although it is technically PHI, if you determine that disclosing the information will ultimately benefit the health of the patient and improve the chance for a good outcome, the answer is that you can share the information. Assuming the kid lives at home and the parents will be involved in the payment or treatment of the kid for this issue, yes. If the kid is on his own, the parents are not involved in caring for the kid and they do not pay for his medical care, then it becomes murky.

Conclusions

- Urgent care providers must be knowledgeable about their state's minor consent laws, including provisions regarding disclosure of information to parents, particularly in instances where minors can consent for their own care.
- When state and other laws are silent or vague, providers must exercise professional judgment and grant or deny parents' requests for information about care for which minors may legally consent. At the end of the day, do the right thing for patients and always act in their best interests.
- Health care professionals must be aware that the HIPAA privacy rule grants legal significance to agreements with parents that favor their adolescents' receiving at least some health care on a confidential basis (see http://www.guttmacher.org/statecenter/spibs/spib_OMCL.pdf for a specific state by state reference). These rules provide that in some situations, minors generally assume the right to control access to information and their medical records. ■



INSIGHTS IN IMAGES

CLINICAL CHALLENGE

In each issue, *JUCM* will challenge your diagnostic acumen with a glimpse of x-rays, electrocardiograms, and photographs of conditions that real urgent care patients have presented with.

If you would like to submit a case for consideration, please e-mail the relevant materials and presenting information to editor@jucm.com.

FIGURE 1



This x-ray was taken on a woman who fell off a ladder.

View the image taken (**Figure 1**) and consider what your diagnosis would be.

Resolution of the case is described on the next page.

THE RESOLUTION

FIGURE 2



Diagnosis: The x-ray reveals a dorsal radiocarpal dislocation. Due to high-energy trauma, dorsal radiocarpal dislocations cause significant osseous and soft-tissue injury. Unlike Barton's fracture, these injuries are more often unstable and, even more importantly, associated with other significant injuries. Neurovascular compromise is common. Open reduction and stabilization are usually necessary.

*Acknowledgement: Case presented by
Teleradiology Specialists
(<http://www.teleradiologyspecialists.com>)*



ABSTRACTS IN URGENT CARE

- Pulse oximetry and need for hospitalization
- Electronics and nickel allergy
- The best test for nephrolithiasis
- The value of urine dipstick
- Therapy for shoulder impingement syndrome
- Jet injection vs standard needle infiltration for anesthesia
- Tips for the art of medicine
- Visits for return-to-childcare notes
- Chest compression in CPR

■ SEAN M. MCNEELEY, MD

Each month the Urgent Care College of Physicians (UCCOP) provides a handful of abstracts from or related to urgent care practices or practitioners. Sean McNeeley, MD, leads this effort.

Pulse oximetry and decision-making on hospitalization

Key point: Use of pulse oximetry to decide on necessity of hospitalization may need to be reconsidered.

Citation: Schuh, S, Freedman S, Coates A. et al. Effect of oximetry on hospitalization in bronchiolitis, *JAMA*. 2014; 312(7):712-718.

Pulse oximetry has been used to help decide when an infant with bronchiolitis should be hospitalized. The authors of this study postulated that providers may be relying too heavily on it, resulting in more hospitalizations than may be necessary. Because bronchiolitis is the leading cause of admission in infants, changing the criteria for admission for bronchiolitis may significantly reduce the burden on parents and the cost of health care.

In this randomized, blinded study, physicians were told that their patients had a 50% chance of having an altered pulse oximetry value, but not the direction or the level. Otherwise healthy children with bronchiolitis and pulse oximetry 88% or higher were randomized to either addition

of 3% or no change in pulse oximetry value. In order to blind providers, two pulse oximetry machines were used, one of which automatically added 3% to the score. Randomization to one of the two machines was done by an outside company. The authors note that the 3% difference in pulse oximetry reading was considered small and that great effort was taken to ensure the safety of the study participants. Their efforts in that regard are explained in detail in the study but beyond the scope of this synopsis.

A total of 213 patients met the eligibility criteria for the study. The admission rate was 41% among the patients whose pulse oximetry results were true compared with 25% in the altered group. There was no noted difference in outcomes for the two groups.

From an acute care perspective, the small size of this study should give us pause in regard to changing our treatment pattern. However, these results do remind us that reliance on a single test rather than taking into consideration a patient's presentation as a whole may lead us to unnecessarily change our treatment plan. ■

Electronics and nickel allergy

Key point: Watch out for those tablets because you may become allergic.

Citation: Jacob SE and Admani S. iPad — increasing nickel exposure in children. *Pediatrics*. 2014 Aug 1; 134:e580

In this case study, a patient with atopic dermatitis presented with what seemed to be a different rash unresponsive to topical



Sean M. McNeeley, MD, is an urgent care practitioner and Network Medical Director at University Hospitals of Cleveland, home of the first fellowship in urgent care medicine. Dr. McNeeley is a founding board member of UCCOP and vice chair of the Board of Certification of Urgent Care Medicine. He also sits on the *JUCM* editorial board.

steroids. Skin testing revealed a nickel allergy. Nickel allergies from buttons, snaps, and jewelry are becoming more frequent. However, this patient's exposure was unusual. The family was noted to have a first-generation iPad that the patient used with just a cover and the iPad tested positive for nickel. Laptops also have been found culpable in nickel allergies.

From the acute care provider perspective, considering nickel allergy from computers and tablets may be helpful in diagnosis of an unusual rash. Because of the cost of computers and tablets, the authors suggest use of a case rather than a cover to avoid exposure. ■

The best first study for suspected nephrolithiasis

Key point: Consider ultrasound before CT for suspected kidney stone.

Citation: Smith-Bindman R, Aubin C, Bailitz A, et al. Ultrasonography versus computed tomography for suspected nephrolithiasis. *N Engl J Med*. 2014;371(12):1100-1110.

The authors of this study noted that there is some controversy as to the best first study to perform in patients with a suspected kidney stone. In this study, 2,759 patients were randomized to either bedside ultrasound, radiology-based ultrasound, or computed tomography (CT) scan. Once the test selected was performed, other necessary tests were up to a patient's provider to decide. Outcomes included serious adverse events and total radiation dose. Patients in each group were similar and to ensure that no late adverse outcome occurred, they were followed for 6 months.

Adverse outcomes included abdominal aortic aneurysm rupture, pneumonia with sepsis, appendicitis with rupture, diverticulitis with abscess or sepsis, bowel ischemia or rupture, pyelonephritis with urosepsis, aortic dissection with ischemia, and ovarian torsion. Outcomes were compared among the three groups (ultrasound, radiology-based ultrasound, and CT) and found to be similar. At first glance, this study may seem interesting to those of us who have the option of using ultrasound or CT, however, considering the severity of the adverse outcomes among the patients, further study is needed before ultrasound becomes the default first study for suspected nephrolithiasis. ■

Urine dipstick still a valuable test

Key point: Automated urinalysis machines perform well, but urine dipstick is still useful.

Citation: Kanegaye JT, Jacob M, Maliciki D, et al. Automated urinalysis and urine dipstick in the emergency evaluation of young febrile children. *Pediatrics*. 2014;134(3): 523-529.

The authors note that urinary tract infections are the most

common cause of fever in young infants. Although use of automated urinalysis machines has become more common, their application in children has not been well studied.

In this study, the researchers attempted to find a cutoff number for bacteria and white blood cells counts and compare the results of automated urinalysis with that for urine dipsticks. Patients younger than age 48 months who were seen in a pediatric emergency room with fever and from whom urine was taken via catheterization were enrolled in this study. Urine samples were evaluated by urine dipstick and with automated urinalysis and culture. Automated bacterial counts performed best, with sensitivity of 1.0 and specificity of 0.95 at 100/microliter. At 250/microliter, sensitivity and specificity were both 0.98. Dipstick urinalysis with 1+ leukocytes esterase (LE) and positive nitrate had similar sensitivity and specificity. As was the case in previous studies, LE had high sensitivity and nitrates had high specificity.

From an urgent care perspective, the old standard urine dipstick performs almost as well as the new machines. ■

Therapy for shoulder impingement syndrome

Key point: Injection and manual physical therapy appear to be equivalent for shoulder impingement syndrome.

Citation: Rhon DI, Boyles RB, Cleland JA. One-year outcome of subacromial corticosteroid injection compared with manual physical therapy for the management of the unilateral shoulder impingement syndrome. A pragmatic randomized trial. *Ann Intern Med*. 2014;161:161-169.

Both physical therapy and steroid injection are common treatments for shoulder impingement syndrome. The authors of this study compared the effectiveness of the treatments in a randomized single-blind manner. A total of 101 patients ages 18 to 64 were enrolled. Patients received either six manual physical therapy sessions or 40 mg triamcinolone. When evaluated by pain and function scores, the two groups were similar at 1 month and 1 year. Further study might focus on the question of whether having both types of treatment is an improvement over a singular modality.

From an urgent care perspective, this small study may be comforting to patients who can only receive one modality for shoulder impingement. ■

Jet injection vs standard needle infiltration for anesthesia

Key point: Jet injection may be better than standard needle infiltration for anesthesia in certain wounds.

Citation: Saghi B, Momeni M, Saeedi M, Ghane M. Efficacy of the jet injector in local anaesthesia for small wound sutures: A randomised clinical trial compared with the needle infiltration technique. *Emerg Med J*. 2014;Jul 22. pii: emermed-2013-203135.

The authors of this study compared jet injection and standard needle infiltration. A total of 53 patients were assigned to one or the other form of local anesthesia delivery and pain from anesthesia, pain during suturing, and time to anesthesia were measured. All of the wounds were facial and not grossly contaminated.

Pain rating during anesthesia was 4.4 for needles compared to 1.1 for the jet injector, however, it took longer to get adequate anesthesia in the jet injector group. Quality of anesthesia during suturing was similar in both groups.

From an urgent care perspective, this study is likely too small to be generalizable. The cost and availability of the injectors in the United States also were not considered because the research was performed in Iran. Further study may help identify the correct role for the jet injector. ■

Tips for the art of medicine

Key point: *Seven skills may improve the art of medicine.*

Citation: Egnew TR. The art of medicine: Seven skills that promote mastery. *Fam Pract Manag.* 2014;21(4):25-30.

This article is slightly different than the ones typically chosen for this column in that much attention to the science of medicine can be found and less information has been written about the art of medicine. The author mentions that despite all the advances in medicine, the interaction of the patient and provider still remains a keystone of medical care. Seven important behaviors are suggested, which seem to be applicable to urgent care as well primary care:

- Focus on the patient before entering the room.
- Establish a connection.
- Assess the patient's response to illness and suffering.
- Communicate to foster healing.
- Use the power of touch.
- Laugh a little.
- Show some empathy.

As acute care providers, our biggest challenge can be establishing trust in the brief encounters with new patients. These suggestions should help. ■

Rethinking visits for return-to-childcare notes

Key point: *Visits for return-to-childcare notes are an unnecessary burden on acute care providers and should be reconsidered by childcare facilities.*

Citation: Hashikawa AN, Brousseau DC, Singer DC, et al. Emergency department and urgent care for children excluded from child care. *Pediatrics.* 2014;134:e120.

The authors of this study looked at parents of children ages 0 to 5 who used childcare outside the home. This article focused on the answer to five questions related to childcare in a 51-question

“From an urgent care perspective, the old standard urine dipstick performs almost as well as the new machines.”

survey. The American Academy of Pediatrics (AAP) has national recommendations about when a child should be excluded from childcare. Overall 38% of parents in this study needed a note for either their employer or their childcare provider. Analysis of the results indicated that parents who needed a note sought care at a higher percentage and more frequently at an emergency room or urgent care center rather than their pediatrician's office. Although availability is an important selling point for urgent care centers, having to seek care just to get a note is a burden our over-taxed medical system should not have to bear.

For those of us in acute care, providing information for parents and childcare providers about the AAP's guidelines makes sense. That may lower the number of patients who present seeking a note rather than because of concern about their child's illness. ■

Chest compression in CPR

Key point: *Push hard and push deep is the best advice to follow in cardiac arrest, however, the best depth may be less than in the 2010 guidelines.*

Citation: Stiell IG, Brown SP, Nichol G, et al. What is the optimal chest compression depth during out-of-hospital cardiac arrest resuscitation of adult patients? *Circulation.* 2014 Sep 24. pii: CIRCULATIONAHA.114.008671. [Epub ahead of print]

It has been hypothesized that a minimum depth of 50 mm (2 inches) and no upper number limit is the best advice during outpatient CPR. This was updated with the 2010 CPR guidelines. The authors note that good quality CPR is an important link in the survival chain and hoped to better define optimal chest compression depth. This retrospective study looked at 9,136 treatment records for patients with out-of-hospital arrests and CPR. The authors found that a depth of 40 to 55 mm provided the maximal survival to discharge. They also noted improved survival as depth increased to the maximal survival depth.

For the urgent care provider, there are several points to take away from this study. Survival continues to be low (between 3% and 16%). Good quality CPR is a key to survival and optimal compression depth may be slightly less than suggested in the 2010 guidelines. ■



Revenue Per Patient, Prescription Drug Management for MDM, Medicare and HCPCS J3301 Denials

■ DAVID STERN, MD, CPC

Q. What is an acceptable income per patient visit for an urgent care clinic?

A. The recent benchmarking survey completed by the Urgent Care Association of America (UCAOA) found that the average urgent care center collects \$110 per patient. However, the “acceptable” net revenue per patient visit varies widely from center to center and state to state. It fluctuates based on many variables:

- Existing contracts from payors
- State (e.g., payors in California and Arizona typically have lower reimbursement fee schedules than most states)
- Percentage of Medicaid and Medicare patients
- Percentage of patients seen by midlevel providers (many payors pay a 15% or more discounted fee for midlevel providers)
- Acuity of patient visits
- Range of services offered. Examples of services that might be offered, but often are not, include:
 - Procedural sedation
 - IV hydration
 - Pre-packaged medications
 - Definitive treatment for fractures
 - Removal of rust rings from corneas
 - Tendon repairs

I know of one chain (with >10 centers in rural America) that uses only midlevel providers and performs their own billing



David E. Stern, MD is a certified professional coder and board certified in Internal Medicine. He was a Director on the founding Board of UCAOA and has received the organization's Lifetime Membership Award. He is CEO of Practice Velocity, LLC (www.practicevelocity.com), PV Billing and NMN Consulting, providers of software, billing and urgent care consulting services. Dr. Stern welcomes your questions about urgent care in general and about coding issues in particular.

“The ‘acceptable’ net revenue per patient visit varies widely from center to center and state to state. It fluctuates based on many variables.”

and is delighted with \$90 per visit. Although we find this to be lower than optimal (and they are making proper changes to get it to at least \$100 per visit), this group was at \$72 per visit when they began to make improvements in their revenue cycle management. Other clinics expect per-patient revenue to always be over \$140. That is definitely possible for some centers, but it is somewhat uncommon. ■

Q. When a provider writes a prescription, should we automatically assess a Moderate Medical Decision Making (MDM) Complexity?

A. There are three components to consider when calculating the final result of the complexity of MDM:

- Number of Diagnoses and/or Treatment Options
- Amount and/or Complexity of Data Reviewed
- Risk of Complications, Morbidity, and/or Mortality.

When reviewing the number of diagnoses and/or treatment options, you will consider the number and types of problems addressed, the complexity of establishing a diagnosis, and the management decisions that must be made by the physician. The initiation of, or changes in, treatment should be documented.

The amount and/or complexity of data to be reviewed are based on the types of diagnostic testing ordered or reviewed. The data could encompass old medical records, ordering and reviewing medical and lab tests, and discussing test results with the performing physician.

“Risk is only one of the three components used to determine the final level of MDM. You must review the data from all three components to determine the final MDM.”

The risk of complications, morbidity, and/or mortality is based on the risks associated with presenting problem(s), diagnostic procedure(s), and possible management options. The level of risk is calculated as Straight Forward, Low, Moderate, or High. CMS provides a Table of Risk that can be found at http://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNProducts/downloads/eval_mgmt_serv_guide-ICNo06764.pdf. I believe this is the area where the confusion lies. The provider gets credit for moderate risk if the medical record documentation shows he or she is either writing a new prescription for the patient or evaluating any current prescriptions, including determining whether the drug, dosage, and frequency are still appropriate for the patient's condition. However, risk is only one of the three components used to determine the final level of MDM. You must review the data from all three components to determine the final MDM. ■

Q. When we bill HCPCS code J3301 to Medicare, we cannot get it to pass through audits. We get a message stating that we need a different description. We have tried “Injection, triamcinolone acetate, not otherwise specified, 10 mg,” but this is not working. Do you have any suggestions?

A. HCPCS code J3301, “Injection, triamcinolone acetate, not otherwise specified, 10 mg” can be used for Kenalog-10, Kenalog-40, Tri-Kort, Kenaject-40, Cenacort A-40, Triam-A, and Trilog. You will want to check with your clearinghouse to see if they prefer to see the specific description.

You will also want to check your Local Determination Coverage (LCD) listings for any restrictions, such as the number of injections a patient will be covered for in a certain time period, or if there are specific diagnosis codes they will cover for an injection. ■

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Submissions on clinical or practice management topics, ranging in length from 2,500 to 3,500 words are welcome. The key requirement is that the article address a topic relevant to the real-world practice of medicine in the urgent care setting.

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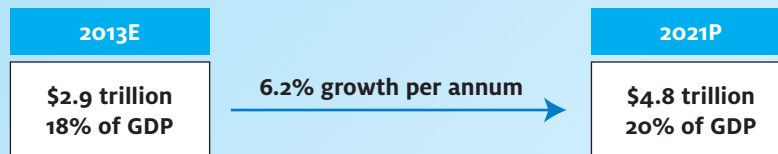


DEVELOPING DATA

Data from the Centers for Medicare and Medicaid Services and Aetna show that as the cost of health care treatment continues to rise, urgent care offers a compelling low-cost alternative for delivering care outside the hospital. By transitioning unnecessary emergency department visits to urgent care, \$18 billion in savings is projected to be possible.

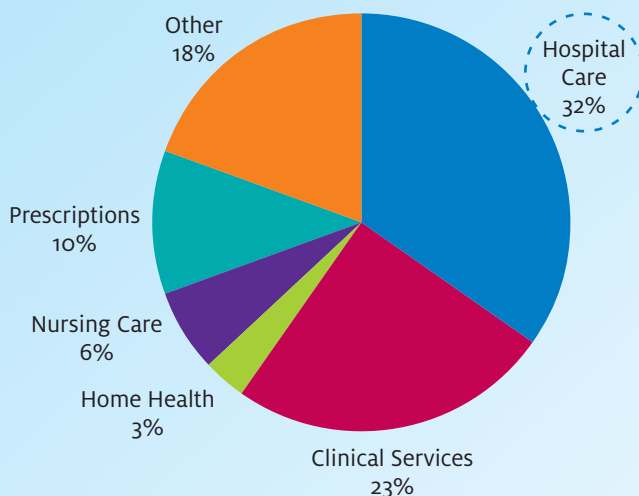
In this issue: Low-Cost Setting as a Driver of Urgent Care Industry Growth

Total U.S. spend on health care is expected to grow 6.2% annually, with 32% occurring in hospital settings

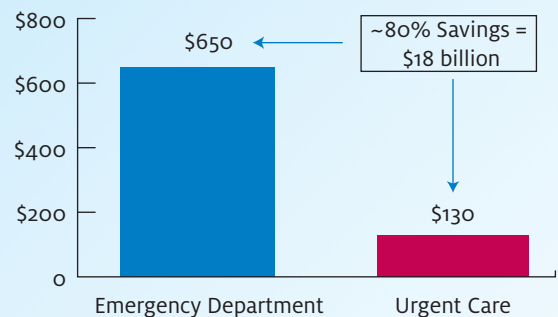


\$18 billion in potential savings by transitioning unnecessary emergency department visits to urgent care.

U.S. Health Care Expenditures
For the Year Ending December 31, 2013E



Urgent Care Cost Savings vs. Emergency Department
For the Year Ending December 31, 2012
(\$ in actuals)



Reprinted from the Harris Williams & Co Urgent Care Industry Overview, September 2013, with permission from the Healthcare Life Sciences (HCLS) Group at Harris Williams & Co. Data Sources Centers for Medicare and Medicaid Services and Aetna.



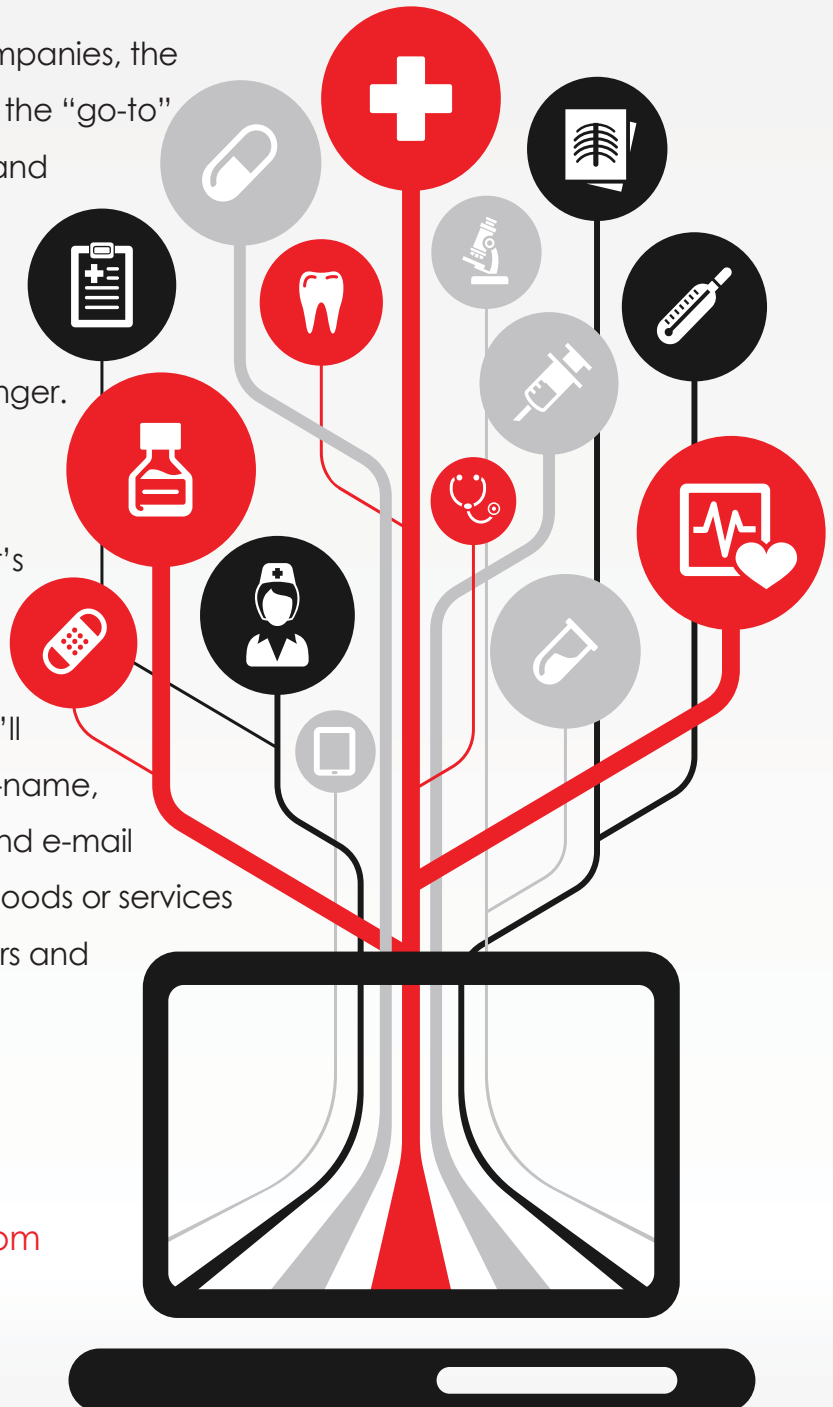
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