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IN THIS ISSUE

Assessing Patients in the Wake of Motor Vehicle Accidents

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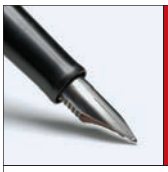

LETTER FROM THE EDITOR-IN-CHIEF

H1N1: The Sequel

Unless you have spent the entire summer on *Gilligan's Island*, I assume everyone remains attuned to the daily reports on H1N1 streaming from *every which way but loose*.

While the prevailing opinion is that the flu season will be *Superbad*, it remains difficult to predict how things will play out. We will be dedicating the October issue of *JUCM* to pandemic flu planning, though given the likelihood of an early spike of flu, there are some critical areas of planning that shouldn't wait until next month.

Preparedness is always based on an unknown, and is inevitably imperfect. What if I over-prepare; how many resources will I invest that may never get used? What if I under-prepare; what is the cost of being caught off-guard?

Rather than making the common mistake of allowing uncertainty to paralyze us from taking any action at all, let's discuss a few key points to remember as we enter the season:

- First: Before all else, establish a task force, led by one "general" to keep your plan organized and focused.
- Second: Research. Before you can establish a plan, you need the latest information
- Third: Be flexible. The "latest" information is guaranteed to be fluid. Any plan should be flexible enough to change in light of news from the battlefront and the "intelligence" from central command
- Fourth: Don't be trigger happy. Despite the urge to change your plan based on evolving information, it is prudent to not overreact to every bit of news. Let your general evaluate whether new information is actionable or whether it is wiser to "wait and see."

  During the initial H1N1 outbreak, the experts at central command (CDC), changed their recommendations several times a day in the first few weeks. This created significant headaches for the general public and healthcare community alike: test/don't test; treat/don't treat; close/don't close; mask/don't mask. In hindsight, perhaps we needed to be more patient before declaring the battle plan.
- Fifth: Understand the difference between "public health" and "patient care." The CDC must plan according to the overall public good. Their job is to ensure against panic, to track movement, and to conserve resources. The information that flows from central command is meant to maintain control. It is not meant to represent the gospel for treating the patient that sits before you. Just like all clinical guidelines, it must be evaluated in the context of how it meets the needs of your patient, and your community.
- Sixth: Call or meet with your local health department *now*. Do not wait until they are knee deep in a crisis. They will not be able to help as much then as they can now. Let them know you are an important front-line resource. Offer your services as part of the solution, whether it be for a mass vaccination plan, or for the evaluation, management, and triage of the sick and worried well.

  Urgent care is the perfect setting to handle a flu pandemic. We can de-burden an overstressed emergency department, and mitigate exposure of the healthy and chronically ill in the primary care office.
- Seventh: Meet with local hospitals to confirm understanding of admission criteria. If you have a patient that needs admission, and the hospital has a bed, you should arrange for a pathway for direct admission. These patients should not go to an ED unless they are in need of stabilization.
- Eighth: Meet regularly with all the key players in your plan and to assess its effectiveness.

Finally, even if you over-prepare, the exercise in preparedness is important. A crisis looms somewhere; now is as good a time as any to plan your response.

Once I knew what was coming, Freddy Krueger wasn't half as scary in *Nightmare on Elm Street Part 2*. ■

Lee A. Resnick, MD
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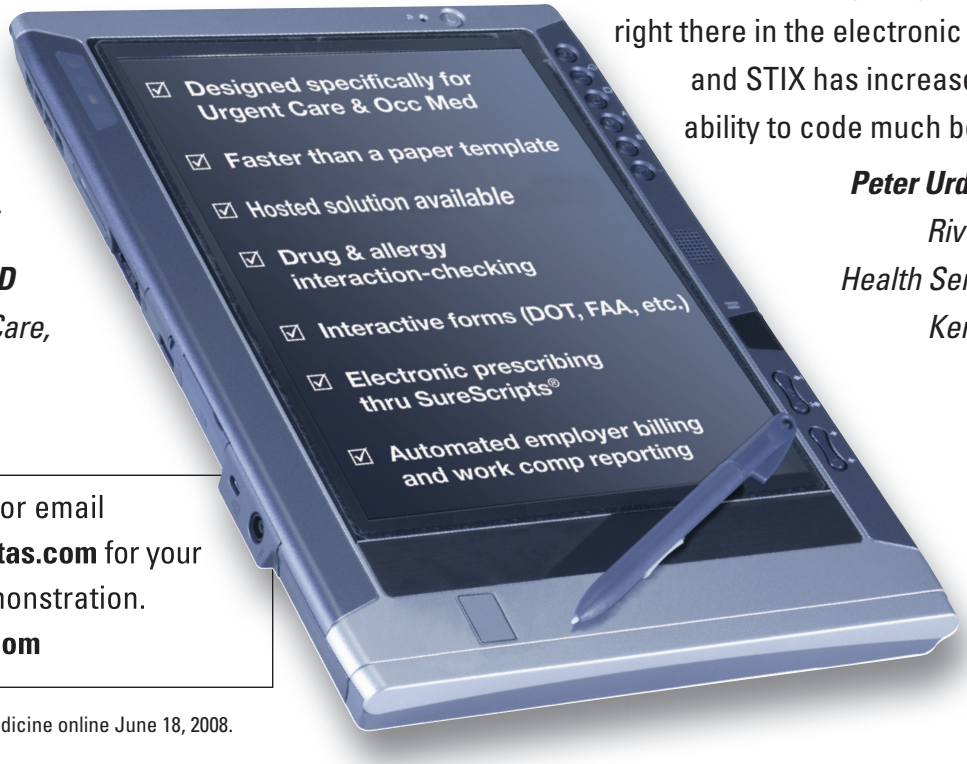

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* New England Journal of Medicine online June 18, 2008.

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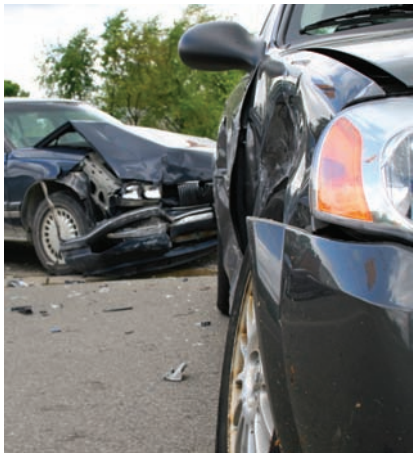

CLINICAL

11 Assessing Patients in the Wake of Motor Vehicle Accidents

Patients who opt for urgent care over the ED after a car accident have concluded that their injuries are not life-threatening. The practitioner does not have the luxury of taking that conclusion at face value, however. A review of key assessments and considerations.

By Gloria I. Kim, MD and Jill C. Miller, MD

BOUNCEBACKS

20 The Case of a 53-Year-Old Female with Headache and Eye Pain

"Take two aspirin and call me in the morning" is a dangerous perspective for the urgent care clinician faced with a patient whose primary complaint is a headache. As common as this complaint is, the array of life-threatening etiologies demands due diligence, especially in bounceback patients.

By Jill C. Miller, MD and Michael B. Weinstock, MD

IN THE NEXT ISSUE OF *JUCM*

With the mainstream media stoking fears of a swine flu pandemic among the public, the urgent care clinician can expect to be called upon to distinguish H1N1 from the common variety cold and seasonal influenza-like conditions.

WEB EXCLUSIVE

Managing Employee Performance: A Path to Clinical and Business Excellence

In a perfect world, all staff members would be fully engaged in their jobs and invested in their workplace in ways that go far beyond a paycheck. How can you, in your role as a manager, inspire employees who are doing the job but not much more, or help high-performing workers reach an even higher level?

By Marty Martin, PsyD, MPH, MA

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Mission Statement

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, *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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JUCM CONTRIBUTORS

Patients who present to urgent care after a car accident have probably uttered the phrase "just in case" several times between impacting the curb/lamppost/other car and walking through your door—as in, "I don't think I need to go to the emergency room, but I'll go to urgent care just in case." You, the clinician, don't have the luxury of presuming any possible injuries will be minor or self-limiting, however.

And therein lies one of the most significant challenges. How do you assess for serious injury (or even employ the appropriate diagnostic tools) when the patient may not report or even yet be aware of significant symptoms?

"Vigilance" and focused probing are the answers offered in Assessing Patients in the Wake of Motor Vehicle Accidents (page 11) by **Gloria I. Kim, MD** and **Jill C. Miller, MD**.

Dr. Kim is a family medicine physician who has just completed an urgent care fellowship at Case Western Reserve University in Cleveland, OH.

Dr. Miller is senior clinical instructor at Case Western Reserve University School of Medicine and is board certified in internal medicine. She practices urgent care with University Hospitals Medical Practices in Cleveland, OH. She is also co-contributor of Bouncebacks, which appears semi-monthly in *JUCM*.

As it happens, this issue also features a new Bouncebacks article. In The Case of a 53-Year-Old Female with Headache and Eye Pain (page 20), Dr. Miller and Michael Weinstock, MD review the myriad of etiologies that need to be considered when a patient presents with "just a headache." Starting with the more dire possibilities and working your way down is especially important in the case of a bounceback patient.

Dr. Weinstock is clinical assistant professor of emergency medicine at The Ohio State University School of Medicine, as well as a practitioner in the Mt. Carmel St. Ann's Emergency Department in Columbus, OH.

Also in this issue:

Nahum Kovalski, BSc, MDCM reviews abstracts covering new recommendations for H1N1 vaccination, the potential of dexamethasone for treating migraine, the utility of CT scans in head-injured children, and informing patients of abnormal test results.

John Shufeldt, MD, JD, MBA, FACEP offers insight into what red flags might lurk beneath the resume of that promising A-list physician applicant.

Frank Leone, MBA, MPH looks at ways to market your urgent care occupational medicine program without breaking the bank.

Finally, in our monthly web-only bonus article, **Marty Martin, PsyD, MPH, MA** shares his expertise on managing staff to facilitate optimal performance. Managing Employee Performance: A Path to Clinical and Business Excellence is available exclusively at *www.jucm.com*.

Dr. Martin may be familiar to attendees of UCAOA's 2009 National Urgent Care Convention in Las Vegas, where he delivered a well-received lecture on managing employee performance. He is a licensed clinical health psychologist and former human resources executive at organizations such as The Johns Hopkins Health System and Tulane Hospital & Clinics. Currently, he is director and associate professor at DePaul University, as well as an owner of an integrative medicine center and a behavioral medicine sleep specialist.

We've been fortunate in having so many leaders in their respective fields devote their time and expertise to writing articles for *JUCM*. There's always room for more, however. If you have an idea for an article, describe it in an e-mail to Editor-in-Chief **Lee A. Resnick, MD** at *editor@jucm.com*. No topic is too big or too small. ■

To Submit an Article to *JUCM*

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.

Manuscripts on clinical or practice management topics should be 2,600–3,200 words in length, plus tables, figures, pictures, and references.

We prefer submissions by e-mail, sent as Word file attachments (with tables created in Word, in multicolumn format) to *editor@jucm.com*. The first page should include the title of the article, author names in the order they are to appear, and the name, address, and contact information (mailing address, phone, fax, e-mail) for each author.

Before submitting, we recommend reading "Instructions for Authors," available at *www.jucm.com*.

To Find Urgent Care Job Listings

If you would like to find out about job openings in the field of urgent care, or would like to place a job listing, log on to *www.jucm.com* and click on "Urgent Care Job Search."

Call for Articles

JUCM, the Official Publication of the Urgent Care Association of America, is looking for a few good authors.

Physicians, physician assistants, and nurse practitioners, whether practicing in an urgent care, primary care, hospital, or office environment, are invited to submit a review article or original research for publication in a forthcoming issue.

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.

Please e-mail your idea to
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Lee Resnick, MD at
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He will be happy to discuss it with you.

This Field is *Your* Field

LOU ELLEN HORWITZ, MA

Until recently, I'd never written a letter to my Congressman. The legislative system is not only complex, it seems impenetrable to an outsider, and one letter seems like a waste of time. I was not born a political activist.

And yet, in July, UCAOA's president, Dr. Don Dillahunty, and I authored several *hundred* letters to Senators, Representatives, heads of the house of medicine, CEOs and directors of organizations who are key players in the healthcare reform discussions currently underway across the nation.

Several things changed my mind about letter-writing—and I hope the lessons I have learned will have resonance with you in the way you run your clinics.

This land is your land, this land is my land...

As complex as governmental operations are, to remain silent on what they are doing is to abdicate our role as citizens—both individually and corporately. As the Urgent Care Association of America, the least we can do is to speak up on your behalf, whether it is in our traditional "comfort zone" or not.

From California, to the New York island...

Urgent care *is* a critical component in healthcare delivery—and while we have some awareness issues (or our letter wouldn't be necessary), it is extremely important that those who make our policy understand that.

One by one, in every state in America, urgent care centers are open and seeing hundreds of thousands of patients every week. Old, young, insured, self-pay, locals, travelers—you are taking care of them.

From the redwood forest, to the Gulf stream waters,

Lou Ellen Horwitz is executive director of the Urgent Care Association of America. She may be contacted at *lhorwitz@ucaoa.org*.

"It's hard to educate people about when they should come to see us. But that doesn't mean we shouldn't try."

My third reason doesn't fit as nicely into Woody Guthrie's lyrics (and it's a really long song, so that's probably for the best). The third reason is I believe that often what you put out into the universe is what comes back to you. So if we are negligent in speaking up in our professional environment, how could we wonder if we don't hear from our own members on issues in *their* professional environment? You constantly hear me saying "we want to hear from you," so it's time I practiced what I preach.

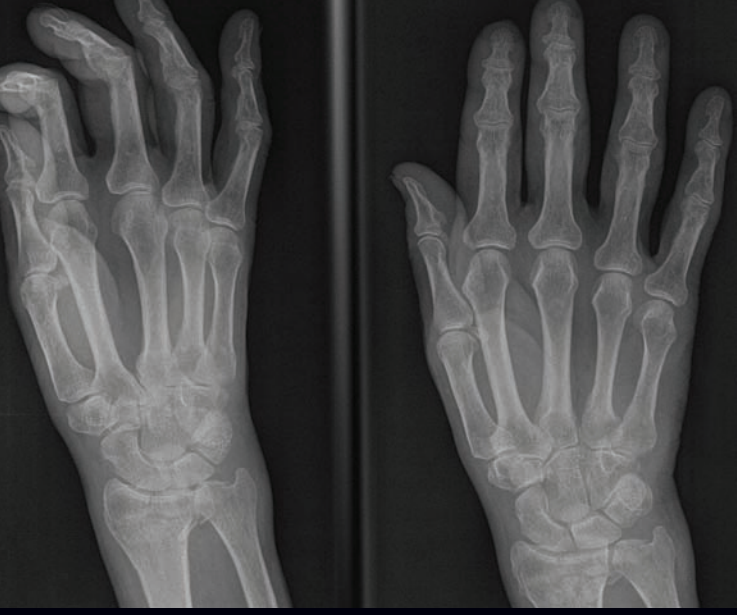
This land was made for you and me.

Here's where it comes back to your clinic. It's all connected. I want Congress to listen to us, you want me to listen to you, and your patients want you to listen to them.

Just as government appears impenetrable to me, patients feel the same way about healthcare. They don't understand with any certainty when they should go to the ED vs. urgent care. They don't know how their bill is determined, and why you can't tell them what something will cost. They don't really know how their insurance works. And yet they are being asked to play an increasingly active role in their own care.

The more we can do to simplify access to urgent care, the better. It's not enough just being there with the doors open—though that's important. Access is more than availability. It's easy to get your Congressman's mailing address, phone number, or e-mail; it's much harder to make that contact make a difference.

It's easy (okay, maybe not easy!) to open an urgent care center in 8,000 locations across the U.S.; it's much harder to educate approximately 307,000,000 people in the U.S. about when then should come see us. But that doesn't mean we shouldn't try. ■



Share Your Insights

At its core, ***JUCM***, *The Journal of Urgent Care Medicine* is a forum for the exchange of ideas and a vehicle to expand on the core competencies of urgent care medicine.

Nothing supports this goal more than **Insights in Images**, where urgent care practitioners can share the details of actual cases, as well as their expertise in resolving those cases. After all, in the words of UCAOA Executive Director Lou Ellen Horwitz, everyday clinical practice is where "the rubber meets the road."

Physicians, physician assistants, and nurse practitioners are invited to submit cases, including x-rays, EKGs, or photographic displays relating to an interesting case encountered in the urgent care environment. Submissions should follow the format presented on the preceding pages.

If you have an interesting case to share, please e-mail the relevant images and clinical information to *editor@jucm.com*. We will credit all whose submissions are accepted for publication.

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Assessing Patients in the Wake of Motor Vehicle Accidents

Urgent message: Patients presenting to urgent care in the wake of a motor vehicle accident have self-selected their treatment setting. However, it is imperative to maintain vigilance for potentially serious and even life-threatening injuries that may not be apparent.

Gloria I. Kim, MD and Jill C. Miller, MD

According to the National Center for Health Statistics, motor vehicle accidents (MVAs) accounted for nearly 5 million ED visits in 2006. The diverse injuries may be temporary, debilitating, or life-threatening (**Table 1**).

© iStockPhoto.com/Frances Twitty

In the urgent care setting, most victims of MVAs present on their own, sometimes even several days after the accident. Thus, our patients tend to be victims of low-speed, low-impact accidents who have presumed their injuries to be minor; however, this may not always be the case. It is vital that we not be lulled into a false sense of security; nor should we rush to expensive, in-depth radiological work-ups.

This article will summarize an urgent care approach to chief complaints in patients who present to the urgent care center after a motor vehicle accident.

Chief Complaint and History of Present Illness

It is essential to have your patients describe the details of the accident in depth. This is an important part of the evaluation, as it provides a context for their physical complaints and may give clues to the correct diagnosis. Some important questions to ask are:

- Was the patient the driver or a passenger?
  - If a passenger, in the front or back seat?
- What was the nature of the accident (e.g., head-on collision, rear-ended, rollover)?
- Was the patient wearing a seatbelt?
- Were the airbags deployed?
- How fast were they and the other car driving?
- Was there passenger space intrusion?
- Did the steering wheel collapse?
- Was the windshield broken?
- When did the accident occur?

Obviously, our threshold for ordering more extensive studies or referring our patients to the emergency room for further evaluation would be lowered in those describing a high-speed, high-impact accident with extensive damage to the vehicles. Furthermore, some complaints are more high risk than others and should prompt us to approach them thoroughly and carefully.

Table 1. Common MVA Injuries

Face and head	Scrape, bruise, laceration, fracture, temporomandibular joint injury, dental injury
Brain	Concussion, post-concussion syndrome, closed head or traumatic brain injury
Neck	Sprain, strain, whiplash, fracture, cervical radiculopathy, disc injury
Shoulder and arm	Laceration, sprain, strain, fracture, dislocation, rotator cuff injury
Back	Sprain, strain, fracture, disc injury, lumbar radiculopathy
Leg, knee, foot	Laceration, sprain, strain, fracture, dislocation, ligament injury
Psychological	Post-traumatic stress disorder, acute stress reaction

Source: *www.all-about-car-accidents.com/car-accident-injuries.html*.

Headache

Post-traumatic headaches are estimated to occur in 25% to 78% of patients with a mild traumatic brain injury (TBI); in the United States, 45% of TBIs are caused by MVAs.[1,2] The differential diagnoses of these headaches range from benign etiologies such as post-concussive syndromes, tension, or migraine, to more serious and potentially life-threatening ones such as epidural hematomas, subdural hematomas, or injuries of the carotid or vertebral arteries.

It is incumbent upon us to seek out details that may cause concern in the history and exam.

The post-MVA headaches that we see most commonly in the urgent care center are tension headaches, which can be related to simple cervical strains. Often, these present as a persistent throbbing headache; unfortunately, this is nonspecific and does not rule out a more serious cause which can present in a delayed fashion. Therefore, the examiner should look for concerning physical signs, such as extensive bruising and hematomas of the scalp, as well as a hematoma or bruit over the lateral neck.

Epidural hematomas

Epidural hematomas present in 5% to 10% of patients with severe head injuries. A brief loss of consciousness at the time of the accident or an alteration in behavior may be the only clue to an epidural or subdural hematoma. Other signs and symptoms, such as headache, dizziness, unsteady gait, lack of awareness of surroundings, nausea, and vomiting may develop gradually.

The classic presentation is a patient who loses consciousness from the initial concussion, gradually recovers over a few minutes, and enters the "lucid interval" where they may be neurologically intact. Accumulation of blood from the lacerated artery may compress the brain and cause a shift, leading to a declining level of consciousness and eventually a second loss of consciousness with herniation and death. There can be a very short window of opportunity to intervene; this is considered a true emergency.

Subdural hematomas

Subdural hematomas may be acute, subacute (six to 20 days after trauma), or chronic (>20 days after trauma). The patterns vary, but most patients present with headache, a decreased level of consciousness, or focal neurological deficits. The initial injury may cause a small amount of bleeding and go unnoticed. If sufficient further bleeding occurs, intracranial pressure may rise and cause herniation.

Subacute or chronic hematomas may be difficult to diagnose, as the symptoms may be non-specific, such as headache, irritability, poor balance, and concentration. On occasion, the patient may not recall the trauma or associate it with the current symptoms.

Post-concussive syndrome

Post-concussive syndrome is a common sequela to traumatic head injuries, and may present with headaches, dizziness, inability to concentrate, or irritability that may persist for several weeks following the injury. This can be a diagnosis of exclusion, as these patients may need neuroimaging and further testing initially to rule out intracranial bleeding. Treatment is supportive with reassurance and education.

Assessment and discharge

Since recognizing the patients who are at risk for life-threatening or chronic injuries may be challenging, guidelines have been established on who requires imaging. One of these is the Canadian head CT rule described in **Table 2**.

When outpatient observation is appropriate, the pa-

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References: 1. MOXATAG Prescribing Information. MiddleBrook Pharmaceuticals, Inc. 2008. **2.** Kardas P. Patient compliance with antibiotic treatment for respiratory tract infections. *J Antimicrob Chemother.* 2002;49(6):897-903. **3.** Sclar DA, Tartaglione TA, Fine MJ. Overview of issues related to medical compliance with implications for the outpatient management of infectious diseases. *Infect Agents Dis.* 1994;3(5):266-273.

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To reduce the development of drug-resistant bacteria and maintain the effectiveness of MOXATAG and other antibacterial drugs, MOXATAG should be used only to treat or prevent infections that are proven or strongly suspected to be caused by susceptible bacteria.

DOSAGE AND ADMINISTRATION

The recommended dose of MOXATAG is 775 mg once daily taken within 1 hour of finishing a meal for 10 days. MOXATAG should be taken approximately the same time every day. The full 10-day course of therapy should be completed for effective treatment of tonsillitis and/or pharyngitis secondary to *S. pyogenes*.

Do not chew or crush tablet.

CONTRAINDICATIONS

MOXATAG is contraindicated in patients with known serious hypersensitivity to amoxicillin or to other drugs in the same class or patients who have demonstrated anaphylactic reactions to beta-lactams.

WARNINGS AND PRECAUTIONS

Anaphylaxis and Hypersensitivity Reactions

Serious and occasionally fatal hypersensitivity (anaphylactic) reactions have been reported in patients on penicillin therapy. Although anaphylaxis is more frequent following parenteral therapy, it has occurred in patients on oral penicillins. These reactions are more likely to occur in individuals with a history of penicillin hypersensitivity and/or a history of sensitivity to multiple allergens. There have been reports of individuals with a history of penicillin hypersensitivity who have experienced severe reactions when treated with cephalosporins. Before initiating therapy with MOXATAG, careful inquiry should be made concerning previous hypersensitivity reactions to penicillins, cephalosporins, or other allergens. If an allergic reaction occurs, MOXATAG should be discontinued and appropriate therapy instituted.

***Clostridium difficile* Associated Diarrhea (CDAD)**

Clostridium difficile Associated Diarrhea (CDAD) has been reported with nearly all antibacterial agents, including amoxicillin, and may range in severity from mild diarrhea to fatal colitis. Treatment with antibacterial agents alters the normal flora of the colon leading to overgrowth of *C. difficile*.

CDAD must be considered in all patients who present with diarrhea following antibiotic use. Careful medical history is necessary since CDAD has been reported to occur over two months after the administration of antibacterial agents.

If CDAD is suspected or confirmed, ongoing antibiotic use not directed against *C. difficile* may need to be discontinued.

Superinfections

The possibility of superinfections with mycotic or bacterial pathogens should be kept in mind during therapy. If superinfections occur, amoxicillin should be discontinued and appropriate therapy instituted.

Mononucleosis Rash

A high percentage of patients with mononucleosis who receive ampicillin develop an erythematous skin rash. Thus, ampicillin-class antibiotics should not be administered to patients with mononucleosis.

Development of Drug-Resistant Bacteria

Prescribing amoxicillin in the absence of proven or strongly suspected bacterial infection or treating prophylactically is unlikely to provide benefit to the patient and increases the risk of the development of drug-resistant bacteria.

False-Positive Urinary Glucose Tests

High urine concentrations of ampicillin may result in false-positive reactions when testing for the presence of glucose in urine using Clinitest®, Benedict's Solution or Fehling's Solution. Since this effect may also occur with amoxicillin, it is recommended that glucose tests based on enzymatic glucose oxidase reactions (such as Clinistix®) be used.

ADVERSE REACTIONS

In a controlled Phase 3 trial, 302 adult and pediatric patients (≥12 years) were treated with MOXATAG 775 mg once-daily for 10 days. The most frequently reported adverse reactions (>1%) which were suspected or probably drug-related are vaginal yeast infection (2.0%), diarrhea (1.7%), nausea (1.3%) and headache (1.0%).

DRUG INTERACTIONS

Probenecid

Probenecid decreases the renal tubular secretion of amoxicillin. Concurrent use of MOXATAG and probenecid may result in increased and prolonged blood levels of amoxicillin.

Other Antibiotics

Chloramphenicol, macrolides, sulfonamides, and tetracyclines may interfere with the bacterial effects of penicillin. This has been demonstrated *in vitro*; however, the clinical significance of this interaction is not well documented.

Oral Contraceptives

As with other antibiotics, amoxicillin may affect the gut flora, leading to lower estrogen reabsorption and potentially resulting in reduced efficacy of combined oral estrogen/progesterone contraceptives.

USE IN SPECIFIC POPULATIONS

Pregnancy: Teratogenic Effects. Pregnancy Category B.

Reproduction studies have been performed in mice and rats at doses up to 2000 mg/kg (12.5 and 25 times the human dose in mg/m^2) and have revealed no evidence of impaired fertility or harm to the fetus due to amoxicillin. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

Labor and Delivery

It is not known whether use of amoxicillin in humans during labor or delivery has immediate or delayed adverse effects on the fetus, prolongs the duration of labor, or increases the likelihood that forceps delivery or other obstetrical intervention or resuscitation of the newborn will be necessary.

Nursing Mothers

Penicillins have been shown to be excreted in human milk. Amoxicillin use by nursing mothers may lead to sensitization of infants. Caution should be exercised when amoxicillin is administered to a nursing woman.

Pediatric Use

The safety and effectiveness of MOXATAG in pediatric patients 12 years of age and older have been established based on results of a clinical trial that included adults and pediatric patients (12 years or older). The safety and effectiveness of MOXATAG in pediatric patients younger than 12 years has not been established.

Geriatric Use

This drug is known to be substantially excreted by the kidney, and the risk of adverse reactions to this drug may be greater in patients with impaired renal function. Because elderly patients are more likely to have decreased renal function, care should be taken in dose selection, and it may be useful to monitor renal function.

Renal Impairment

MOXATAG has not been studied in patients with renal impairment; however, a reduction of amoxicillin dose is generally recommended for patients with severe renal impairment. Therefore, MOXATAG is not recommended for use in patients with severe renal impairment (CrCl <30 mL/min) or patients on hemodialysis.

OVERDOSAGE

In case of overdose, discontinue medication, treat symptomatically, and institute supportive measures as required. If the overdose is very recent and there is no contraindication, an attempt at emesis or other means of removal of drug from the stomach may be performed.

Interstitial nephritis resulting in oliguric renal failure has been reported in a small number of patients after overdosage with amoxicillin.

Crystalluria, in some cases leading to renal failure, has also been reported after amoxicillin overdosage in adult and pediatric patients.

Renal impairment appears to be reversible with cessation of drug administration. High blood levels may occur more readily in patients with impaired renal function because of decreased renal clearance of amoxicillin.

For additional information about overdose treatment, call a poison control center (1-800-222-1222).

HOW SUPPLIED/STORAGE AND HANDLING

MOXATAG tablets for oral administration are provided as blue film-coated, oval-shaped tablets that contain 775 mg of amoxicillin. The tablets are printed with "MB-111" on one side in black edible ink. MOXATAG is packaged in bottles as follows:

Presentation	NDC Code
Bottles of 30	11042-142-03

Storage

Store at 25º C (77º F); excursions permitted to 15–30º C (59–86º F) [See USP Controlled Room Temperature.]

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Issue Date 02/2009
910-0209-0075

tient should be sent home with a caregiver and explicit instructions provided. Medical help should be sought immediately if any of the following occurs:

- Inability to wake the patient
- Severe or worsening headache
- Somnolence or confusion
- Restlessness or seizures
- Changes in vision
- Vomiting, fever or stiff neck
- Weakness or numbness

Neck Pain

A detailed history and physical, as well as consideration of radiography, are essential in the evaluation of the patient with posttraumatic neck pain. Such a patient should be observed for movement and resting posture of the head and neck.

It is important to palpate the trapezius and paraspinal muscles to assess for tenderness and muscle spasms, and each spinous process should be palpated individually down the cervical spine for point tenderness.

Cervical range of motion is an important, objective observation that should be recorded. It appears to be an important predictor of outcome in patients with whiplash injury, as well as a useful tool in measuring subsequent recovery.[3]

Normally, the cervical spine can rotate an average of 90°, bend an average of 45° laterally, forward flex to 60°, and extend backwards 75°.

The most common injury seen in patients who present to urgent care with neck pain after an MVA is a self-limiting myofascial strain. Cervical strain—frequently referred to as whiplash—occurs with the abrupt flexion/extension movement of the cervical spine. Abrupt movement from one side to the other and rotational trauma can be involved.

Symptoms include pain, spasm, loss of range of motion, and, often, an occipital headache. The pain is usually midline or paraspinous, and may be referred to the shoulders, periscapular region, or occiput.

One should always be concerned about missing an injury to the vertebral column or the spinal cord. In a patient with severe pain, restricted range of motion, or radicular symptoms, consideration should be given for advanced imaging, as plain films are often inadequate to answer the question at hand. When there is a concern for bony abnormalities without cord injury, CT scanning is often preferred. When there is concern for cord injury because of signs and symptoms such as bilateral paresis or paresthesia, MRI is often preferred.

A negative neurological examination indicates a low likelihood of significant neurologic injury, but the history, physical, and plain films are not sensitive enough to rule out a potentially unstable injury when the index of suspi-

Table 2. Canadian CT Head Rule

Head CT is required for patients according to the risk categories below.

High risk (for neurological intervention)
- Glasgow Coma Scale (GCS) score <15 at 2 hours post injury
- Suspected open or depressed skull fracture
- Any sign of basal skull fracture*
- ≥2 episodes vomiting
- Age ≥65 years

Medium risk (for brain injury on CT)
- Amnesia before impact ≥30 minutes
- Dangerous mechanism†

Rule is *not* applicable if:
- non-trauma case
- GCS <13
- age <16 years
- coumadin or bleeding disorder
- obvious open skull fracture

*Signs of basal skull fracture = hemotympanum, "raccoon" eyes, CSF otorrhea/rhinorrhea, Bettle's sign
†Dangerous mechanism = pedestrian struck by vehicle, occupant ejected from motor vehicle, fall from elevation ≥3 feet or 5 stairs

Note that patients with neurologic deficit, seizure, presence of bleeding diathesis, or oral anticoagulant use were excluded in the population in which these criteria were originally developed and tested. The presence of any of these may also be an indication for head CT.

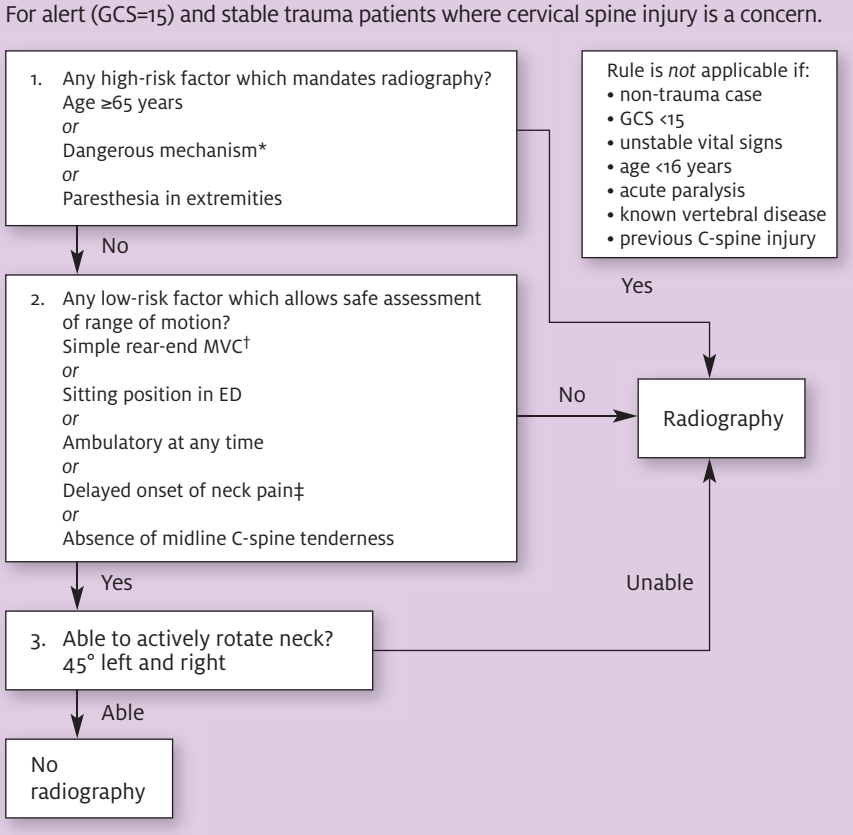
Source: Stiell IG, Wells GA, Vandemheen K, et al. The Canadian CT head rule for patients with minor head injury. *Lancet*. 2001;357:1391-1396.

Table 3. NEXUS Low-Risk Criteria

Radiography is unnecessary in patients meeting *all five* of the following criteria:

1. Absence of posterior midline cervical tenderness
2. Normal level of alertness
   - Altered level of consciousness is defined as:
     - GCS score <15
     - disorientation to person, place, time, or events
     - inability to remember three objects at five minutes.
     - delayed or inappropriate response to external stimuli
3. No evidence of intoxication
4. No abnormal neurologic findings
5. No painful distracting injuries
   - Painful distracting injuries include:
     - long bone fractures
     - visceral injury requiring surgical consultation
     - crush injuries
     - large lacerations or burns
     - any injury that has the potential to impair the patient's ability to appreciate other injuries

Figure 1. Canadian C-spine (CCS) rule.



*Dangerous mechanism = fall from elevation ≥3 feet or 5 stairs; axial load to head (e.g., diving); high-speed MVA (>62 mph), rollover, ejection; motorized recreational vehicles; bicycle struck or collision.
†Simple rear-end MVA excludes = pushed into oncoming traffic; hit by bus/large truck; rollover; hit by high-speed vehicle.
‡Delayed = not immediate onset of neck pain.

Source: Stiell IG, Clement CM, McKnight RD, et al. *N Engl J Med.* 2003;25;349(26):2510-2518.

cion is high. This may, of course, require transfer to an ED.

Clinical decision rules

Two clinical decision rules, the NEXUS Low-risk Criteria (NLC) and the Canadian C-Spine Rule (CCS), have been well validated to help determine the need for cervical spine imaging.

The NLC (**Table 3**) states that radiography is unnecessary in patients who demonstrate all five characteristics spelled out in the rule. The NLC's sensitivity and specificity was found to be 99.6% (95% CI 98.6-100) and 12.9% (95% CI 12.8-13.0),[5] respectively.

The CCS (**Figure 1**) identifies patients who are in need of radiography. Its sensitivity was found to be 99.4% (95% CI 96-100) and its specificity 45.1% (95% CI 44-46).[6]

Chest Pain and Blunt Chest Trauma

The chest houses multiple organs that are at risk for many serious injuries. Direct trauma, rapid deceleration, and other mechanisms may lead to chest wall injuries, including rib fractures, cardiovascular contusion, aortic injury, pulmonary contusions, lacerations, or pneumothorax.

Risk factors for severe thoracic injury include high speed, no seat belt use, extensive vehicular damage, and steering wheel deformity. Inquiring about contact with the steering wheel, chest pain, palpitations, or trouble breathing is also important to the history. A complete visual inspection should be done, looking for a paradoxical movement of the chest wall, and identifying all wounds on the chest and back. The exact location, appearance, number, and type of wounds should be noted and well documented.

Auscultation for absent or diminished breath sounds may indicate a pneumothorax or hemothorax.

Palpation of the chest wall should be done carefully, feeling for subcutaneous emphysema or bony crepitus.

An electrocardiogram should be performed in all patients with anterior chest trauma, pain and tenderness directly over the mid-anterior chest, and in those patients with a history or active signs and symptoms suggestive of cardiac disease, as well as in the elderly. Findings concerning for cardiac contusion include unexplained persistent tachycardia, new bundle branch block (with right BBB being the most common), or dysrhythmia. These patients should be admitted for cardiac monitoring.

Life-threatening injuries

While most patients with blunt cardiac and pulmonary injury will die in the field, some life-threatening injuries, such as transection of the aorta, may have a delayed presentation.

Patients with a history of a rapid deceleration injury should be evaluated with a chest x-ray and possibly a chest CT, especially if the patient has persistent pain or dyspnea. In patients who appear clinically stable without a concerning mechanism of injury, further evaluation may not be necessary, with the exception of obtaining an ECG.

However, if the symptoms are severe or if there are worrisome findings on the chest x-ray, such as multiple rib fractures, hemo-pneumothorax, pulmonary contusion, or a wide mediastinum, the patient should be transferred to the ED for further evaluation.

Typically non life-threatening injuries

More common injuries in the ambulatory MVA patient are chest contusions, rib fractures, and occasionally a pneumothorax. A study done on alert blunt trauma patients presenting to the ED found that multiple rib fractures (> two ribs) was the most common serious thoracic injury, occurring in approximately 5% of patients.[7]

Multiple rib fractures can be a predictor of more serious injuries. Specifically, patients with pain of the lower ribs with pleuritic complaints *and* abdominal pain are at higher risk for both significant intra-thoracic and intra-abdominal injuries.[8] These patients should be assessed for hypoxia, tachypnea, abnormal lung sounds, and discomfort on the abdominal exam, with further work-up pursued accordingly.

The risk of serious injury is low among alert patients without discomfort, dyspnea, or tenderness. After thorough evaluation and risk assessment, the patient should be informed of the possibility of delayed presentations and discharged with specific instructions that include the need to return or go directly to the ED if severe pain, difficulty breathing, or lightheadedness develops.

Abdominal Pain and Blunt Abdominal Trauma

MVAs are the most common cause of blunt abdominal trauma (BAT) in the urgent care setting. Solid organs may be lacerated, vessels may be disrupted, or a hollow viscus may rupture, depending on the extent of the trauma. Splenic injury is the most common significant injury.

In alert patients without distracting injuries, the most

reliable symptoms and signs of BAT are pain, tenderness, or peritoneal signs. Patients with visceral injury present with local or general abdominal tenderness in 90% of cases—however, these signs are not specific; intra-abdominal injury can occur in conscious patients without significant tenderness.[9,10] The likelihood of intra-abdominal injury is low, however, if the patient is alert, hemodynamically stable, and free of abdominal pain and tenderness on exam.

The abdominal wall should be evaluated for ecchymosis, distension, and decreased bowel sounds. It has been found that bruising over the abdominal wall in the distribution of the seat belt indicates intra-abdominal injury in up to one-third of patients.[11] Abdominal distention may be a result of an ileus or gastric distention, while decreased bowel sounds may result from chemical peritonitis caused by blood or a ruptured hollow viscus.

Studies have shown the accuracy of the physical examination in BAT to be only 55% to 65%[12]; therefore, this should be coupled with observation over time and the use of specific diagnostic tests. Laboratory studies should be individualized to each patient, with the recognition that there may be nonspecific elevations of various enzyme levels in the setting of trauma.

A pregnancy test should be considered in all women of childbearing age.

Urinalysis should be considered, as microscopic hematuria associated with abdominal tenderness has been shown to be 64% sensitive and 94% specific in predicting intra-abdominal injury by abdominal CT.[13] There is no consensus, however, on the significance of microscopic hematuria in the asymptomatic patient. In the asymptomatic patient, close follow-up and a repeat urinalysis may be sufficient, while performing additional studies if the hematuria persists. Acute evaluation in the ED setting is advisable.

If there is suspicion of an abdominal injury, the patient should be referred for an ultrasound; this is considered first line in the stable patient because it is less invasive, requires no radiation or contrast, and has a 65% to 95% sensitivity in detecting as little as 100 ml of intraperitoneal fluid.[14,15] Abdominal CT scan should then be used if the ultrasound shows evidence of fluid, or if there is suspicion of injury to the solid organs.

Hollow viscous injuries such as small bowel perforations, which can present in a delayed fashion, require evaluation in the ED. This injury can be associated with the "seatbelt sign" of abdominal ecchymosis.

Conclusion

While patients involved in a major MVA will usually be evaluated in the emergency room, it is important to recognize the range of potential injuries and possible delayed presentations of life-threatening illnesses that may present to your urgent care center. As always, the thoroughness of the history and physical examination is crucial and should be used to direct appropriate radiography, diagnostic tests, and referrals.

Furthermore, the physician should be aware that the medical record could become a part of the *legal* record. Therefore, it is prudent to document each MVA visit meticulously, including the patient's complaints in his or her own words, as well as objective findings using diagrams and pictures when deemed necessary.

It is hoped that familiarity with the associated injuries that we may encounter in the urgent care setting will lessen that uncomfortable feeling we, as practitioners, often experience when evaluating a victim of a car accident.■

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The Case of a 53-Year-Old Female with Headache and Eye Pain

In Bouncebacks, *which appears semimonthly in* JUCM, *we provide the documentation of an actual patient encounter, discuss patient safety and risk management principles, and then reveal the patient's "bounceback" diagnosis.*

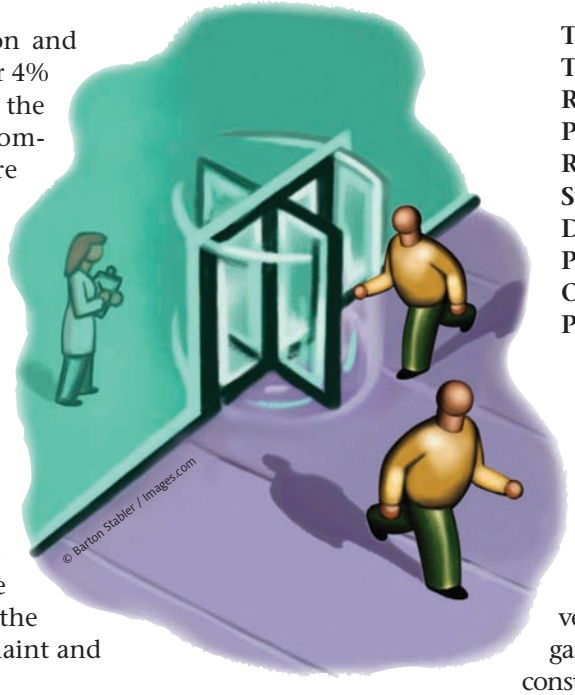
Cases are adapted from the book Bouncebacks! Emergency Department Cases: ED Returns *(2006, Anadem Publishing,* www.anadem.com*; also available at* www.amazon.com *and* www.acep.org*) by Michael B. Weinstock and Ryan Longstreth. The book includes 30 case presentations with risk management commentary by Gregory L. Henry, past president of The American College of Emergency Physicians, and discussions by other nationally recognized experts.*

Jill C. Miller, MD and Michael B. Weinstock, MD

Headaches are both common and challenging, accounting for 4% of ED visits and comprising the eighth most-common complaint seen by primary care physicians. This frequency can create a false sense of security, as there are numerous life-threatening etiologies hiding in the "haystack."

In this month's case, our patient was a bounceback on her first visit, having previously seen her PCP *and* an urgent care doctor.

In addition to a brief discussion of headaches and their differential diagnosis, this article will address the approach to the patient with a high-risk complaint and diagnostic uncertainty.



Time	19:53	22:27
Temp(F)	98.2	
Rt.	T	
Pulse	74	58
Resp	16	18
Syst	155	148
Diast	79	72
Pos	S	L
O2%		100
Pain scale	10	3

Initial Visit

(Note: The following, as well as subsequent visit summaries, is the actual documentation of the providers, including punctuation and spelling errors.)

CHIEF COMPLAINT (at 19:50): Headache

HPI: (at 20:27) Patient has history of severe headaches in the past but none for 10 years until 4 days ago. This Headache is no worse than previous headaches and was gradual onset. The patient complains of a severe right frontal headache that began 4 days ago. The symptoms are constant, the discomfort is currently a 10/10. The pain began while at rest. It is described as dull, aching and throbbing. She does have photophobia. She was at Urgent Care last night and given an injection, but doesn't know the name of it. She was at her family doctor's office today and given imitrex. Neither of these therapies significantly improved her pain. She also used vicodin which was minimally effective. She denies fever, rash, pares-

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PMHx: Thyroid problems, headaches, Ovarian Cyst removal
Meds: Synthroid, Vicodin, Maxalt, and Fioricet
NKDA
SHx: married, smoker, no etoh, no drugs

Exam:
General: Well appearing; well nourished; A&Ox3, in no apparent distress
Eyes: PERRL, EOMs grossly intact, Fundascopic no hemm/exud./papilldema
Ears: TM's normal
Neck: Supple, non-tender, no adenopathy
Card: RRR no m/r/g
Resp: Normal w/o w/r/r
Skin: Normal for age and race, warm, dry; no apparent lesions
Neuro: A&O x 3, Cranial Nerves 2-12 intact, normal gait, motor and sensation intact

Orders: (at 20:34):
Dilaudid 1mg IVP, Phenergan 12.5mg IVP, Toradol 30mg IVP, .9NS-500cc bolus then to 125cc/Hr.

CT Scan brain without contrast: Tiny punctuate area of high attenuation seen in the right basal ganglia, possibly a small calcification. I doubt this is a hemorrhage. Ventricles and cisternal spaces are normal. No evidence of hemorrhage or mass. No extracerebral or subdural collections.

Progress Notes: Patient is feeling better and ready to go home.

Diagnosis: Cephalgia

Disposition: (22:32) The patient was discharged to home. F/U PCP in 5 days if not better.

Discussion of Visit 1 and Risk Management Issues

Our patient has a high-risk complaint and is already a "double bounceback" patient, heightening our concern for a serious cause of her symptoms.

Whereas a CT scan is helpful in the evaluation of mass, there are many life-threatening disorders which can be present despite a normal CT, including:

- subarachnoid hemorrhage (SAH)
- meningitis
- pseudotumor cerebri (benign intracranial hypertension)
- temporal arteritis
- ocular problems
- hypertensive encephalopathy.

Sometimes, a specific diagnosis will not be able to be established despite our increased awareness, prompting a progress note and a discussion with the patient of diagnostic uncertainty and the importance of a follow-up plan that is action- and time-specific.

Our patient was asked to follow up in five days—too long a time period; any serious cause of headache would be expected to manifest itself before that time. A more appropriate plan for return would be 24 to 48 hours, including urgent care return if the PCP was unavailable.

Second Visit: One Day Later

- Returned the next day after difficulty sleeping secondary to her pain
- Now has right eyelid swelling. No change in vision, fever or rash, no focal weakness
- Has associated nausea and vomiting
- Vitals: Temp: 99.9, Pulse 64, RR: 16, BP 128/75 Pain 10/10
- PE: Normal except for ocular exam: Visual acuity: (Uncorrected) OD 20/70, OS 20/50. Tonometry OD 35 (normal 8-22), OS 29
- Labs: WBC: 6.5 (4.6-10.2), Hgb: 12.8 (12-16), Plts 247 (142-424), WSR 9 mm/hr (0-30), ANA negative
- Progress Notes Cont: She was administered Benadryl 25mg, Regalan 10mg, and Dilaudid O.5mg IVP. The primary care physician was contacted who requested an LP be done, the results of which were negative. The patient was being prepared for discharge when her pain returned and the decision to admit was made. She was given Dilaudid 0.5mg and nafcillin 1.5 grams on admission for presumptive diagnosis of orbital cellulitis
- Hospital course: Over the next 24-48 hours she developed vesicles on the right side of her face and nose and a diagnosis of herpes zoster ophthalmicus was established. She was placed on IV acyclovir and was in the hospital a total of 5 days. CSF culture remained negative for 48 hours.
- **Final Diagnosis**: Herpes Zoster Opthalmicus

Historical Approach to Evaluation of Headaches

In the urgent care center, we need to approach our patient

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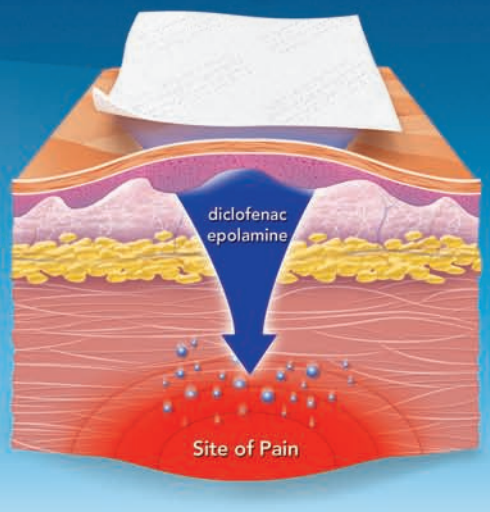

- Dispensed in boxes of 30 patches
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Important Safety Information

Cardiovascular (CV) risk

- **NSAIDs may cause an increased risk of serious CV thrombotic events, myocardial infarction, and stroke, which can be fatal. This risk may increase with duration of use. Patients with CV disease or risk factors for CV disease may be at greater risk**
- **FLECTOR® Patch is contraindicated for the treatment of perioperative pain in the setting of coronary artery bypass graft (CABG) surgery**

Gastrointestinal (GI) risk

- **NSAIDs cause an increased risk of serious GI adverse events at any time during use and without warning symptoms including bleeding, ulceration, and perforation of the stomach or intestines, which can be fatal. Elderly patients are at greater risk for serious GI events**

FLECTOR® Patch is contraindicated in patients with known hypersensitivity to diclofenac. FLECTOR® Patch should not be given to patients who have experienced asthma, urticaria, or allergic-type reactions after taking aspirin or other NSAIDs. Severe, rarely fatal, anaphylactic-like reactions to NSAIDs have been reported in such patients.

FLECTOR® Patch should not be applied to non-intact or damaged skin resulting from any etiology, e.g., exudative dermatitis, eczema, infected lesion, burns or wounds.

NSAIDs, including FLECTOR® Patch, can lead to new onset or worsening of hypertension, contributing to increased incidence of CV events. Fluid retention and edema have been observed in some patients taking NSAIDs. Use with caution in patients with hypertension, fluid retention or heart failure.

A patient with symptoms and/or signs of liver dysfunction, or with a history of an abnormal liver test, should be monitored for a more severe hepatic reaction and therapy stopped. Anemia is sometimes seen in patients receiving NSAIDs and platelet inhibition has been shown to prolong bleeding times.

Long-term administration of NSAIDs has resulted in renal papillary necrosis and other renal injury. Renal toxicity has also been seen in patients in whom renal prostaglandins have a compensatory role in maintaining renal perfusion. FLECTOR® Patch is not recommended in patients with advanced renal disease.

NSAIDs, including FLECTOR® Patch, can cause serious skin adverse events without warning such as exfoliative dermatitis, Stevens-Johnson Syndrome (SJS), and toxic epidermal necrolysis (TEN), which can be fatal. Patients should be informed about the signs and symptoms of serious skin manifestations and use of the drug should be discontinued at the first appearance of skin rash or any other sign of hypersensitivity.

Overall, the most common adverse events associated with FLECTOR® Patch were skin reactions (pruritus, dermatitis, burning, etc.) at the site of treatment and gastrointestinal disorders (nausea, dysgeusia, dyspepsia, etc.) and nervous system disorders (headache, paresthesia, somnolence, etc.).

In late pregnancy, as with other NSAIDs, FLECTOR® Patch should be avoided because it may cause premature closure of the ductus arteriosus. FLECTOR® Patch is in Pregnancy Category C. Safety and effectiveness in pediatric patients have not been established.

Please see Brief Summary of full Prescribing Information, including boxed warning, on adjacent page.

For more information, please visit www.FlectorPatch.com or www.KingPharm.com.

References: 1. Data on file. King Pharmaceuticals®, Inc. **2.** Flector Patch [package insert]. Piscataway, NJ: Alpharma Pharmaceuticals LLC; 2008.

King Pharmaceuticals

FLE5904 01/2009

Flector® patch
(diclofenac epolamine topical patch) 1.3%
Targeted NSAID Power

Flector® Patch (diclofenac epolamine topical patch) 1.3%

Brief Summary **Rx only**

Cardiovascular Risk: • NSAIDs may cause an increased risk of serious cardiovascular thrombotic events, myocardial infarction, and stroke, which can be fatal. This risk may increase with duration of use. Patients with cardiovascular disease or risk factors for cardiovascular disease may be at greater risk (See **WARNINGS** and Full Prescribing Information, **CLINICAL TRIALS**). • Flector® Patch is contraindicated for the treatment of peri-operative pain in the setting of coronary artery bypass graft (CABG) surgery (see **WARNINGS**).

Gastrointestinal Risk: • NSAIDs cause an increased risk of serious gastrointestinal adverse events including bleeding, ulceration, and perforation of the stomach or intestines, which can be fatal. These events can occur at any time during use and without warning symptoms. Elderly patients are at greater risk for serious gastrointestinal events (See **WARNINGS**).

INDICATION AND USAGE: Carefully consider the potential benefits and risks of Flector® Patch and other treatment options before deciding to use Flector® Patch. Use the lowest effective dose for the shortest duration consistent with individual patient treatment goals (see **WARNINGS**).

Flector® Patch is indicated for the topical treatment of acute pain due to minor strains, sprains, and contusions.

CONTRAINDICATIONS: Flector® Patch is contraindicated in patients with known hypersensitivity to diclofenac.

Flector® Patch should not be given to patients who have experienced asthma, urticaria, or allergic-type reactions after taking aspirin or other NSAIDs. Severe, rarely fatal, anaphylactic-like reactions to NSAIDs have been reported in such patients (see **WARNINGS - Anaphylactoid Reactions**, and **PRECAUTIONS - Preexisting Asthma**).

Flector® Patch is contraindicated for the treatment of peri-operative pain in the setting of coronary artery bypass graft (CABG) surgery (see **WARNINGS**).

Flector® Patch should not be applied to non-intact or damaged skin resulting from any etiology e.g. exudative dermatitis, eczema, infected lesion, burns or wounds.

WARNINGS: CARDIOVASCULAR EFFECTS: Cardiovascular Thrombotic Events: Clinical trials of several COX-2 selective and nonselective NSAIDs of up to three years duration have shown an increased risk of serious cardiovascular (CV) thrombotic events, myocardial infarction, and stroke, which can be fatal. All NSAIDs, both COX-2 selective and nonselective, may have a similar risk. Patients with known CV disease or risk factors for CV disease may be at greater risk. To minimize the potential risk for an adverse CV event in patients treated with an NSAID, the lowest effective dose should be used for the shortest duration possible. Physicians and patients should remain alert for the development of such events, even in the absence of previous CV symptoms. Patients should be informed about the signs and/or symptoms of serious CV events and the steps to take if they occur.

There is no consistent evidence that concurrent use of aspirin mitigates the increased risk of serious CV thrombotic events associated with NSAID use. The concurrent use of aspirin and an NSAID does increase the risk of serious GI events (see **GI WARNINGS**). Two large, controlled, clinical trials of a COX-2 selective NSAID for the treatment of pain in the first 10-14 days following CABG surgery found an increased incidence of myocardial infarction and stroke (see **CONTRAINDICATIONS**).

Hypertension: NSAIDs, including Flector® Patch, can lead to onset of new hypertension or worsening of preexisting hypertension, either of which may contribute to the increased incidence of CV events. Patients taking thiazides or loop diuretics may have impaired response to these therapies when taking NSAIDs. NSAIDs, including Flector® Patch, should be used with caution in patients with hypertension. Blood pressure (BP) should be monitored closely during the initiation of NSAID treatment and throughout the course of therapy.

Congestive Heart Failure and Edema: Fluid retention and edema have been observed in some patients taking NSAIDs. Flector® Patch should be used with caution in patients with fluid retention or heart failure.

Gastrointestinal Effects- Risk of Ulceration, Bleeding, and Perforation: NSAIDs, including Flector® Patch, can cause serious gastrointestinal (GI) adverse events including inflammation, bleeding, ulceration, and perforation of the stomach, small intestine, or large intestine, which can be fatal. These serious adverse events can occur at any time, with or without warning symptoms, in patients treated with NSAIDs. Only one in five patients, who develop a serious upper GI adverse event on NSAID therapy, is symptomatic. Upper GI ulcers, gross bleeding, or perforation caused by NSAIDs occur in approximately 1% of patients treated for 3-6 months, and in about 2-4% of patients treated for one year. These trends continue with longer duration of use, increasing the likelihood of developing a serious GI event at some time during the course of therapy. However, even short-term therapy is not without risk.

NSAIDs should be prescribed with extreme caution in those with a prior history of ulcer disease or gastrointestinal bleeding. Patients with a *prior history of peptic ulcer disease and/or gastrointestinal bleeding* who use NSAIDs have a greater than 10-fold increased risk for developing a GI bleed compared to patients with neither of these risk factors. Other factors that increase the risk for GI bleeding in patients treated with NSAIDs include concomitant use of oral corticosteroids or anticoagulants, longer duration of NSAID therapy, smoking, use of alcohol, older age, and poor general health status. Most spontaneous reports of fatal GI events are in elderly or debilitated patients and therefore, special care should be taken in treating this population.

To minimize the potential risk for an adverse GI event in patients treated with an NSAID, the lowest effective dose should be used for the shortest possible duration. Patients and physicians should remain alert for signs and symptoms of GI ulceration and bleeding during NSAID therapy and promptly initiate additional evaluation and treatment if a serious GI adverse event is suspected. This should include discontinuation of the NSAID until a serious GI adverse event is ruled out. For high risk patients, alternate therapies that do not involve NSAIDs should be considered.

Renal Effects: Long-term administration of NSAIDs has resulted in renal papillary necrosis and other renal injury. Renal toxicity has also been seen in patients in whom renal prostaglandins have a compensatory role in the maintenance of renal perfusion. In these patients, administration of a nonsteroidal anti-inflammatory drug may cause a dose-dependent reduction in prostaglandin formation and, secondarily, in renal blood flow, which may precipitate overt renal decompensation. Patients at greatest risk of this reaction are those with impaired renal function, heart failure, liver dysfunction, those taking diuretics and ACE inhibitors, and the elderly. Discontinuation of NSAID therapy is usually followed by recovery to the pretreatment state.

Advanced Renal Disease: No information is available from controlled clinical studies regarding the use of Flector® Patch in patients with advanced renal disease. Therefore, treatment with Flector® Patch is not recommended in these patients with advanced renal disease. If Flector® Patch therapy is initiated, close monitoring of the patient's renal function is advisable.

Anaphylactoid Reactions: As with other NSAIDs, anaphylactoid reactions may occur in patients without known prior exposure to Flector® Patch. Flector® Patch should not be given to patients with the aspirin triad. This symptom complex typically occurs in asthmatic patients who experience rhinitis with or without nasal polyps, or who exhibit severe, potentially fatal bronchospasm after taking aspirin or other NSAIDs (see **CONTRAINDICATIONS** and **PRECAUTIONS - Preexisting Asthma**). Emergency help should be sought in cases where an anaphylactoid reaction occurs.

Skin Reactions: NSAIDs, including Flector® Patch, can cause serious skin adverse events such as exfoliative dermatitis, Stevens-Johnson Syndrome (SJS), and toxic epidermal necrolysis (TEN), which can be fatal. These serious events may occur without warning. Patients should be informed about the signs and symptoms of serious skin manifestations and use of the drug should be discontinued at the first appearance of skin rash or any other sign of hypersensitivity.

Pregnancy: In late pregnancy, as with other NSAIDs, Flector® Patch should be avoided because it may cause premature closure of the ductus arteriosus.

PRECAUTIONS: General: Flector® Patch cannot be expected to substitute for corticosteroids or to treat corticosteroid insufficiency. Abrupt discontinuation of corticosteroids may lead to disease exacerbation. Patients on prolonged corticosteroid therapy should have their therapy tapered slowly if a decision is made to discontinue corticosteroids.

The pharmacological activity of Flector® Patch in reducing inflammation may diminish the utility of these diagnostic signs in detecting complications of presumed noninfectious, painful conditions.

Hepatic Effects: Borderline elevations of one or more liver tests may occur in up to 15% of patients taking NSAIDs including Flector® Patch. These laboratory abnormalities may progress, may remain unchanged, or may be transient with continuing therapy. Notable elevations of ALT or AST (approximately three or more times the upper limit of normal) have been reported in approximately 1% of patients in clinical trials with NSAIDs. In addition, rare cases of severe hepatic reactions, including jaundice and fatal fulminant hepatitis, liver necrosis and hepatic failure, some of them with fatal outcomes have been reported.

A patient with symptoms and/or signs suggesting liver dysfunction, or in whom an abnormal liver test has occurred, should be evaluated for evidence of the development of a more severe hepatic reaction while on therapy with Flector® Patch. If clinical signs and symptoms consistent with liver disease develop, or if systemic manifestations occur (e.g. eosinophilia, rash, etc.), Flector® Patch should be discontinued.

Hematological Effects: Anemia is sometimes seen in patients receiving NSAIDs. This may be due to fluid retention, occult or gross GI blood loss, or an incompletely described effect upon erythropoiesis. Patients on long-term treatment with NSAIDs, including Flector® Patch, should have their hemoglobin or hematocrit checked if they exhibit any signs or symptoms of anemia.

NSAIDs inhibit platelet aggregation and have been shown to prolong bleeding time in some patients. Unlike aspirin, their effect on platelet function is quantitatively less, of shorter duration, and reversible. Patients receiving Flector® Patch who may be adversely affected by alterations in platelet function, such as those with coagulation disorders or patients receiving anticoagulants, should be carefully monitored.

Preexisting Asthma: Patients with asthma may have aspirin-sensitive asthma. The use of aspirin in patients with aspirin-sensitive asthma has been associated with severe bronchospasm which can be fatal. Since cross reactivity, including bronchospasm, between aspirin and other nonsteroidal anti-inflammatory drugs has been reported in such aspirin-sensitive patients, Flector® Patch should not be administered to patients with this form of aspirin sensitivity and should be used with caution in patients with preexisting asthma.

Eye Exposure: Contact of Flector® Patch with eyes and mucosa, although not studied, should be avoided. If eye contact occurs, immediately wash out the eye with water or saline. Consult a physician if irritation persists for more than an hour.

Accidental Exposure in Children: Even a used Flector® Patch contains a large amount of diclofenac epolamine (as much as 170 mg). The potential therefore exists for a small child or pet to suffer serious adverse effects from chewing or ingesting a new or used Flector® Patch. It is important for patients to store and dispose of Flector® Patch out of the reach of children and pets.

Information for Patients: Patients should be informed of the following information before initiating therapy with an NSAID and periodically during the course of ongoing therapy. Patients should also be encouraged to read the NSAID Medication Guide that accompanies each prescription dispensed.

1. Flector® Patch, like other NSAIDs, may cause serious CV side effects, such as MI or stroke, which may result in hospitalization and even death. Although serious CV events can occur without warning symptoms, patients should be alert for the signs and symptoms of chest pain, shortness of breath, weakness, slurring of speech, and should ask for medical advice when observing any indicative sign or symptoms. Patients should be apprised of the importance of this follow-up (see **WARNINGS, Cardiovascular Effects**). **2.** Flector® Patch, like other NSAIDs, may cause GI discomfort and, rarely, serious GI side effects, such as ulcers and bleeding, which may result in hospitalization and even death. Although serious GI tract ulcerations and bleeding can occur without warning symptoms, patients should be alert for the signs and symptoms of ulcerations and bleeding, and should ask for medical advice when observing any indicative sign or symptoms including epigastric pain, dyspepsia, melena, and hematemesis. Patients should be apprised of the importance of this follow-up (see **WARNINGS, Gastrointestinal Effects: Risk of Ulceration, Bleeding, and Perforation**). **3.** Flector® Patch, like other NSAIDs, may cause serious skin side effects such as exfoliative dermatitis, SJS, and TEN, which may result in hospitalizations and even death. Although serious skin reactions may occur without warning, patients should be alert for the signs and symptoms of skin rash and blisters, fever, or other signs of hypersensitivity such as itching, and should ask for medical advice when observing any indicative signs or symptoms. Patients should be advised to stop the drug immediately if they develop any type of rash and contact their physicians as soon as possible. **4.** Patients should be instructed to promptly report signs or symptoms of unexplained weight gain or edema to their physicians (see **WARNINGS, Cardiovascular Effects**). **5.** Patients should be informed of the warning signs and symptoms of hepatotoxicity (e.g. nausea, fatigue, lethargy, pruritus, jaundice, right upper quadrant tenderness, and "flu-like" symptoms). If these occur, patients should be instructed to stop therapy and seek immediate medical therapy. **6.** Patients should be informed of the signs of an anaphylactoid reaction (e.g. difficulty breathing, swelling of the face or throat). If these occur, patients should be instructed to seek immediate emergency help (see **WARNINGS**). **7.** In late pregnancy, as with other NSAIDs, Flector® Patch should be avoided because it may cause premature closure of the ductus arteriosus. **8.** Patients should be advised not to use Flector® Patch if they have an aspirin-sensitive asthma. Flector® Patch, like other NSAIDs, could cause severe and even fatal bronchospasm in these patients (see **PRECAUTIONS, Preexisting asthma**). Patients should discontinue use of Flector® Patch and should immediately seek emergency help if they experience wheezing or shortness of breath. **9.** Patients should be informed that Flector® Patch should be used only on intact skin. **10.** Patients should be advised to avoid contact of Flector® Patch with eyes and mucosa. Patients should be instructed that if eye contact occurs, they should immediately wash out the eye with water or saline, and consult a physician if irritation persists for more than an hour. **11.** Patients and caregivers should be instructed to wash their hands after applying, handling or removing the patch. **12.** Patients should be informed that, if Flector® Patch begins to peel off, the edges of the patch may be taped down. **13.** Patients should be instructed not to wear Flector® Patch during bathing or showering. Bathing should take place in between scheduled patch removal and application (see Full Prescribing Information, **DOSAGE AND ADMINISTRATION**). **14.** Patients should be advised to store Flector® Patch and to discard used patches out of the reach of children and pets. If a child or pet accidentally ingests Flector® Patch, medical help should be sought immediately (see **PRECAUTIONS, Accidental Exposure in Children**).

Laboratory Tests: Because serious GI tract ulcerations and bleeding can occur without warning symptoms, physicians should monitor for signs or symptoms of GI bleeding. Patients on long-term treatment with NSAIDs, should have their CBC and a chemistry profile checked periodically. If clinical signs and symptoms consistent with liver or renal disease develop, systemic manifestations occur (e.g. eosinophilia, rash, etc.) or if abnormal liver tests persist or worsen, Flector® Patch should be discontinued.

Drug Interactions: ***ACE-inhibitors:*** Reports suggest that NSAIDs may diminish the antihypertensive effect of ACE-inhibitors. This interaction should be given consideration in patients taking NSAIDs concomitantly with ACE-inhibitors.

Aspirin: When Flector® Patch is administered with aspirin, the binding of diclofenac to protein is reduced, although the clearance of free diclofenac is not altered. The clinical significance of this interaction is not known; however, as with other NSAIDs, concomitant administration of diclofenac and aspirin is not generally recommended because of the potential of increased adverse effects.

Diuretics: Clinical studies, as well as post marketing observations, have shown that Flector® Patch may reduce the natriuretic effect-of furosemide and thiazides in some patients. This response has been attributed to inhibition of renal prostaglandin synthesis. During concomitant therapy with NSAIDs, the patient should be observed closely for signs of renal failure (see **WARNINGS, Renal Effects**), as well as to assure diuretic efficacy.

Lithium: NSAIDs have produced an elevation of plasma lithium levels and a reduction in renal lithium clearance. The mean minimum lithium concentration increased 15% and the renal clearance was decreased by approximately 20%. These effects have been attributed to inhibition of renal prostaglandin synthesis by the NSAID. Thus, when NSAIDs and lithium are administered concurrently, subjects should be observed carefully for signs of lithium toxicity.

Methotrexate: NSAIDs have been reported to competitively inhibit methotrexate accumulation in rabbit kidney slices. This may indicate that they could enhance the toxicity of methotrexate. Caution should be used when NSAIDs are administered concomitantly with methotrexate.

Warfarin: The effects of warfarin and NSAIDs on GI bleeding are synergistic, such that users of both drugs together have a risk of serious GI bleeding higher than users of either drug alone.

Carcinogenesis, Mutagenesis, Impairment of Fertility: ***Carcinogenesis:*** Long-term studies in animals have not been performed to evaluate the carcinogenic potential of either diclofenac epolamine or Flector® Patch.

Mutagenesis: Diclofenac epolamine is not mutagenic in *Salmonella Typhimurium* strains, nor does it induce an increase in metabolic aberrations in cultured human lymphocytes, or the frequency of micronucleated cells in the bone marrow micronucleus test performed in rats.

Impairment of Fertility: Male and female Sprague Dawley rats were administered 1, 3, or 6 mg/kg/day diclofenac epolamine via oral gavage (males treated for 60 days prior to conception and during mating period, females treated for 14 days prior to mating through day 19 of gestation). Diclofenac epolamine treatment with 6 mg/kg/day resulted in increased early resorptions and postimplantation losses; however, no effects on the mating and fertility indices were found. The 6 mg/kg/day dose corresponds to 3-times the maximum recommended daily exposure in humans based on a body surface area comparison.

Pregnancy: ***Teratogenic Effects. Pregnancy Category C.:*** Pregnant Sprague Dawley rats were administered 1, 3, or 6 mg/kg diclofenac epolamine via oral gavage daily from gestation days 6-15. Maternal toxicity, embryotoxicity, and increased incidence of skeletal anomalies were noted with 6 mg/kg/day diclofenac epolamine, which corresponds to 3-times the maximum recommended daily exposure in humans based on a body surface area comparison. Pregnant New Zealand White rabbits were administered 1, 3, or 6 mg/kg diclofenac epolamine via oral gavage daily from gestation days 6-18. No maternal toxicity was noted; however, embryotoxicity was evident at 6 mg/kg/day group which corresponds to 6.5-times the maximum recommended daily exposure in humans based on a body surface area comparison.

There are no adequate and well-controlled studies in pregnant women. Flector® Patch should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

Nonteratogenic Effects: Because of the known effects of nonsteroidal anti-inflammatory drugs on the fetal cardiovascular system (closure of ductus arteriosus), use during pregnancy (particularly late pregnancy) should be avoided.

Male rats were orally administered diclofenac epolamine (1, 3, 6 mg/kg) for 60 days prior to mating and throughout the mating period, and females were given the same doses 14 days prior to mating and through mating, gestation, and lactation. Embryotoxicity was observed at 6 mg/kg diclofenac epolamine (3-times the maximum recommended daily exposure in humans based on a body surface area comparison), and was manifested as an increase in early resorptions, post-implantation losses, and a decrease in live fetuses. The number of live born and total born were also reduced as was F1 postnatal survival, but the physical and behavioral development of surviving F1 pups in all groups was the same as the deionized water control, nor was reproductive performance adversely affected despite a slight treatment-related reduction in body weight.

Labor and Delivery: In rat studies with NSAIDs, as with other drugs known to inhibit prostaglandin synthesis, an increased incidence of dystocia, delayed parturition, and decreased pup survival occurred. The effects of Flector® Patch on labor and delivery in pregnant women are unknown.

Nursing Mothers: It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human-milk and because of the potential for serious adverse reactions in nursing infants from Flector® Patch, a decision should be made whether to discontinue nursing or to discontinue the drug, taking into account the importance of the drug to the mother.

Pediatric Use: Safety and effectiveness in pediatric patients have not been established.

Geriatric Use: Clinical studies of Flector® Patch did not include sufficient numbers of subjects aged 65 and over to determine whether they respond differently from younger subjects. Other reported clinical experience has not identified differences in responses between the elderly and younger patients.

Diclofenac, as with any NSAID, is known to be substantially excreted by the kidney, and the risk of toxic reactions to Flector® Patch may be greater in patients with impaired renal function. Because elderly patients are more likely to have decreased renal function, care should be taken when using Flector® Patch in the elderly, and it may be useful to monitor renal function.

ADVERSE REACTIONS: In controlled trials during the premarketing development of Flector® Patch, approximately 600 patients with minor sprains, strains, and contusions have been treated with Flector® Patch for up to two weeks.

Adverse Events Leading to Discontinuation of Treatment: In the controlled trials, 3% of patients in both the Flector® Patch and placebo patch groups discontinued treatment due to an adverse event. The most common adverse events leading to discontinuation were application site reactions, occurring in 2% of both the Flector® Patch and placebo patch groups. Application site reactions leading to dropout included pruritus, dermatitis, and burning.

Common Adverse Events: Localized Reactions: Overall, the most common adverse events associated with Flector® Patch treatment were skin reactions at the site of treatment.

Table 1 lists all adverse events, regardless of causality, occurring in ≥ 1% of patients in controlled trials of Flector® Patch. A majority of patients treated with Flector® Patch had adverse events with a maximum intensity of "mild" or "moderate."

Table 1. Common Adverse Events (by body system and preferred term) in ≥1% of Patients treated with Flector® Patch or Placebo Patch[1]

	Diclofenac N=572		Placebo N=564	
	N	Percent	N	Percent
Application Site Conditions	64	11	70	12
Pruritus	31	5	44	8
Dermatitis	9	2	3	<1
Burning	2	<1	8	1
Other[2]	22	4	15	3
Gastrointestinal Disorders	49	9	33	6
Nausea	17	3	11	2
Dysgeusia	10	2	3	<1
Dyspepsia	7	1	8	1
Other[3]	15	3	11	2
Nervous System Disorders	13	2	18	3
Headache	7	1	10	2
Paresthesia	6	1	8	1
Somnolence	4	1	6	1
Other[4]	4	1	3	<1

[1] The table lists adverse events occurring in placebo-treated patients because the placebo-patch was comprised of the same ingredients as Flector® Patch except for diclofenac. Adverse events in the placebo group may therefore reflect effects of the non-active ingredients. [2] Includes: application site dryness, irritation, erythema, atrophy, discoloration, hyperhidriosis, and vesicles. [3] Includes: gastritis, vomiting, diarrhea, constipation, upper abdominal pain, and dry mouth. [4] Includes: hypoaesthesia, dizziness, and hyperkinesias.

Foreign labeling describes that dermal allergic reactions may occur with Flector® Patch treatment. Additionally, the treated area may become irritated or develop itching, erythema, edema, vesicles, or abnormal sensation.

DRUG ABUSE AND DEPENDENCE: Controlled Substance Class: Flector® Patch is not a controlled substance.

Physical and Psychological Dependence: Diclofenac, the active ingredient in Flector® Patch, is an NSAID that does not lead to physical or psychological dependence.

OVERDOSAGE: There is limited experience with overdose of Flector® Patch. In clinical studies, the maximum single dose administered was one Flector® Patch containing 180 mg of diclofenac epolamine. There were no serious adverse events.

Should systemic side effects occur due to incorrect use or accidental overdose of this product, the general measures recommended for intoxication with non-steroidal anti-inflammatory drugs should be taken.

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Table 1. Features of Secondary Headaches

Characteristic	Possible Etiologies
Acute onset	Onset less than one minute suggests subarachnoid hemorrhage. Other causes of rapid-onset HAs include carotid and vertebral artery dissections, venous sinus thrombosis, pituitary apoplexy, hypertensive emergencies, and acute narrow-angle glaucoma
First or worst HA	Intracranial hemorrhage, CNS infection
Age over 50	Mass lesions, temporal arteritis
Exertional HA	Hemorrhage, carotid artery dissection
Visual disturbances	Acute narrow angle glaucoma, mass lesion, optic neuritis, orbital cellulitis, iritis
Concomitant infection/fever	Meningitis, intracranial abscess, venous sinus thrombosis
Altered mental status	Subarachnoid hemorrhage, infection, mass lesion, metabolic disturbance

from the perspective of the most dangerous diagnoses first. Our approach needs to differentiate the secondary causes of headache, some of which are life- or vision-threatening (the "big two" being subarachnoid hemorrhage and meningitis), from benign intrinsic causes such as migraine, or cluster or tension headaches **(Table 1)**.

Subarachnoid Hemorrhage (SAH)

Typical is a sudden onset (less than one minute) severe headache most commonly from nontraumatic subarachnoid hemorrhage of an aneurysm in the circle of Willis.

CT is best at picking up blood on day 1 (92% to 98%) but at day 5 the sensitivity drops to a little over 50%. When SAH is considered and the CT is negative, an LP *always* needs to be done. The risk is that the "sentinal bleed" of SAH is the harbinger of a complete aneurismal rupture causing death or severe disability.

Meningitis

Fever plus headache is a dangerous and high-risk combination. Meningitis should always be considered and a progress note recorded, documenting why this diagnosis seems unlikely.

Concomitant symptoms may include stiff neck, petechial rash, confusion, or neurologic changes. The only way to exclude meningitis is a lumbar puncture. A CBC is often normal and should not be reassuring.

Temporal Arteritis

The onset of symptoms is often gradual but may be abrupt. A new headache accompanies temporal arteritis in up to 75% of cases and tends to be over the temporal area but may be frontal or occipital. Tender temporal or occipital arteries are present in about a third of patients. Jaw symptoms, usually trismus or claudication, are prevalent in about half of patients.

Systemic symptoms include fever, fatigue, and sometimes weight loss. Polymyalgia rheumatica, characterized by aching morning stiffness in shoulders and hip muscles, occurs in approximately 40% to 50% of patients.

Acute Angle Closure Glaucoma

Acute open-angle glaucoma presents as a painful red eye and must be treated within 24 hours to prevent permanent vision loss. The pupil is dilated or semi-dilated and the cornea cloudy. By contrast, chronic open-angle glaucoma rarely causes pain or headache.

Iritis, Uveitis, or Retrobulbar Neuritis

Iritis and other inflammatory eye conditions often present as a headache with photophobia, pain, and a red eye. Physical exam reveals small pupil with cells in the anterior chamber and a limbal flush. A history of recent trauma, eye surgery, infection or systemic diseases should be sought.

Sinusitis and Orbital Cellulitis

Orbital cellulitis can complicate acute bacterial sinusitis in up to 3% of cases, whereas orbital cellulitis has concomitant acute sinusitis in up to 94% of cases. Orbital cellulitis can present with swelling and erythema around the eye, pain with eye movement, conjunctival swelling, proptosis, and possibly vision changes.

Zoster Ophthalmicus

Herpes zoster usually presents with rash and a neuritis.

Often, the pain is described as a deep burning, throbbing, or stabbing and may precede the rash. Headache, malaise, and fever may be present.

Herpes zoster ophthalmic (HZO) is linked to reactivation of the virus in the trigeminal ganglion, specifically the frontal branch of the first division of the nerve. Unilateral pain along the affected eye and forehead and on top of the head is usually described. The infection may be limited to the lids, scalp, or face; however, it is estimated that up to 72% of patients experience direct ocular involvement.

Clinicians should be aware that lesions on the tip to the nose, Hutchinson's sign, is associated with a high risk of HZO and direct corneal involvement. Treatment consists of oral antivirals and prompt referral to ophthalmology.

Migraine Headache

The pain of a typical migraine usually begins gradually and increases to a maximal level over two to four hours. It is often described as dull, deep, and steady and can become pulsatile and throbbing when severe. Systemic symptoms such as fatigue, photophobia, phonophobia, and sometimes difficulty concentrating often accompany the headache.

In 60% to 70% of patients, the headache is lateralized and classically gets worse with exertion. Patients may describe an aura which by definition is a progressive, neurologic deficit or disturbance, commonly involving the vision, sensory, motor and speech, with complete recovery usually within an hour. Migraines with and without auras almost always resolve within 72 hours.

Cluster Headache

Relatively uncommon, cluster headaches are characterized by repetition over weeks to months at a time, fol-

lowed by headache-free periods. The pain of cluster headache is strictly unilateral, begins quickly without warning, and reaches a maximal intensity within a few minutes. It is described as continuous, deep, and excruciating and occasionally pulsatile and throbbing. Most patients are restless and pacing (in stark contrast to migraine sufferers who tend to lie quietly in a dark room).

Other physical signs associated with cluster headaches are ipsilateral lacrimation, redness of the eye, stuffy nose, rhinorrhea, sweating, pallor and Horner's syndrome. Nausea and vomiting may occur in these patients. Photophobia does occur on the same side as the headache.

Tension Type Headache

Tension type headache is the most common headache syndrome. These are chronic, daily headaches. They are often described as pressure-like tightness around the head and have a tendency to wax and wane. As a rule they are devoid of typical migrainous features of photophobia, phonophobia, nausea, vomiting, and aura.

Summary

The diagnosis of zoster ophthalmicus was not initially apparent, which is the rule and not the exception. The lesson from this case is to recognize our patient as high risk and a double bounceback, and to maintain a high index of suspicion for a secondary cause of her headache.

We need to ensure that our approach is thorough and systematic, and that our documentation is complete. The chart and assessment should convey our thought processes, documented in a progress note when there remains diagnostic uncertainty. This is imperative in all our cases, but especially in the bounceback patient who is not responding to previous medical intervention—even more so when involving a high-risk chief complaint such as headache.

For Resources used in preparing this report, visit www.jucm.com. ■

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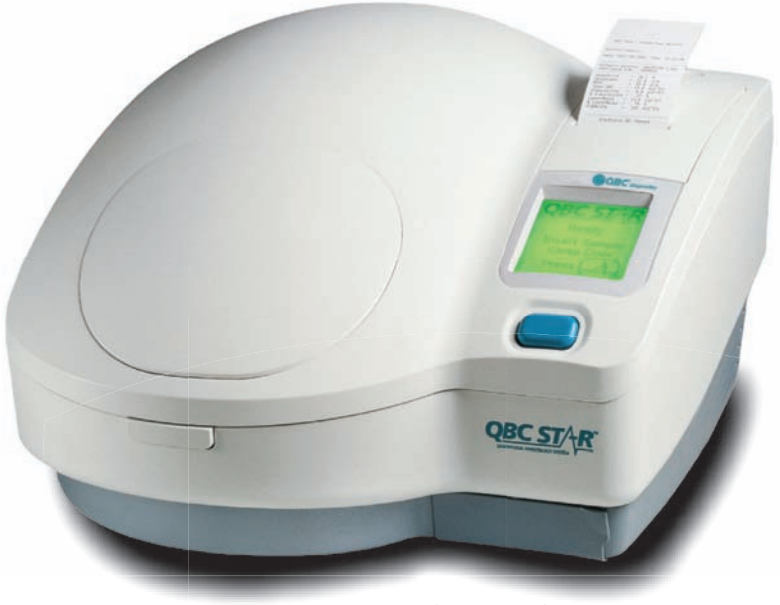

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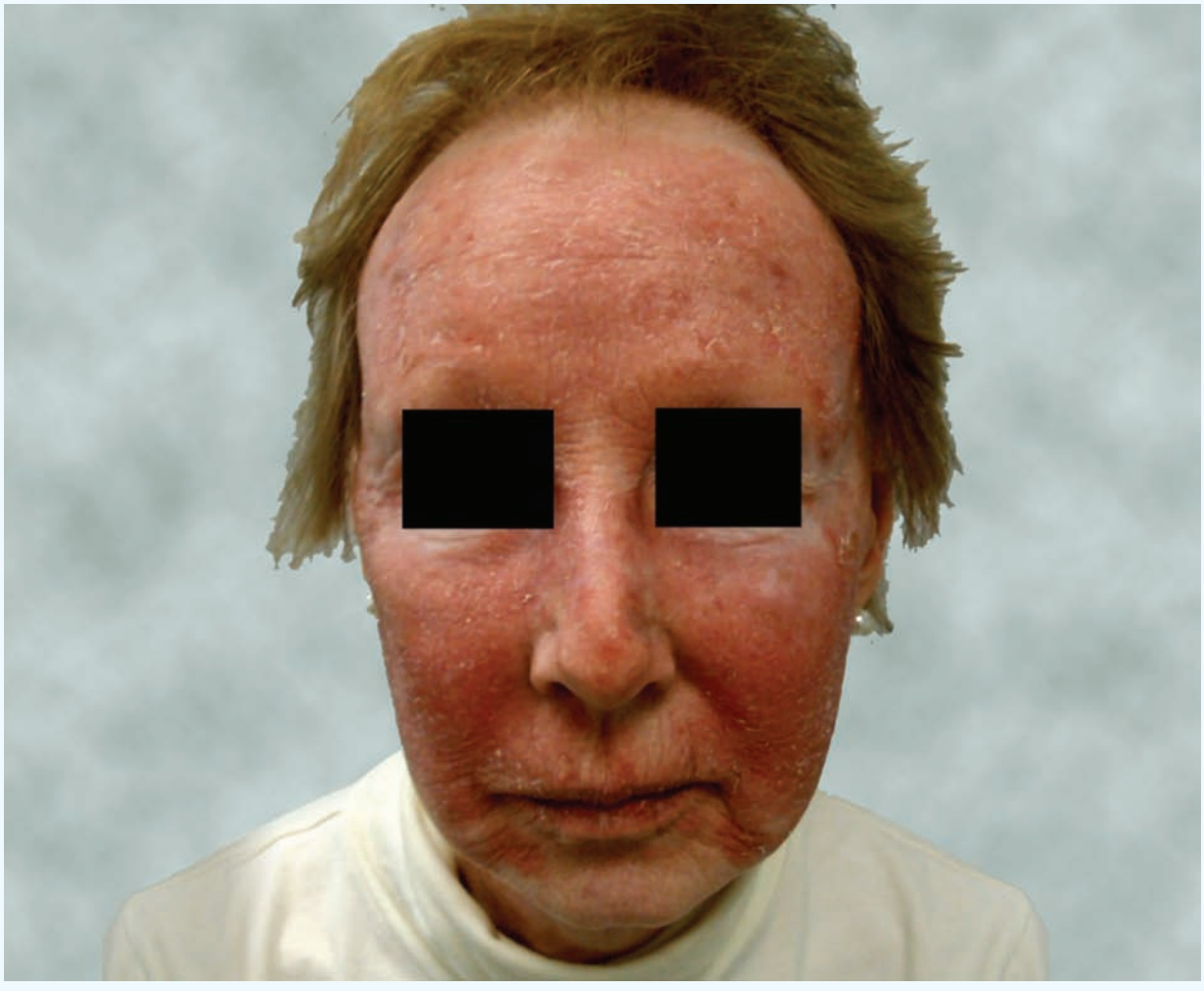
Clinical Challenge



(Note: the high hairline and absence of eyebrows are baseline for this patient.)

A 62-year-old female presents to the urgent care center with a three-week history of a pruritic facial rash that initiated on one cheek, then spread to the rest of the face.

The patient states the rash got worse after sun exposure.

Initially, she self-treated with cold cream, Eucerin, and other over-the-counter moisturizers that did not help. Eventually, the patient tried a topical hydrocortisone cream that made the rash much worse.

You note there is no rash anywhere else on the body.

View the photo taken at the time of presentation, and consider which of the following is the most likely diagnosis:

A. Discoid lupus
B. Polymorphic light eruption
C. Tinea faciei
D. Contact dermatitis

The correct answer will be revealed on the following page.

RESOLUTION

The correct diagnosis is C, tinea faciei, a dermatophyte skin infection confined to the glabrous skin of the face.

In the Northern Hemisphere, the most common pathogens are *Trichophyton tonsurans* and, less commonly, *Microsporum canis*. Transmission can be from person to person, pet to person, or from fomites such as athletic headgear or sharing of personal items such as make-up.

Tinea faciei is more common in women than men, but its counterpart, tinea barbae, is seen in the bearded area of men.

The classic presentation is of a red annular or serpiginous scaling plaques which have an active border and, sometimes, central clearing. There may also be papules, vesicles, or crusts.

Because of this varied appearance, tinea faciei is often misdiagnosed. It almost always itches and is made worse by steroids, as in this patient.

Diagnosis requires demonstration of hyphae via wet mount with KOH. Scrapings are best obtained using a scalpel or glass slide to obtain a sample from the active border of the lesion.

Cultures can take three to four weeks to complete and are not recommended except in cases where the diagnosis is in question or treatment failure occurs.

Most cases respond to topical antifungals, but patients should be warned that resolution may take up to four to six weeks. Improvement, however, is usually seen in two weeks.

In this case, hyphae were seen on KOH prep, which effectively ruled out other causes, such as discoid lupus, polymorphic light eruption, and contact dermatitis. These entities may be clinically indistinguishable from tinea, which is what makes the KOH prep so important.

This patient was treated with clotrimazole cream twice daily. Although steroid containing antifungals may be used for tinea on other parts of the body, steroids are generally not recommended for the face. ■

Table 1. Topical Treatment of Tinea Faciei*

Drug	Rx or over-the-counter	Frequency
Naftifine 1% cream (Naftin)	Rx	Once daily
Terbinafine 1% cream (Lamisil)	OTC	Once or twice daily
Butenafine 1% cream (Mentax)	Rx	Once or twice daily
Clotrimazole 1% cream (Lotrimin)	OTC	Twice daily
Econazole 1% cream (Spectazole)	Rx	Once daily
Ketoconazole 1% cream (Nizoral)	Rx	Once daily
Miconazole 2% cream (Micatin)	OTC	Twice daily
Oxiconazole 1% cream (Oxistat)	Rx	Once or twice daily
Sulconazole 1% cream (Exelderm)	Rx	Once or twice daily
Ciclopirox 1% cream (Loprox)†	Rx	Twice daily
Tolnaftate 1% cream (Tinactin)	OTC	Twice daily

*Typically, creams are recommended over ointments and lotions for the face.
†Also exerts an anti-inflammatory effect for more inflamed lesions.

Resources

Noble SL, Forbes RC, Stamm PL. Diagnosis and management of common tinea infections. *Am Fam Physician*. 1998;58(1):163-174, 177-178.

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Wolff K, Johnson R. *Fitzpatrick's color atlas and synopsis of clinical dermatology*. 4th ed. McGraw-Hill;2001:684-688, 698-699.

Susilo R, Korting HC, Strauss UP. Dermatomycoses of the glabrous skin. *Clin Drug* Investig. 2003;23(6):387-394.

Acknowledgment: Case presented by Tracey Q. Davidoff, MD.

Congratulations to 2009 Joint Commission Accredited* Urgent Care Centers:

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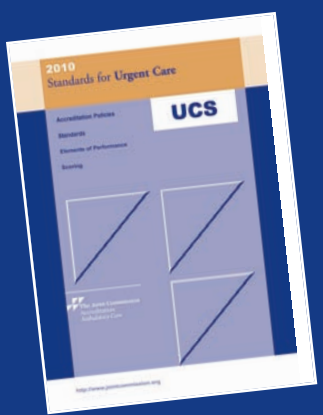
- Thibodaux Urgent Care, Thibodaux, LA
- Urgent Health Solutions, Lufkin, TX

*As of August 1, 2009



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On CDC and ACIP Recommendations for H1N1 Vaccinations

NAHUM KOVALSKI, BSc, MDCM

Each month, Dr. Nahum Kovalski reviews a handful of abstracts from, or relevant to, urgent care practices and practitioners. For the full reports, go to the source cited under each title.

H1N1 Update: CDC Recommends Seasonal Flu Vaccination for Children Over 6 Months

Key point: Get vaccinated!

Citation: Fiore AE, Shay DK, Broder K, et al. Prevention and control of seasonal influenza with vaccines. Recommendations of the Advisory Committee on Immunization Practices (ACIP), 2009. *MMWR. July 24, 2009;58(Early Release):1-52. Available at: www.cdc.gov/mmwr/preview/mmwrhtml/rr58e0724a1.htm*

In contrast to last year, when seasonal flu shots for those between 6 months and 18 years of age were "encouraged," this season it's a "full-out recommendation," according to Dr. Anne Schuchat, director of the CDC's center for immunization.

The CDC's Advisory Committee on Immunization Practices (ACIP) simultaneously released its recommendations for seasonal influenza online in *MMWR*.

The agency also recommends "strongly" that healthcare workers receive the seasonal vaccine.

The ACIP will make recommendations for which groups should have priority for receiving H1N1 vaccine, which, according to Schuchat, will be available in "reasonably large numbers of doses" by mid-October. ■

Nahum Kovalski is an urgent care practitioner and assistant medical director/CIO at Terem Emergency Medical Centers in Jerusalem, Israel.

ACIP Recommends Five Groups as Priority Targets for H1N1 Vaccination

Key point: Recommended populations encompass half the U.S. population.

Citation: CDC advisors make recommendations for use of vaccine against novel H1N1. Press release. Centers for Disease Control and Prevention. July 29, 2009. Available at: *www.cdc.gov/media/pressrel/2009/r090729b.htm*.

The CDC's Advisory Committee on Immunization Practices (ACIP) has recommended that the following five groups be targeted to receive H1N1 vaccine when it becomes available:

- pregnant women
- household contacts of infants under 6 months
- healthcare and emergency-services workers
- young people between 6 months and 24 years of age
- non-elderly adults with underlying risk conditions, such as diabetes and chronic lung disease.

The five groups comprise about 160 million people, about half the U.S. population.

People over 65 have the lowest priority.

Dr. Anne Schuchat, who directs the CDC's center for immunization, said at a press conference that people over 65 received ACIP's lowest priority for H1N1 vaccination because the virus "has, to a large extent, spared that population."

She emphasized, however, the importance of ensuring that the elderly receive the seasonal flu vaccine. ■

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A Tale of Two Applicants

JOHN SHUFELDT, MD, JD, MBA, FACEP

It was March, and third-year residents all over the country were sending out applications for employment. It was, as Charles Dickens penned, *the best of times, it was the worst of times, it was the age of wisdom*, it was the applicant's *spring of hope*, most *had everything before* them; James and Ashley were no exception.

James, from a prestigious East Coast family practice residency, learned during his first year as a resident that he really loved his emergency medicine rotations. Instead of switching programs, he decided to focus his interest on urgent care medicine while still in his family practice residency. He did all the "right" things. He spent as many of his electives as allowed in emergency medicine, pediatric emergency medicine, and orthopedics and attended different "procedure clinics" at conferences. On paper, James was an "A-gamer."

Ashley found her way into urgent care medicine on a slightly different path. Since childhood, Ashley dreamed of practicing medicine in a small town. She wanted to be the quintessential family practice physician and imagined rural life as a series of Norman Rockwell depictions. Ashley did well in medical school, and was completing her residency in a program whose graduates gravitated to rural healthcare. She completed her required emergency medicine rotation and although she enjoyed the pace, she wanted more continuity. During residency, Ashley met the love of her life, married him, and was soon pregnant. After her son was born, she realized that a full-time practice with all of the attendant responsibilities was going to be very difficult with a toddler, so she found her way to urgent care. On paper, Ashley was not as marketable as James.

James was "gung-ho;" he hired a search firm that blanketed urgent cares in the West with his curriculum vitae. He made multiple interview trips, always insisting that he be reimbursed for his travel. He hounded the search firm's representative to find more potential employers and made multiple calls on his own. In short, he was like a dog with a bone. James "cold called" our recruiter and forwarded his curriculum vitae via e-mail.

"Generally speaking, money should not be discussed until an offer is being proffered."

As our recruiter was setting up an interview trip, James—obviously not understanding the implication—casually mentioned that he was represented by a search firm.

During his phone interview, the focus of James's questions revolved around: time off, benefits, pay, and how hard was he expected to work? He spent the other half of the interview recounting, in laudatory terms, his academic and professional career to date. By his own description, he may have been the "lost Mayo brother."

Ultimately, he knew little about our company and then blamed the search firm for his lack of preparation. Most disturbing was his palpable arrogance toward our recruiter. When asked if he was a "team player," he responded somewhat incredulously that he was—provided he was "in charge of the team." His final question, was "So when can I start?"

Ashley looked for employment opportunities in the back of *JUCM*. She contacted a number of potential employers and did enough of her own research that she narrowed down the field well before she made any preliminary contacts. She negotiated with prospective employers to cover her travel only if she was hired. She had a firm grasp of the market dynamics and demographics and asked very intelligent questions during her interview. She was most interested in the environment of the centers, the focus on quality, and the commitment to customer service. Her final question, was, "This may be premature, but would you have any objections if I volunteered a day or so a month providing care to the indigent?" She followed up her interview with a handwritten letter thanking us for our time.

James was dumbfounded when told that we would not be offering him employment. He insisted on being told why, since in his mind, he was "all that." Employers are under no obligation

Continued on page 36.

John Shufeldt is the founder of the Shufeldt Law Firm, as well as the chief executive officer of NextCare, Inc., and sits on the Editorial Board of *JUCM*. He may be contacted at *JJS@shufeldtlaw.com*.

Marketing on a Shoestring Budget

FRANK H. LEONE, MBA, MPH

Heard the adage, "You've got to spend money to make money?" Of course you have, and chances are you subscribe to that notion.

Well, not so fast.

You *should* spend money on marketing your occupational medicine services, but you can spend it judiciously. Only so much new business can be generated from direct sales; new business must be supplemented with business that is generated through marketing activities that do not rely on face-to-face communication. If such marketing can be executed at minimal cost, all the better.

The Basics

Marketing strategy should begin with a simple question: What is our goal? Your clinic most likely wants to increase gross revenue; but what does your clinic have to do to accomplish this objective?

- Keep your message simple.
- Brand the message with your clinic name.
- Broadcast the message to the broadest possible audience.
- Repeat, repeat, repeat.

Simplicity

Do not let your message get lost among the trees. Use 10 words rather than 100. Avoid the temptation to describe a litany of services; hone in on the single most important benefit to the consumer.

Branding

Branding your program name means always linking it with your core message: "Convenient Care's Care Management System saves employers money."

Broadcasting

Broadcasting your message to the greatest possible audience may appear simple, but it requires an ongoing, dedicated effort to ensure that you maintain an accurate and comprehensive database of contact names.

Reinforcing

The same message must be repeated over and over to the prospective consumers until they recognize the name of your clinic, what your clinic does, and your competitive advantage.

Marketing on a Tight Budget

How does an urgent care clinic achieve these marketing objectives within a shoestring budget? How does your clinic stay "in the face" of prospects in order to supplement the results of your sales effort?

The basic answer is to use a blend of all the communication tools at your disposal (for example, e-mail, websites, voicemail, personalized letters). A worthy and attainable goal might be to touch every employer contact in your database 20 times a year. If I were a decision maker at the Blue Bell Dairy and were exposed to your program's name 20 times in a year, I would be more likely to use your clinic if and when a need arose.

A 20 hit per annum marketing outreach program might look like this:

- **Tip of the Month.** If you receive the RYAN Associates/NAOHP tip of the week (e-mail *info@naohp.com* for a free subscription), you will recognize this outreach strategy. Develop an employer contact e-mail list (with an option for the recipient to opt out) and provide recipients with useful information (i.e., the tip).

  You are also positioning your clinic (subliminally, if not in fact) as an expert in occupational health—not a bad

Frank Leone is president and CEO of RYAN Associates and executive director of the National Association of Occupational Health Professionals. Mr. Leone is the author of numerous sales and marketing texts and periodicals, and has considerable experience training medical professionals on sales and marketing techniques. E-mail him at *fleone@naohp.com*.

image to have when an uncommitted employer needs assistance.

- **Semi-annual letters.** Send a concise, personalized, and individually signed letter to all employer prospects twice a year. There is a monumental difference between "junk mail," basic brochures and fliers, and direct correspondence. Use direct correspondence to catch someone's attention, if only briefly, to convey a simple but meaningful message, and to do it repeatedly.

"In marketing, it is no longer a matter of cost; it is a matter of tenacity."

- **Quarterly phone calls.** You have to control voicemail and not let it control you. You typically do not want to leave a voicemail message if you absolutely need to speak with the prospect. When a "thinking of you" message is being used for marketing purposes, however, voicemail is an excellent means to say a lot in a few short seconds. Intentionally call at a time when you are unlikely to reach your prospect directly and then leave a carefully scripted message. *Polish your script and then be prepared to say it with warmth, conviction and self-confidence.*

A consistent theme runs through each of these activities: they cost virtually nothing, consume little staff time, are brief, and are to the point. Taken as a single point of communication, their value is negligible; taken as an aggregate of 20 communication moments per year, their impact is considerable.

Summary

Marketing has become less a matter of expensive, dramatic events and more the delivery of a simple message delivered over and over again. Take the following principles to the bank:

1. Develop a very short, meaningful message.
2. Isolate the recipient of that message to a time and place when your message is not competing with other messages (e.g., Monday morning e-mail; late afternoon voicemail, personalized letter received mid-week).
3. Keep repeating the message over and over again, using multiple modalities (e-mail, voicemail, personal mail).

This conceptual leap in marketing technique comes with an additional piece of good cheer: such techniques offer a considerable return for little cost. In marketing, it is no longer a matter of cost; it is a matter of tenacity. ■

to provide this analysis to prospective employees; however, since James had his whole career in front of him, I decided to make an exception and agreed to have a candid discussion with him about his interviewing and communication style, if in fact, he was truly interested.

Why James was "un-hirable:"

- He did not do any research prior to making calls. This demonstrated, to me, a lack of diligence and a complete lack of respect for other's time. He could have done some basic research simply by looking at our website. He could have also evaluated the market by looking at other centers in our area using something as simple as Dex Online. The answers to the few questions he asked were easily found online.
- He discussed salary, etc. before learning anything about the job—meaning, the only thing he really cares about is how much money he will make. While money is obviously important, generally speaking, it should not be discussed until an offer is being proffered.
- He was rude and arrogant to our staff. As I mentioned in an earlier article, this is a BFRF*! Arrogance and rudeness are diseases not easily cured and I have no interest in employing a person who demonstrates these traits. Also, arrogant providers get sued, treat the staff and patients poorly, and are generally "uncoachable" since they already know everything.
- He hired a search firm and then immediately broke his agreement with them by doing his own search. Moreover, he was not bright enough to realize the implication of his actions. Unless the entity is recruiting for very scarce specialties or to remote areas, search firms are typically only necessary if the applicant has a history colored by questionable actions. Measured against like-trained peers, search firm-generated applicants are at a distinct disadvantage.

At the end of the day, providers garner a tremendous amount of respect and earn a significant amount of money and benefits. My quid pro quo is that this level of remuneration mandates professionalism, hard work, integrity, and great interpersonal skills. In these areas, James met his Waterloo. Unfortunately, if history is a predictor of future performance, James will have a career punctuated with frequent job changes, medical malpractice suits, board actions, syphilis, and a generally negative experience as a medical professional.

Ashley, on the other hand, can look forward to a career that has both meaning and financial rewards and will ultimately realize that, to paraphrase, *it is a far, far better thing she does, than she has ever done; it is a far, far better rest that she goes to, than she has ever known.*

*Big f-ing red flag; see Health Law, *JUCM*, March 2009; available at *www.jucm.com*. ■

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Gail Paschall, Sixteenth Street Community Health Center,
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Faculty - Urgent Care

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WVU Urgent Care opened in September 2007 and is on pace to see 22-23K patient visits this year. The clinic currently operates from 8am to 8pm, seven days a week. Hours may expand in the future. Staffing includes one physician and one mid-level provider at all times.

The WVU Department of Emergency Medicine has nearly 30 full-time faculty members. Our Emergency Department at Ruby Memorial Hospital is a Level 1 Trauma Center, Primary Stroke Center, and regional tertiary care center and is home to the hospital-based air medical helicopter program. Employment opportunities are available in this academic environment as well as in neighboring community settings.

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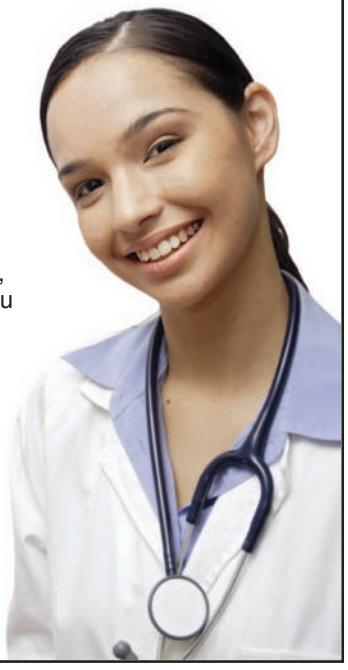

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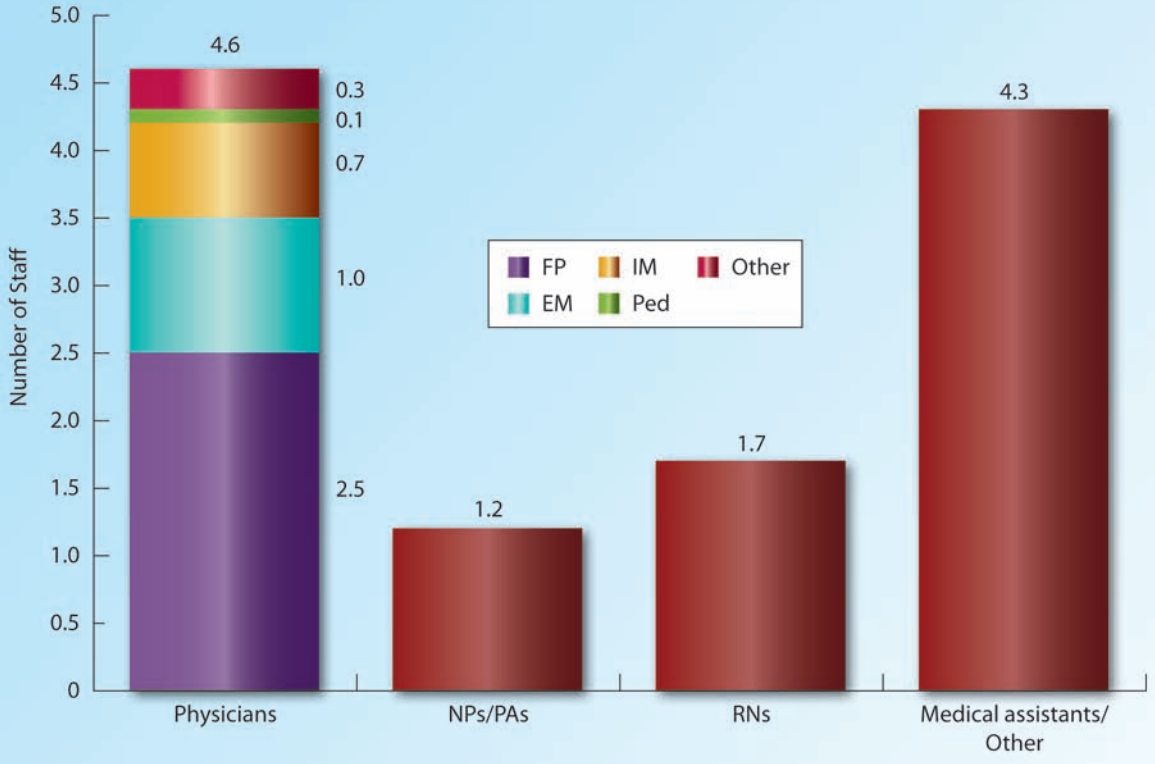
DEVELOPING DATA

In early 2008, UCAOA revamped its annual survey in conjunction with researchers at Massachusetts General Hospital and Harvard University with the goal of assuring that the UCAOA Benchmarking Committee's efforts produced a scientifically valid report.

Here, we present some of the data from this landmark survey, to which 436 urgent care centers responded.

In this issue: What clinical staff is working in urgent care centers?

STAFFING MODELS IN URGENT CARE CENTERS



It is important to note that these data do not necessarily reflect full-time clinical staff; in fact, responses to the survey showed just 1.7 physician, 0.4 NP or PA, 0.7 RN, and 2.3 medical assistant/other clinical staff work full time in the "typical" urgent care center.

Acknowledgment: Data submitted by Robin M. Weinick, PhD, assistant professor, Harvard Medical School and senior scientist, Institute for Health Policy, Massachusetts General Hospital. Dr. Weinick is also a member of the *JUCM* Advisory Board. Financial support for this study was provided by UCAOA.

If you are aware of new data that you've found useful in your practice, let us know via e-mail to *editor@jucm.com*. We'll share your discovery with your colleagues in an upcoming issue of *JUCM*.

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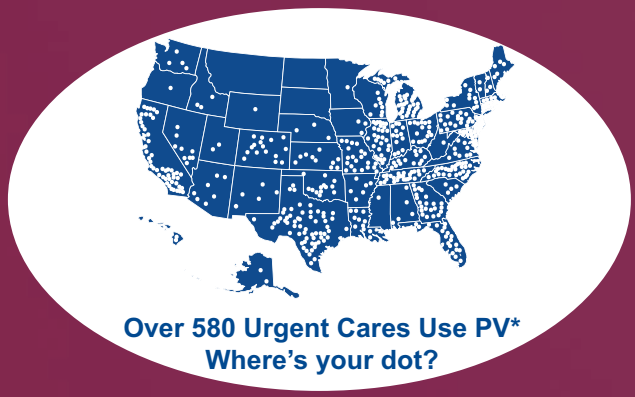

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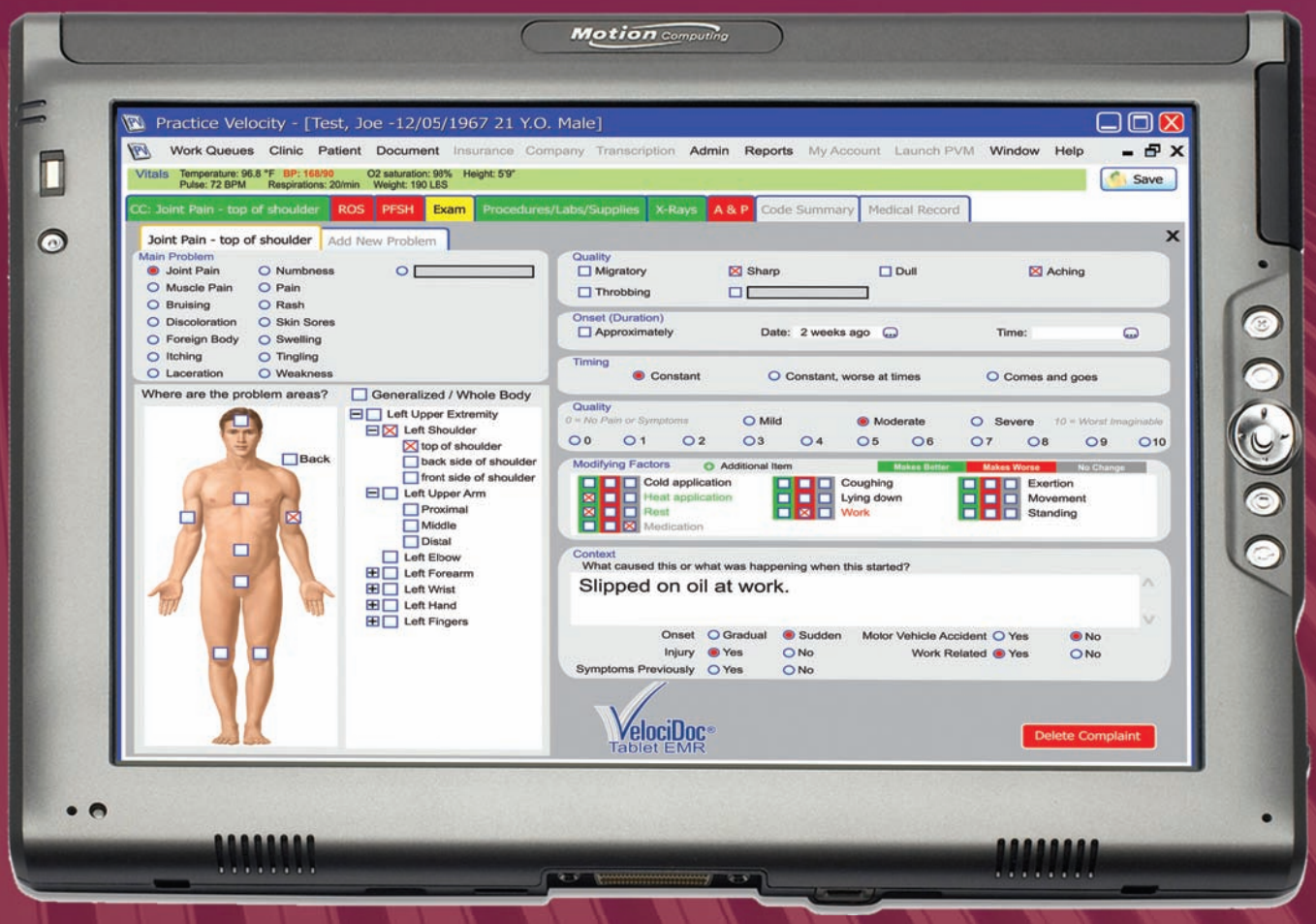

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** Map: Numbers per state are accurate, but specific locations not designated.*

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