JUCM™
THE JOURNAL OF URGENT CARE MEDICINE

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IN THIS ISSUE

The Dizzy Patient

in the Urgent Care Setting

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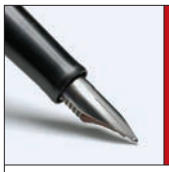


LETTER FROM THE EDITOR-IN-CHIEF

Lessons Born of Missteps

This month's issue of *JUCM* heralds an important addition to the journal.

"Bouncebacks" will be a new regularly occurring contribution from Dr. Michael Weinstock and Dr. Ryan Longstreth. This department will take a unique approach that combines the formats of a morbidity & mortality conference, risk management lecture, and clinical review article. The result is a one-of-a-kind look at relevant clinical cases seen in the urgent care or emergency department and in which a misdiagnosis led to delay in appropriate treatment.

Reflecting on one's missteps is one of the most difficult tasks for most physicians to do. It is interpreted by some as an admission of guilt and, therefore, discouraged or feared.

Yet, everything we have learned in medicine has been born from our mistakes.

The best physicians I know have devoted themselves to understanding when things go wrong, and how to apply those lessons to improving future care. It is the critical step of higher learning.

In urgent care medicine, patients present with a chief complaint, not a diagnosis. "Sore throat" can represent anything from pharyngitis to myocardial infarction. Assumptions are used in every encounter to guide our evaluation and management, yet are as likely to misguide our investigation as help it. Breaking down clues, ignoring irrelevant facts, and understanding patient language and agendas are just as important as a comprehensive fund of medical knowledge.

In fact, most mistakes in medicine are the result of misinterpretation of clinical and non-clinical clues, not a lack of medical knowledge. One could even argue that traditional medical education misleads us by focusing on classic presentations of particular problems.

Every medical student knows that RLQ pain associated with McBurney's point tenderness, anorexia, and an elevated white count represents appendicitis. Yet for every case that presents this way, I have 10 stories for atypical presentations.

So, how can we minimize the misses, avoid the mistakes in interpretation, and maximize our investigation in such a brief encounter? And, perhaps more importantly, how can we communicate more effectively to patients what we know, what we *don't* know, and what to look for that should prompt their return?

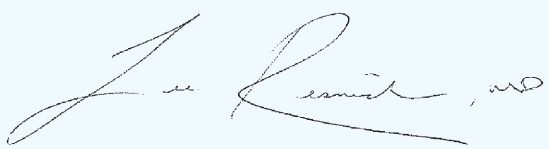
"By reflecting back on what was missed... we look beyond our fund of knowledge and into the artistic side of medicine."

This key piece of the encounter is addressed in exquisite detail in the Bouncebacks format. By reflecting back on what was missed, what was misinterpreted, and what was miscommunicated, we look beyond our fund of knowledge and into the artistic side of medicine. This is what truly separates a practitioner from a physician. You can't learn how to be a physician from a book.

Reflecting on the missteps of others is the surest way of avoiding the same mistake.

It is the mission of *JUCM* to deliver the most relevant clinical content available in urgent care medicine. We will continue to explore unique ways to reach our audience and contribute to the growth of our discipline.

Look for more innovative approaches in upcoming issues. And please feel free to share your comments and suggestions in an e-mail to *editor@jucm.com*. ■



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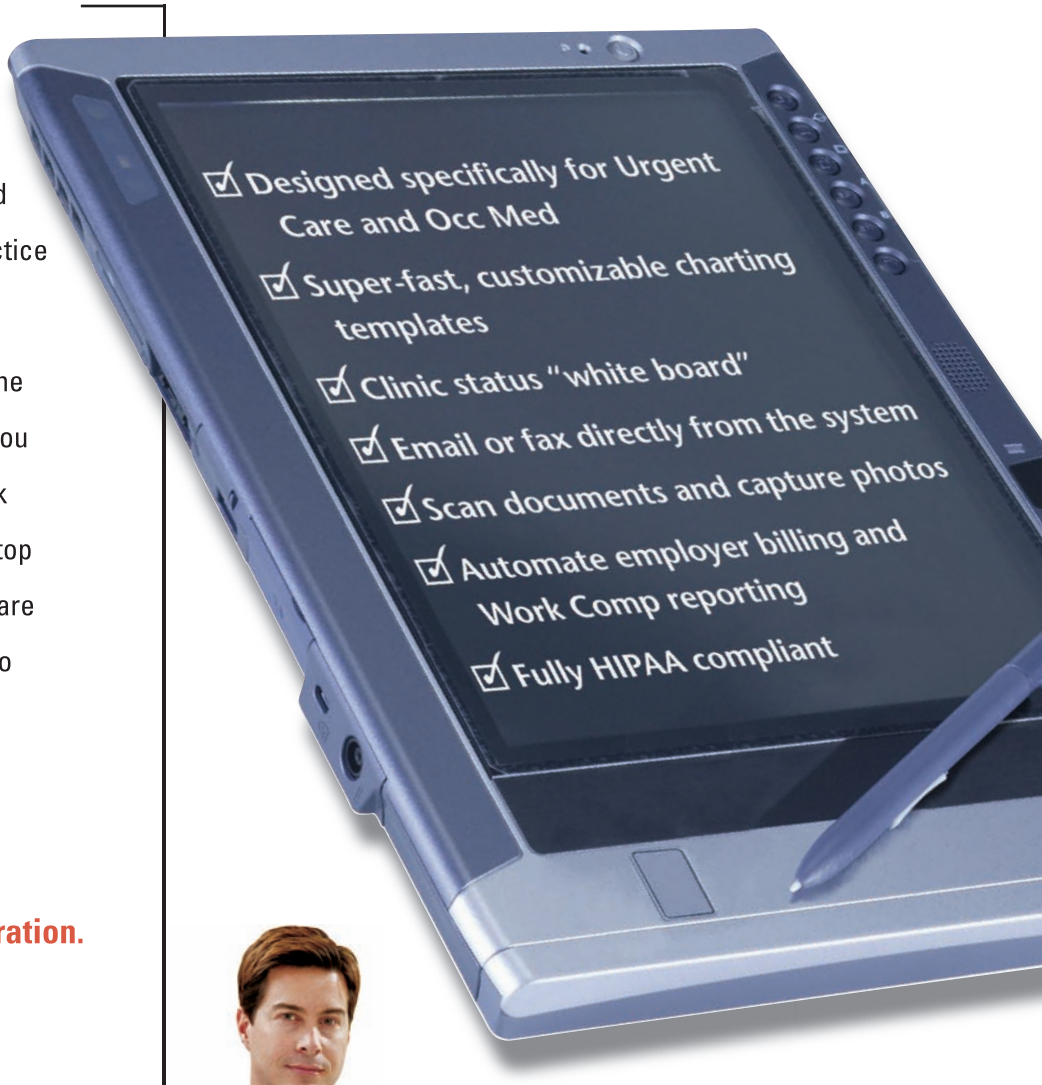

JUCM

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VOLUME 1, NUMBER 6

CLINICAL

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"I feel dizzy." This simple statement may indicate serious illness or a relatively benign condition. Who needs emergent care and who simply needs their medications adjusted?

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The symptoms point toward one diagnosis and the lab work toward another. How would you proceed?

By Jill Chavinson Miller, MD

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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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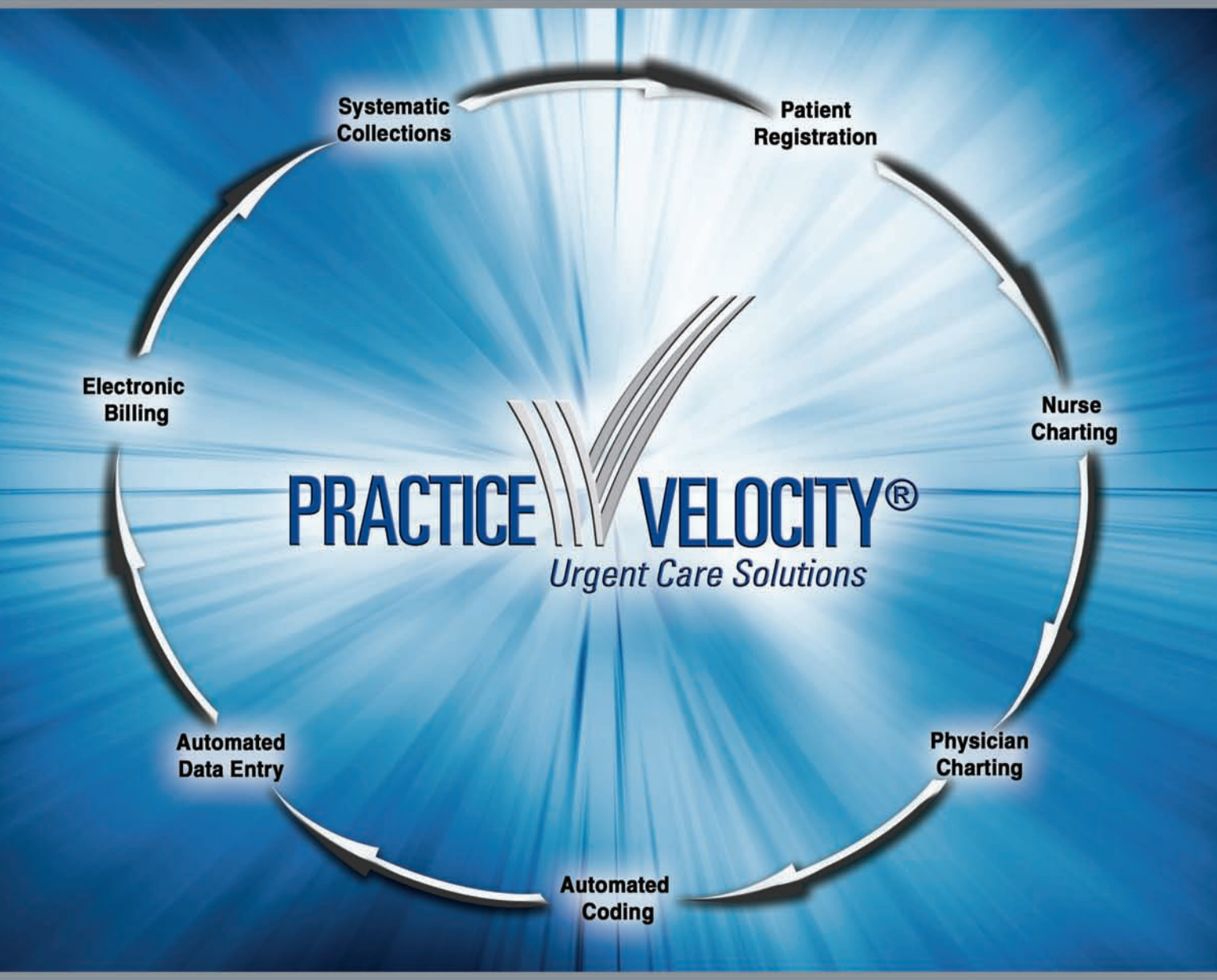

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JUCM CONTRIBUTORS

Just a month after joining the *JUCM* Advisory Board, **Martin A. Samuels, MD, DSc (hon), FAAN, MACP** has contributed the cover article for our April issue. The Dizzy Patient in the Urgent Care Setting (page 9) addresses one of the more challenging presentations relatively common to urgent care. It's an issue Dr. Samuels is well qualified to address, given his status as chair of the Department of Neurology at Brigham and Women's Hospital and professor of neurology of Harvard Medical School.

Another board member offers some perspective on the importance of an appropriate clinical approach to occupational medicine in An Approach to Care of Injured Workers (page 21). Again, it's a topic for which Editorial Board member **David M. Rosenberg, MD, MPH** is well suited; in addition to serving as assistant clinical professor of medicine at Case Western Reserve University School of Medicine, he is medical director of University Hospitals Corporate Health in Cleveland, OH.

In addition, we're pleased to introduce a new feature that will appear in these pages on a bimonthly basis: Bouncebacks (page 24) will recount actual clinical cases in which patients were seen in an urgent care or emergency setting, discharged, and then "bounced back" for further evaluation and treatment. The authors, **Michael B. Weinstock, MD**, and **Ryan Longstreth, MD, FACEP**, are also the co-authors, along with Gregory L. Henry, MD, FACEP, of *Bouncebacks! Emergency Department Cases: ED Returns* (2006, Anadem Publishing, *www.anadem.com*). Drs. Weinstock and Longstreth work together at Mt. Carmel St. Ann's Emergency Department in Columbus, OH as attending physicians. Dr. Weinstock is also clinical assistant professor of emergency medicine at The Ohio State University College of Medicine and has authored *The Resident's Guide to Ambulatory Care*, the sixth edition of which is due out later this year. He's gained further acclaim playing guitar and harmonica in Mike Weinstock's Big Rockin' Blues band.

Jill Chavinson Miller, MD, attending physician at Chagrin Highlands Urgent Care, University Hospitals Medical Practices in Cleveland, and senior clinical instructor in the Department of Internal Medicine at Case Western Reserve University, contributes a case report on a patient who did *not* bounce back (A 55-Year-Old Woman with Abdominal Pain, page 29). Dr. Miller is board certified in internal medicine, in addition to her training in emergency medicine. She also lectures on topics ranging from women's health to domestic violence.

Finally, we would be remiss if we didn't remind you that several recent or regular contributors—**Frank Leone, MBA, MPH**; **Kevin Ralofsky, MBA**; **John Shufeldt, MD, JD, MBA, FACEP**; and **David Stern, MD, CPC**—as well as *JUCM* Editor-in-Chief **Lee Resnick, MD**, will be speaking at the UCAOA 2007 Annual Convention in Daytona Beach, FL, May 9-12. We appreciate their ongoing support, as well as the many contributions of **Nahum Kovalski, BSc, MDCM**.

Feel free to share any suggestions or questions via e-mail to editor@jucm.com. ■

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. Articles submitted for publication in ***JUCM*** should provide practical advice, dealing with clinical and practice management problems commonly encountered in day-to-day practice.

Manuscripts on clinical or practice management topics should be 2,600–3,200 words in length, plus tables, figures, pictures, and references. Articles that are longer than this will, in most cases, need to be cut during editing.

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*.

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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."

Overheard

LOU ELLEN HORWITZ, MA

I confess: I am a lurker (you know, one of those people who go to Internet "chat rooms" and read what everyone is saying but don't say very much themselves).

The problem with lurkers is that we are the online equivalent of sponges—we soak up information but aren't giving it back. If there are too many of us, at some point we're going to run out of water unless someone else is filling the sink.

So, I've decided to reform and hope that you will join me. Here's how:

UCAOA Online Forums

First, do you even know that UCAOA has online forums? To get there, go to our main page (*www.ucaoa.org*), then click on the farthest right tab and you're there. Here's what you'll see:

Urgent Care Forums
Starting a New Urgent Care Center
Running Your Urgent Care Center
Hospital-owned Urgent Care Centers
Advanced Billing and Coding in Urgent Care
Provider Issues in Urgent Care

Second, what exactly happens in these "rooms"?

If the concept of "chat rooms" sounds like something only a high-school kid would be doing, then you are doing yourself a disservice; our rooms are a professional gold mine.

What happens here, basically, is a nationwide, 24-hour question-and-answer session. And while lurking is definitely permitted, that's not really why we are all there, is it? So the first thing you need to do is to register, which is 100% free and 99% easy (you have to make up a user name—and a password).

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

The Unspoken Rules

We will e-mail the official rules of our online forums when you register. More interesting, however, are the unspoken rules:

- Do ask questions—but also supply answers for others. Remember the sponge analogy? It applies even more if you are an active vs. passive sponge, and active contributors do notice. The forum seems to help those most who help others.
- Remember that this is an area "for the people, of the people, and by the people." This is a participant-driven area; keep coming back and bring your friends.
- Don't come on just to sell stuff. The forums are for people in urgent care to share ideas and strategies and tips, so if you are there only to sell your product, you'll find your messages disappearing. On the other hand, if you have an expertise in a certain area and are willing to share in a non-commercial way, we'd love to have you (and you may likely end up with a few customers anyway).

Three rules seems like enough. The main point I want to make is—COME. The forums are currently a great place full of activity and we want to be sure that you know about them and join in the exchange.

Countdown to Conference

I would be remiss if I did not mention that the Annual Conference is now just weeks away.

This is our biggest event of the year, and historically the largest urgent care gathering anywhere. If you aren't already registered, we'd love to have you join us. It will be a great educational opportunity, and just a great time in general. We have some amazing speakers and lots of exhibitors, plus hundreds of other urgent care leaders just like you. Don't miss it!

For details on the courses, visit us on the website (*www.ucaoa.org*) or just give us a call (877-698-2262; that's 877-MY-UCAOA). We've redone the site so you can have everything at your fingertips with just a click or two. ■

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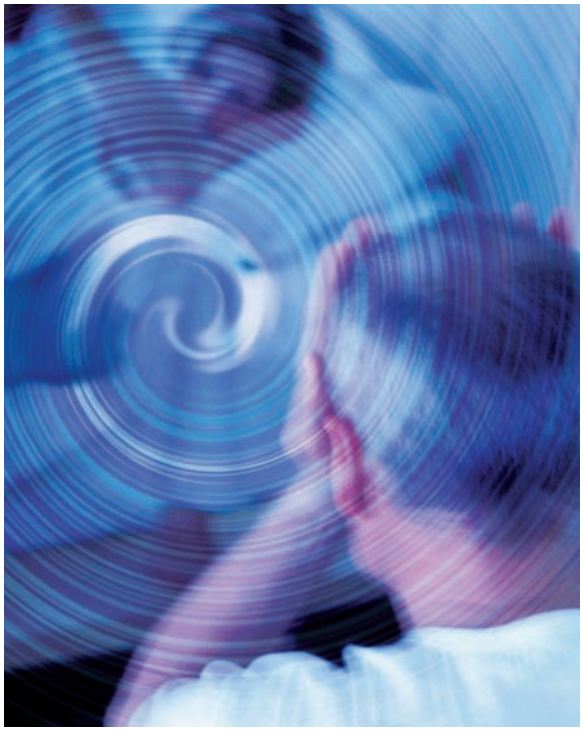
The Dizzy Patient
in the Urgent Care Setting

Urgent message: "Dizziness" can prove to be one of the more vexing complaints encountered in urgent care. To provide appropriate care, the clinician must understand whether the patient is experiencing near-syncope, disequilibrium, ill-defined light-headedness, or vertigo.

Martin Samuels, MD, DSc (hon), FAAN, MACP

Introduction

The problem of dizziness can be one of the most exasperating in the practice of medicine. Physicians all know that sinking feeling elicited by the patient who sits down and, when one asks "What can I do for you?", says, "I'm dizzy." The goal of this article is to offer urgent care practitioners a reasoned approach to dizziness that will lead expeditiously to diagnosis and effective therapy.



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Principles of Diagnosis

The first principle in evaluating a dizzy patient is to take an open-ended history.

This is a good rule in taking any medical history, but it is particularly applicable in this instance. When the patient says to you, "I am dizzy," sit back in your chair, slowly spin around, perhaps stare aimlessly out the window, and reply, "What do you mean, dizzy?" Then wait for the response.

This may take what seems to be a long time; nonetheless, don't probe further by asking "Does the room spin?" "Do your legs get weak?" "Do you feel as if you might stagger?" "Are you lightheaded?" because the answer to all these questions will nearly always be "yes." If you are fortunate enough to be the first physician to examine a patient complaining of dizziness, always take the undirected approach and wait for the response. There are several possible responses.

Syncope or Near-Syncope

"I feel as if I might faint," or "I feel giddy or light-headed." Some patients do faint or report that they have done so while others have never actually fainted (near-syncope).

Pathophysiologically, both syndromes suggest any of several cardiovascular disorders that produce a generalized decrease in cerebral blood flow. There is no qualitative difference between syncope and near-syncope with respect to the differential diagnosis. This topic was discussed in

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DAIICHI

January 2007

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AN ILLUSTRATIVE PATIENT: PRESENTATION

A 61-year-old woman comes to the office complaining of dizziness. She says it began by waking her from a sound sleep on the evening after a hair appointment. When asked to describe the sensation, she says it is a feeling of violent motion, a sensation of being pulled to the right. It occurs in waves a moment after she lies down on her right side in bed. If she remains motionless, the sensation will pass in about 30 seconds. However, if she then sits up, the phenomenon recurs, although less severely, this time with the environment moving from left to right and a sensation of falling to the left. There is no history of hearing loss or tinnitus, nor is there an associated diplopia, dysarthria, or weakness.

On examination, vital signs including orthostatic blood pressure and heart rate determinations are normal. General examination and routine neurologic examination are normal. The findings on examination of cranial nerve VIII include normal auditory acuity, air better than bone conduction, and intact speech discrimination. There is no spontaneous nystagmus.

However, with Dix-Hallpike position testing, tortional nystagmus develops three seconds after the patient attains the right-ear-down position, with fast phase in the counter-clockwise direction as viewed from the perspective of the examiner.

In addition, there is a vertical component to the nystagmus in the left eye with the fast phase upward. The patient reports vertigo, with the environment spinning right to left, which she says is the same as her symptoms at home. The nystagmus and vertigo stop after 30 seconds, but when she sits up, there are a few beats of nystagmus in the opposite direction with recurrence of vertigo but in the reverse direction. Head-hanging and left-ear-down positions fail to elicit vertigo or nystagmus.

(Resolution of this case is described at the end of this article.)

detail in the October 2006 issue of *JUCM*, and will not be explored further here.

Disequilibrium

"My balance is off and I feel as if I might fall." This version of dizziness generally reflects one of two major categories of neurologic disease, apart from disorders of the vestibular system.

Cerebellar ataxia is due either to a primary disease of the cerebellum (e.g., cerebellar degeneration, tumor in or near the cerebellum, cerebellar infarct) or disorders of the tracts leading to (cerebellopetal) or from (cerebellofugal) the cerebellum. Neurologic examination will ordinarily unveil such pathology by revealing axial (e.g., wide-based gait; falling to one side) or appendicular ataxia (e.g. side-to-side tremor on goal-directed action).

Multiple sensory deficits syndrome is due to several abnormalities in the various sensory proprioceptive systems. When a number of these systems fail, the central nervous system receives conflicting proprioceptive input, with consequent dizziness. Typically, such a patient complains of dizziness at night—for instance, when the lights are out or dim and he or she has to go to the bathroom. On occasion, the patient may fall, particularly in environments in which there are no reliable visual cues (e.g., the shower).

The treatment of this extremely common syndrome is common sense (as many of the sensory abnormalities that can be corrected should be); such patients should not be treated with drugs that might sedate them, as antivertigo medications would do. Mistaking this syndrome for vertigo would, in fact, make matters worse.

Anxiety and/or Depression

There are patients who when asked, "What do you mean, dizzy?" respond, usually after a pause, "Dizzy." If the physician persists with "Do you mean you might faint?" or "Do you mean that you might fall?" or "Do you mean that the room spins?" the patient repeats, "No, I mean I'm dizzy."

This disorder can only be called true dizziness, and it generally arises from various psychological disorders, most commonly anxiety (with or without hyperventilation) and/or depression.

Vertigo

The fourth and last category of disorder found in patients who complain of dizziness is true vertigo (an illusion or hallucination of motion). Some patients insist that they themselves are moving, while others—such as the one presented above—have the sense that the environment is moving. In either case, these patients transmit the message that they feel as if they are tilting, rocking, falling, spinning, or moving in some fashion.

Vertigo indicates a disturbance in the vestibular system. The important clinical question is whether the vertigo is due to a disorder in the *peripheral nervous system* or in the *central nervous system*, for central and

peripheral etiologies each have their own differential diagnosis and treatment.

TABLE 1.
What Defines a Dizziness Emergency?

Double vision (diplopia)	Hemiparesis
Dysarthria	Loss of vision
Ataxia	Loss of consciousness
Facial numbness	Prominent neck pain
Facial weakness	

Evaluation of Vertigo

The first step is to perform a complete history and physical examination, as well as a neurological examination with particular attention to the VIII cranial nerve. (Symptoms that may reflect a true dizziness emergency are listed in **Table 1**.)

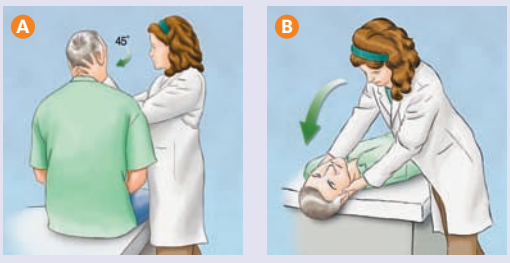
Cochlear VIII Nerve Function

Pure Tone Hearing Loss

Test for pure tone hearing loss. This can be done in the office by assessing the sensitivity of the patient's hearing or comparing the patient's hearing with one's own, using a ticking watch or the sound of fingers rubbing together. If there is hearing loss, the patient should be referred for additional audiologic testing to determine the specific type of hearing loss.

While hearing loss associated with vertigo can have a relatively benign prognosis such as with Ménière's disease, vestibular schwannoma must be excluded as a cause since it requires urgent surgical intervention. This can be accomplished by MRI to image the VIII cranial nerve, or by audiogram to exclude retrocochlear hearing loss. (Alternatively, a skilled physician with a thorough understanding of the pathophysiology of the vestibular system may differentiate via a systematic approach to evaluating hearing loss; this is detailed online at *www.jucm.com*.)

Figure 1. The Dix-Hallpike maneuver.



To perform the Dix-Hallpike maneuver, move the patient promptly backwards on examining table so that head hangs over edge at 30° below horizontal. Then have patient look straight ahead, and observe for 30 seconds. If nystagmus and vertigo develop, note directions of fast and slow phases and ask patient to describe sensations: In which direction does world seem to spin and toward which direction is the feeling of failing or being pulled? If vertigo lasts longer than 60 seconds in this position, it is persistent positional vertigo; if not, it is transient positional vertigo. Repeat the precipitating position three or four times to see whether vertigo and nystagmus extinguish; also note whether they return when patient sits up and in which directions they occur. If head hanging posture fails to elicit vertigo, repeat maneuver with right ear down. If this fails, repeat with left ear down.

Vestibular VIII Nerve Function

Testing for Nystagmus

The vestibular aspect of the VIII cranial nerve may be examined by testing for nystagmus. First, ask the patient to sit on the end of the examining table and to look about 45° to the right and to the left. (Asking the patient to look beyond 45° is not useful, since when asked to look too far in either direction, about 10% of the normal population show some degree of gaze-evoked endpoint nystagmus.) If nystagmus develops when the gaze is directed to 45°, note the direction of the fast phase, the direction of the slow phase, and in what position of the eyes they occur.

Next, the patient should be put through a series of positions called the Dix-Hallpike maneuver (**Figure 1**).

All vertigo is positional to some extent, but there are specific pathogenetic and prognostic implications if vertigo is exclusively positional. Once position testing has been done, the physician knows in which direction the world seems to be spinning and in which direction the patient seems to be falling when the vertigo develops. The directions of the fast and slow phases of the nystagmus have been recorded. The next step is the interpretation of these data.

Peripheral or Central Nervous System?

A basic understanding of the neuroanatomy and neurophysiology of the vestibular system is necessary for effectively interpreting findings from the neurological exam. (A detailed review can be found online at *www.jucm.com*.)

Criteria for Locating the Lesion

There are four criteria for a peripheral type of vertigo and nystagmus (see **Table 2**). If there are 1) fast-phase nystag-

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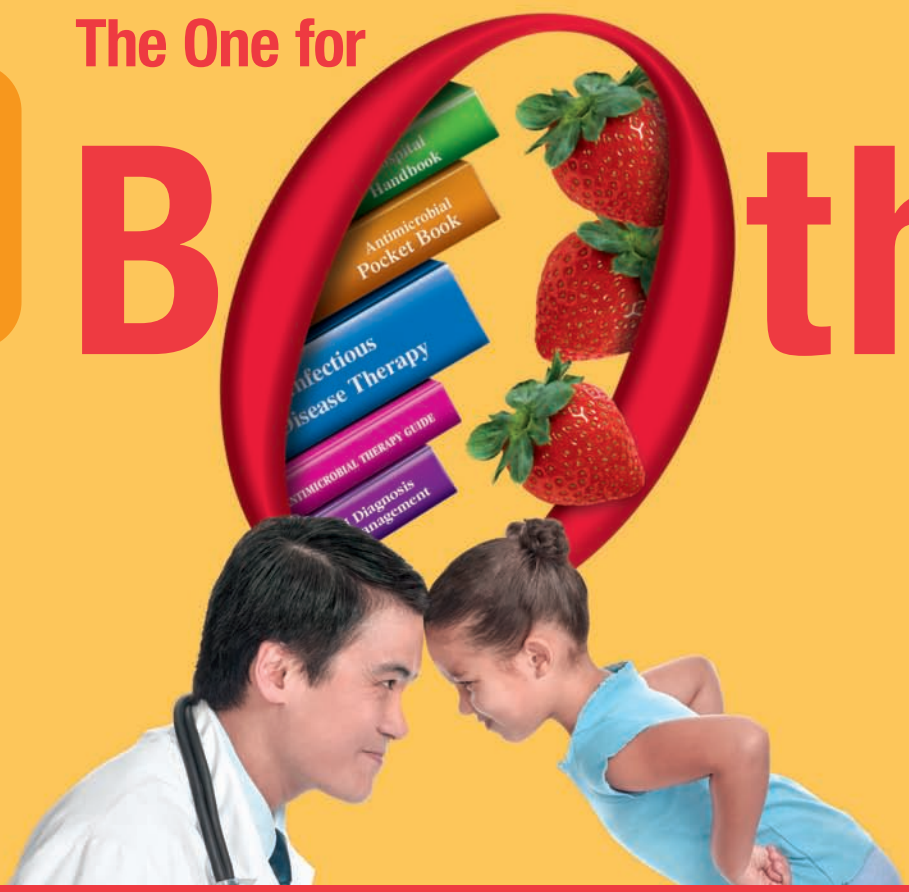

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- 2% of 2,289 pediatric patients discontinued medication due to adverse events in US and non-US clinical trials. Discontinuations were primarily for gastrointestinal disturbance, usually diarrhea
- The most common reported adverse events occurring in ≥1% of pediatric patients in US clinical trials (N=1,783) were diarrhea (8%), rash (3%), and vomiting (1%)

References: 1. Brixner DI. Improving acute otitis media outcomes through proper antibiotic use and adherence. *Am J Manag Care.* 2005;11(6 suppl):S202-S210. **2.** Kardas P. Patient compliance with antibiotic treatment for respiratory tract infections. *J Antimicrob Chemother.* 2002;49:897-903. **3.** Ramgoolam A, Steele R. Formulations of antibiotics for children in primary care. *Pediatr Drugs.* 2002;4:323-333. **4.** OMNICEF (cefdinir) Capsules and for Oral Suspension Prescribing Information, Abbott Laboratories.

Please see adjacent brief summary of full prescribing information.

OMNICEF®

(cefdinir) for oral suspension

125 mg/5 mL and 250 mg/5 mL

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03-5435-Rev. July, 2005
(Nos. 3769, 3771, 6151)

Omnicef® (cefdinir) capsules
Omnicef® (cefdinir) for oral suspension

Rx only

INDICATIONS AND USAGE

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

OMNICEF (cefdinir) capsules and OMNICEF (cefdinir) for oral suspension are indicated for the treatment of patients with mild to moderate infections caused by susceptible strains of the designated microorganisms in the conditions listed below.

Adults and Adolescents

Community-Acquired Pneumonia caused by *Haemophilus influenzae* (including β-lactamase producing strains), *Haemophilus parainfluenzae* (including β-lactamase producing strains), *Streptococcus pneumoniae* (penicillin-susceptible strains only), and *Moraxella catarrhalis* (including β-lactamase producing strains).

Acute Exacerbations of Chronic Bronchitis caused by *Haemophilus influenzae* (including β-lactamase producing strains), *Haemophilus parainfluenzae* (including β-lactamase producing strains), *Streptococcus pneumoniae* (penicillin-susceptible strains only), and *Moraxella catarrhalis* (including β-lactamase producing strains).

Acute Maxillary Sinusitis caused by *Haemophilus influenzae* (including β-lactamase producing strains), *Streptococcus pneumoniae* (penicillin-susceptible strains only), and *Moraxella catarrhalis* (including β-lactamase producing strains).

NOTE: For information on use in pediatric patients, see **Pediatric Use** and **DOSAGE AND ADMINISTRATION**.

Pharyngitis/Tonsillitis caused by *Streptococcus pyogenes*.

NOTE: Cefdinir is effective in the eradication of *S. pyogenes* from the oropharynx. Cefdinir has not, however, been studied for the prevention of rheumatic fever following *S. pyogenes* pharyngitis/tonsillitis. Only intramuscular penicillin has been demonstrated to be effective for the prevention of rheumatic fever.

Uncomplicated Skin and Skin Structure Infections caused by *Staphylococcus aureus* (including β-lactamase producing strains) and *Streptococcus pyogenes*.

Pediatric Patients

Acute Bacterial Otitis Media caused by *Haemophilus influenzae* (including β-lactamase producing strains), *Streptococcus pneumoniae* (penicillin-susceptible strains only), and *Moraxella catarrhalis* (including β-lactamase producing strains).

Pharyngitis/Tonsillitis caused by *Streptococcus pyogenes*.

NOTE: Cefdinir is effective in the eradication of *S. pyogenes* from the oropharynx. Cefdinir has not, however, been studied for the prevention of rheumatic fever following *S. pyogenes* pharyngitis/tonsillitis. Only intramuscular penicillin has been demonstrated to be effective for the prevention of rheumatic fever.

Uncomplicated Skin and Skin Structure Infections caused by *Staphylococcus aureus* (including β-lactamase producing strains) and *Streptococcus pyogenes*.

CONTRAINDICATIONS

OMNICEF (cefdinir) is contraindicated in patients with known allergy to the cephalosporin class of antibiotics.

WARNINGS

BEFORE THERAPY WITH OMNICEF (CEFDINIR) IS INSTITUTED, CAREFUL INQUIRY SHOULD BE MADE TO DETERMINE WHETHER THE PATIENT HAS HAD PREVIOUS HYPERSENSITIVITY REACTIONS TO CEFDINIR, OTHER CEPHALOSPORINS, PENICILLINS, OR OTHER DRUGS. IF CEFDINIR IS TO BE GIVEN TO PENICILLIN-SENSITIVE PATIENTS, CAUTION SHOULD BE EXERCISED BECAUSE CROSS-HYPERSENSITIVITY AMONG β-LACTAM ANTIBIOTICS HAS BEEN CLEARLY DOCUMENTED AND MAY OCCUR IN UP TO 10% OF PATIENTS WITH A HISTORY OF PENICILLIN ALLERGY. IF AN ALLERGIC REACTION TO CEFDINIR OCCURS, THE DRUG SHOULD BE DISCONTINUED. SERIOUS ACUTE HYPERSENSITIVITY REACTIONS MAY REQUIRE TREATMENT WITH EPINEPHRINE AND OTHER EMERGENCY MEASURES, INCLUDING OXYGEN, INTRAVENOUS FLUIDS, INTRAVENOUS ANTIHISTAMINES, CORTICOSTEROIDS, PRESSOR AMINES, AND AIRWAY MANAGEMENT, AS CLINICALLY INDICATED.

Pseudomembranous colitis has been reported with nearly all antibacterial agents, including cefdinir, and may range in severity from mild- to life-threatening. Therefore, it is important to consider this diagnosis in patients who present with diarrhea subsequent to the administration of antibacterial agents.

Treatment with antibacterial agents alters the normal flora of the colon and may permit overgrowth of clostridia. Studies indicate that a toxin produced by *Clostridium difficile* is a primary cause of "antibiotic-associated colitis."

After the diagnosis of pseudomembranous colitis has been established, appropriate therapeutic measures should be initiated. Mild cases of pseudomembranous colitis usually respond to drug discontinuation alone. In moderate to severe cases, consideration should be given to management with fluids and electrolytes, protein supplementation, and treatment with an antibacterial drug clinically effective against *Clostridium difficile*.

PRECAUTIONS

General

Prescribing OMNICEF in the absence of a proven or strongly suspected bacterial infection or a prophylactic indication is unlikely to provide benefit to the patient and increases the risk of the development of drug-resistant bacteria.

As with other broad-spectrum antibiotics, prolonged treatment may result in the possible emergence and overgrowth of resistant organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate alternative therapy should be administered.

Cefdinir, as with other broad-spectrum antimicrobials (antibiotics), should be prescribed with caution in individuals with a history of colitis.

In patients with transient or persistent renal insufficiency (creatinine clearance <30 mL/min), the total daily dose of OMNICEF should be reduced because high and prolonged plasma concentrations of cefdinir can result following recommended doses.

Information for Patients

Patients should be counseled that antibacterial drugs including OMNICEF should only be used to treat bacterial infections. They do not treat viral infections (e.g., the common cold). When OMNICEF is prescribed to treat a bacterial infection, patients should be told that although it is common to feel better early in the course of therapy, the medication should be taken exactly as directed. Skipping doses or not completing the full course of therapy may (1) decrease the effectiveness of the immediate treatment and (2) increase the likelihood that bacteria will develop resistance and will not be treatable by OMNICEF or other antibacterial drugs in the future.

Antacids containing magnesium or aluminum interfere with the absorption of cefdinir. If this type of antacid is required during OMNICEF therapy, OMNICEF should be taken at least 2 hours before or after the antacid.

Iron supplements, including multivitamins that contain iron, interfere with the absorption of cefdinir. If iron supplements are required during OMNICEF therapy, OMNICEF should be taken at least 2 hours before or after the supplement.

Iron-fortified infant formula does not significantly interfere with the absorption of cefdinir. Therefore, OMNICEF for Oral Suspension can be administered with iron-fortified infant formula.

Diabetic patients and caregivers should be aware that the oral suspension contains 2.86 g of sucrose per teaspoon.

Drug Interactions

Antacids: (aluminum- or magnesium-containing): Concomitant administration of 300-mg cefdinir capsules with 30 mL Maalox® TC suspension reduces the rate (C_{max}) and extent (AUC) of absorption by approximately 40%. Time to reach C_{max} is also prolonged by 1 hour. There are no significant effects on cefdinir pharmacokinetics if the antacid is administered 2 hours before or 2 hours after cefdinir. If antacids are required during OMNICEF therapy, OMNICEF should be taken at least 2 hours before or after the antacid.

Probenecid: As with other β-lactam antibiotics, probenecid inhibits the renal excretion of cefdinir, resulting in an approximate doubling in AUC, a 54% increase in peak cefdinir plasma levels, and a 50% prolongation in the apparent elimination $t_{1/2}$.

Iron Supplements and Foods Fortified With Iron: Concomitant administration of cefdinir with a therapeutic iron supplement containing 60 mg of elemental iron (as $FeSO_4$) or vitamins supplemented with 10 mg of elemental iron reduced extent of absorption by 80% and 31%, respectively. If iron supplements are required during OMNICEF therapy, OMNICEF should be taken at least 2 hours before or after the supplement.

The effect of foods highly fortified with elemental iron (primarily iron-fortified breakfast cereals) on cefdinir absorption has not been studied.

Concomitantly administered iron-fortified infant formula (2.2 mg elemental iron/6 oz) has no significant effect on cefdinir pharmacokinetics. Therefore, OMNICEF for Oral Suspension can be administered with iron-fortified infant formula.

There have been reports of reddish stools in patients receiving cefdinir. In many cases, patients were also receiving iron-containing products. The reddish color is due to the formation of a nonabsorbable complex between cefdinir or its breakdown products and iron in the gastrointestinal tract.

Drug/Laboratory Test Interactions

A false-positive reaction for ketones in the urine may occur with tests using nitroprusside, but not with those using nitroferricyanide. The administration of cefdinir may result in a false-positive reaction for glucose in urine using Clinitest®, Benedict's solution, or Fehling's solution. It is recommended that glucose tests based on enzymatic glucose oxidase reactions (such as Clinistix® or Tes-Tape®) be used. Cephalosporins are known to occasionally induce a positive direct Coombs' test.

Carcinogenesis, Mutagenesis, Impairment of Fertility

The carcinogenic potential of cefdinir has not been evaluated. No mutagenic effects were seen in the bacterial reverse mutation assay (Ames) or point mutation assay at the hypoxanthine-guanine phosphoribosyltransferase locus (HGPRT) in V79 Chinese hamster lung cells. No clastogenic effects were observed *in vitro* in the structural chromosome aberration assay in V79 Chinese hamster lung cells or *in vivo* in the micronucleus assay in mouse bone marrow. In rats, fertility and reproductive performance were not affected by cefdinir at oral doses up to 1000 mg/kg/day (70 times the human dose based on mg/kg/day, 11 times based on mg/m^2/day).

Pregnancy - Teratogenic Effects

Pregnancy Category B: Cefdinir was not teratogenic in rats at oral doses up to 1000 mg/kg/day (70 times the human dose based on mg/kg/day, 11 times based on mg/m^2/day) or in rabbits at oral doses up to 10 mg/kg/day (0.7 times the human dose based on mg/kg/day, 0.23 times based on mg/m^2/day). Maternal toxicity (decreased body weight gain) was observed in rabbits at the maximum tolerated dose of 10 mg/kg/day without adverse effects on offspring. Decreased body weight occurred in rat fetuses at ≥ 100 mg/kg/day, and in rat offspring at ≥ 32 mg/kg/day. No effects were observed on maternal reproductive parameters or offspring survival, development, behavior, or reproductive function.

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

Cefdinir has not been studied for use during labor and delivery.

Nursing Mothers

Following administration of single 600-mg doses, cefdinir was not detected in human breast milk.

Pediatric Use

Safety and efficacy in neonates and infants less than 6 months of age have not been established. Use of cefdinir for the treatment of acute maxillary sinusitis in pediatric patients (age 6 months through 12 years) is supported by evidence from adequate and well-controlled studies in adults and adolescents, the similar pathophysiology of acute sinusitis in adult and pediatric patients, and comparative pharmacokinetic data in the pediatric population.

Geriatric Use

Efficacy is comparable in geriatric patients and younger adults. While cefdinir has been well-tolerated in all age groups, in clinical trials geriatric patients experienced a lower rate of adverse events, including diarrhea, than younger adults. Dose adjustment in elderly patients is not necessary unless renal function is markedly compromised.

ADVERSE EVENTS

Clinical Trials - OMNICEF Capsules (Adult and Adolescent Patients):

In clinical trials, 5093 adult and adolescent patients (3841 US and 1252 non-US) were treated with the recommended dose of cefdinir capsules (600 mg/day). Most adverse events were mild and self-limiting. No deaths or permanent disabilities were attributed to cefdinir. One hundred forty-seven of 5093 (3%) patients discontinued medication due to adverse events thought by the investigators to be possibly, probably, or definitely associated with cefdinir therapy. The discontinuations were primarily for gastrointestinal disturbances, usually diarrhea or nausea. Nineteen of 5093 (0.4%) patients were discontinued due to rash thought related to cefdinir administration.

In the US, the following adverse events were thought by investigators to be possibly, probably, or definitely related to cefdinir capsules in multiple-dose clinical trials (N = 3841 cefdinir-treated patients):

ADVERSE EVENTS ASSOCIATED WITH CEFDINIR CAPSULES US TRIALS IN ADULT AND ADOLESCENT PATIENTS (N=3841)[a]

Incidence ≥ 1%	Diarrhea	15%
	Vaginal moniliasis	4% of women
	Nausea	3%
	Headache	2%
	Abdominal pain	1%
	Vaginitis	1% of women
Incidence <1% but >0.1%	Rash	0.9%
	Dyspepsia	0.7%
	Flatulence	0.7%
	Vomiting	0.7%
	Abnormal stools	0.3%
	Anorexia	0.3%
	Constipation	0.3%
	Dizziness	0.3%
	Dry mouth	0.3%
	Asthenia	0.2%
	Insomnia	0.2%
	Leukorrhea	0.2% of women
	Moniliasis	0.2%
	Pruritus	0.2%
	Somnolence	0.2%

[a] 1733 males, 2108 females

The following laboratory value changes of possible clinical significance, irrespective of relationship to therapy with cefdinir, were seen during clinical trials conducted in the US:

LABORATORY VALUE CHANGES OBSERVED WITH CEFDINIR CAPSULES US TRIALS IN ADULT AND ADOLESCENT PATIENTS (N=3841)

Incidence ≥ 1%	↑ Urine leukocytes	2%
	↑ Urine protein	2%
	↑ Gamma-glutamyltransferase[a]	1%
	↓ Lymphocytes, ↑ Lymphocytes	1%, 0.2%
	↑ Microhematuria	1%
Incidence <1% but >0.1%	↑ Glucose[a]	0.9%
	↑ Urine glucose	0.9%
	↑ White blood cells, ↓ White blood cells	0.9%, 0.7%
	↑ Alanine aminotransferase (ALT)	0.7%
	↑ Eosinophils	0.7%
	↑ Urine specific gravity, ↓ Urine specific gravity[a]	0.6%, 0.2%
	↓ Bicarbonate[a]	0.6%
	↑ Phosphorus, ↓ Phosphorus[a]	0.6%, 0.3%
	↑ Aspartate aminotransferase (AST)	0.4%
	↑ Alkaline phosphatase	0.3%
	↑ Blood urea nitrogen (BUN)	0.3%
	↓ Hemoglobin	0.3%
	↑ Polymorphonuclear neutrophils (PMNs), ↓ PMNs	0.3%, 0.2%
	↑ Bilirubin	0.2%
	↑ Lactate dehydrogenase[a]	0.2%
	↑ Platelets	0.2%
	↑ Potassium[a]	0.2%
	↑ Urine pH[a]	0.2%

[a] N<3841 for these parameters

Clinical Trials - OMNICEF for Oral Suspension (Pediatric Patients):

In clinical trials, 2289 pediatric patients (1783 US and 506 non-US) were treated with the recommended dose of cefdinir suspension (14 mg/kg/day). Most adverse events were mild and self-limiting. No deaths or permanent disabilities were attributed to cefdinir. Forty of 2289 (2%) patients discontinued medication due to adverse events considered by the investigators to be possibly, probably, or definitely associated with cefdinir therapy. Discontinuations were primarily for gastrointestinal disturbances, usually diarrhea. Five of 2289 (0.2%) patients were discontinued due to rash thought related to cefdinir administration.

In the US, the following adverse events were thought by investigators to be possibly, probably, or definitely related to cefdinir suspension in multiple-dose clinical trials (N=1783 cefdinir-treated patients):

ADVERSE EVENTS ASSOCIATED WITH CEFDINIR SUSPENSION US TRIALS IN PEDIATRIC PATIENTS (N=1783)[a]

Incidence ≥ 1%	Diarrhea	8%
	Rash	3%
	Vomiting	1%
Incidence <1% but >0.1%	Cutaneous moniliasis	0.9%
	Abdominal pain	0.8%
	Leukopenia[b]	0.3%
	Vaginal moniliasis	0.3% of girls
	Vaginitis	0.3% of girls
	Abnormal stools	0.2%
	Dyspepsia	0.2%
	Hyperkinesia	0.2%
	Increased AST[b]	0.2%
	Maculopapular rash	0.2%
	Nausea	0.2%

[a] 977 males, 806 females

[b] Laboratory changes were occasionally reported as adverse events.

NOTE: In both cefdinir- and control-treated patients, rates of diarrhea and rash were higher in the youngest pediatric patients. The incidence of diarrhea in cefdinir-treated patients ≤2 years of age was 17% (95/557) compared with 4% (51/1226) in those >2 years old. The incidence of rash (primarily diaper rash in the younger patients) was 8% (43/557) in patients ≤2 years of age compared with 1% (8/1226) in those >2 years old.

The following laboratory value changes of possible clinical significance, irrespective of relationship to therapy with cefdinir, were seen during clinical trials conducted in the US:

LABORATORY VALUE CHANGES OF POSSIBLE CLINICAL SIGNIFICANCE OBSERVED WITH CEFDINIR SUSPENSION US TRIALS IN PEDIATRIC PATIENTS (N=1783)

Incidence ≥ 1%	↑ Lymphocytes, ↓ Lymphocytes	2%, 0.8%
	↑ Alkaline phosphatase	1%
	↓ Bicarbonate[a]	1%
	↑ Eosinophils	1%
	↑ Lactate dehydrogenase	1%
	↑ Platelets	1%
	↑ PMNs, ↓ PMNs	1%, 1%
	↑ Urine protein	1%
Incidence <1% but >0.1%	↑ Phosphorus, ↓ Phosphorus	0.9%, 0.4%
	↑ Urine pH	0.8%
	↓ White blood cells, ↑ White blood cells	0.7%, 0.3%
	↓ Calcium[a]	0.5%
	↓ Hemoglobin	0.5%
	↑ Urine leukocytes	0.5%
	↑ Monocytes	0.4%
	↑ AST	0.3%
	↑ Potassium[a]	0.3%
	↑ Urine specific gravity, ↓ Urine specific gravity	0.3%, 0.1%
	↓ Hematocrit[a]	0.2%

[a] N=1387 for these parameters

Postmarketing Experience

The following adverse experiences and altered laboratory tests, regardless of their relationship to cefdinir, have been reported during extensive postmarketing experience, beginning with approval in Japan in 1991: Stevens-Johnson syndrome, toxic epidermal necrolysis, exfoliative dermatitis, erythema multiforme, erythema nodosum, serum sickness-like reactions, conjunctivitis, stomatitis, acute hepatitis, cholestasis, fulminant hepatitis, hepatic failure, jaundice, increased amylase, shock, anaphylaxis, facial and laryngeal edema, feeling of suffocation, acute enterocolitis, bloody diarrhea, hemorrhagic colitis, melena, pseudomembranous colitis, pancytopenia, granulocytopenia, leukopenia, thrombocytopenia, idiopathic thrombocytopenic purpura, hemolytic anemia, acute respiratory failure, asthmatic attack, drug-induced pneumonia, eosinophilic pneumonia, idiopathic interstitial pneumonia, fever, acute renal failure, nephropathy, bleeding tendency, coagulation disorder, disseminated intravascular coagulation, upper GI bleed, peptic ulcer, ileus, loss of consciousness, allergic vasculitis, possible cefdinir-diclofenac interaction, cardiac failure, chest pain, myocardial infarction, hypertension, involuntary movements, and rhabdomyolysis.

Cephalosporin Class Adverse Events

The following adverse events and altered laboratory tests have been reported for cephalosporin-class antibiotics in general:

Allergic reactions, anaphylaxis, Stevens-Johnson syndrome, erythema multiforme, toxic epidermal necrolysis, renal dysfunction, toxic nephropathy, hepatic dysfunction including cholestasis, aplastic anemia, hemolytic anemia, hemorrhage, false-positive test for urinary glucose, neutropenia, pancytopenia, and agranulocytosis. Pseudomembranous colitis symptoms may begin during or after antibiotic treatment (see **WARNINGS**).

Several cephalosporins have been implicated in triggering seizures, particularly in patients with renal impairment when the dosage was not reduced (see **OVERDOSAGE**). If seizures associated with drug therapy occur, the drug should be discontinued. Anticonvulsant therapy can be given if clinically indicated.

OVERDOSAGE

Information on cefdinir overdosage in humans is not available. In acute rodent toxicity studies, a single oral 5600-mg/kg dose produced no adverse effects. Toxic signs and symptoms following overdosage with other β-lactam antibiotics have included nausea, vomiting, epigastric distress, diarrhea, and convulsions. Hemodialysis removes cefdinir from the body. This may be useful in the event of a serious toxic reaction from overdosage, particularly if renal function is compromised.

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Ref: 03-5435-Rev. July, 2005
(Nos. 3769, 3771, 6151)

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mus away from the lesion, 2) slow-phase nystagmus toward the lesion, 3) environment spinning away from the lesion, and 4) Romberg's sign toward the lesion, one can say with confidence that there is a lesion of the peripheral nervous system, probably in either the end organ or the peripheral nerve. If any of these four rules fails to hold, one can assume by exclusion that the lesion is in the central nervous system.

TABLE 2.
Criteria for Peripheral Lesion of Vestibular System

- Rapid-phase nystagmus away from lesion
- Slow-phase nystagmus toward lesion
- Environment spinning away from lesion
- Romberg's sign toward lesion

Central nervous system lesions can cause bilateral nystagmus in the same position of the head, vertical nystagmus of any kind, and any conditions in which the directions of the fast and slow phases, the Romberg's sign, and the spinning of the environment do not strictly fit the four criteria specified. Those criteria specify only the anatomic localization without implying anything about the severity or seriousness of the underlying disease. Peripheral diseases can be self-limiting (e.g., vestibular neuronitis) or very serious (e.g., vestibular schwannoma). Central diseases can range from the trivial complications of many drugs (e.g. benzodiazepines) to vertebrobasilar insufficiency.

Synthesizing the Data

Thus, by testing the auditory system and the vestibular system, one can divide all cases of vertigo into three categories: *1) peripheral* (by vestibular criteria) 2) *peripheral* (by vestibular criteria) *disease with hearing loss* (by auditory criteria), and 3) *central disease*. With this in mind, we can now consider the major diseases in each category.

Peripheral Cochlear Lesions

Labyrinthitis is thought to be a result of viral infection of the endolymph and perilymph, affecting both the vestibular and cochlear components of the system. The usual history is viral illness followed by acute onset of severe spinning vertigo and sensory neural deafness with tinnitus. Examination shows a classic peripheral picture by vestibular criteria and a classic cochlear picture by auditory criteria. Despite its severe onset, labyrinthitis is a benign illness that resolves completely in three to six weeks. Patients regain normal hearing and vestibular function.

Vestibular neuritis, or acute vestibulopathy, is thought to be pathogenetically identical to labyrinthitis but without any hearing symptomatology. If the patient has vertigo unaccompanied by a hearing abnormality, it is strictly speaking impossible to be sure whether the disease is cochlear or retrocochlear. However, its natural history is also benign, and it resolves completely in three to six weeks, which makes a retrocochlear illness very unlikely.

Cochlear neuritis is the syndrome of acute pure deafness without vestibular symptoms or signs. It is thought to be analogous to vestibular neuritis.

Ménière's disease is caused by a cryptogenic hydrops of the endolymph such that there is intermittent swelling of the semicircular ducts, with damage to the hair cells.

Typically, an attack of Ménière's disease is characterized by a dull ache in the region of the mastoid process or around the ear associated with severe tinnitus, a cochlear kind of sensory neural hearing loss, and a classic peripheral type of vestibular syndrome with severe spinning vertigo. It is identical in almost every respect to an acute attack of labyrinthitis. However, it does not resolve completely in three to six weeks, and patients are left with residual hearing loss. Several months or years later, a similar attack may occur, leaving the patient with even more severe hearing loss. Tinnitus, a nonspecific sign of auditory system disorder, is a major problem for these patients, who can be terribly disabled for weeks at a time by the vertigo that accompanies acute attacks.

Many therapies have been tried, including shunting of the perilymphatic system and diuretics, but none are curative. About 15% of these patients have bilateral disease in subsequent years. Management of such patients is complex and often best entrusted to an otolaryngologist or otoneurologist, as deliberate toxic (e.g., intraaural aminoglycoside antibiotics infusion) destruction or surgical severing of the vestibular nerve may be required.

Benign positional vertigo, or Bárány's vertigo, usually occurs in older patients and is characterized by the sudden onset of a peripheral vestibular syndrome *with no auditory aspect*. It is present only in certain positions, which are specific to the individual.

Typically, the patient reports that a few moments

after attaining a certain position, perhaps in bed at night, severe vertigo occurs in which the world spins in one direction while the patient has a sensation of falling in the other direction.

If he or she does not move, the vertigo stops, which implies that it is transient in type. If the patient sits up, the vertigo recurs, but this time in reverse. If the patient repeats the posture several times, the tendency toward vertigo and nystagmus will fade.

All the symptoms can be reproduced using the Dix-Hallpike maneuver, during which the patients will experience vertigo with the affected ear down and an associated nystagmus that is rotatory in the dependent eye and vertical in the opposite eye. Benign positional vertigo has a benign natural history, which improves gradually over a six-month period and ends with complete recovery.

Peripheral Retrocochlear Syndromes

Vestibular Schwannoma

A second category of disease is a peripheral type of vertigo, characterized by retrocochlear hearing loss (i.e., patients are found to have poor speech discrimination). Such patients should have an image of the inner ear, preferable an MRI. If an MRI cannot be obtained (e.g., due to the presence of a pacemaker), a CT scan with thin cuts through the inner ear is also very useful.

It is important to recognize the presence of a tumor while it is still contained within the internal auditory meatus and thus easily surgically resectable. Any patient with a history of progressive hearing loss should at some time during the evaluation have a careful auditory examination, and if any retrocochlear characteristics are found, a brain image with careful views of the internal auditory meatus should be obtained.

If you are treating a dizzy patient with peripheral cochlear findings of hearing loss and there has been no improvement in three to six weeks, referral and/or imaging may be indicated.

Central Lesions

The last category of vertigo is central disease (i.e., patients with vestibular symptomatology that does not meet the criteria for peripheral disease). This group includes patients who exhibit vertical nystagmus or bilateral nystagmus when their head is in an identical position.

Drugs

All drugs that act by intoxicating the reticular activating system in the core of the brainstem—including all anticonvulsants, all sedatives, and some sleeping pills—will by their nature produce nystagmus in two different directions in the same position of the head. When the patient looks to the right, the nystagmus beats to the right. When the patient looks to the left, it beats to the left. Overdosage can produce vertigo. Most sedatives (e.g., benzodiazepines) cause this type of nystagmus.

The fact that the lesion is central does not necessarily mean that it is serious. In fact, the appearance of this form of nystagmus may prove that a given drug (e.g. phenytoin) is in the therapeutic range. Such patients should be asked specifically about their use of drugs, including alcohol; before any invasive studies are performed, it is useful to order blood and urine toxic screening.

Demyelinating Illness

Demyelinating illnesses, such as multiple sclerosis, can and often do produce vertigo.

Vascular Disease Affecting the Brainstem

In approaching vascular disease affecting the brainstem, it should be remembered that the most common manifestation of vertebrobasilar insufficiency is vertigo, but vertigo is almost never the *only* manifestation.

Such patients can also be expected to complain of double vision, weakness of the limbs, sensory loss, dysarthria, and dysphagia. It might be possible for disease of the small branch of the vertebral artery to produce vertigo as its only symptom, but in such instances there is no specific or emergency therapy anyway. This

AN ILLUSTRATIVE PATIENT: DIAGNOSIS AND TREATMENT

The 61-year-old woman described at the beginning of this discussion was diagnosed with benign position vertigo. The vigorous head shaking associated with hair washing in the head hanging position in the salon was probably the trauma that dislodged the otolithic material into the posterior vertical canal. It is characteristic of the disorder to wake people from sleep, as they are likely to turn into the exacerbating position and be awakened with violent vertigo.

It is important to recognize this disorder, because it is common and usually easily managed with an otolith repositioning maneuver. There are several otolith repositioning maneuvers (e.g., Epley, Semont, Brandt-Daroff).

TABLE 3.
Drugs Useful in Symptomatic Treatment of Acute Vertigo

	Duration of activity	Useful adult oral dosage	Other modes of administration
Ethanolamines			
Dimenhydrinate	4-6 hours	50 mg every 6 hours	Rectal IM, IV,
Diphynhydromine	4-6 hours	50 mg every 6 hours	IM, IV
Piperazines			
Meclizine	12-24 hours	25-50 mg every 6 hours	Rectal, IM
Cyclizine	4-6 hours	50 mg every 6 hours	
Phenothiazine			
Promethazine	4-6 hours	25 mg every 6 hours	Rectal, IM, IV

presentation may also be seen in the same type of patient who presents with multiple sensory deficit syndrome. Referral may be indicated.

Disorders of the Temporal Lobe

Temporal lobe seizures arising from trauma, tumors, or prior strokes can, as one of their manifestations, produce vertigo. Vertigo is rarely the only symptom of a temporal lobe seizure, however, and such a diagnostic consideration requires neurologic consultation.

Migraine

Migraine is strongly associated with vertigo. About 10% of patients with vertigo will, ultimately, be found to have migrainous vertigo. The reverse association is even more common. The majority of migraineurs have a history of motion sickness, which is physiological vertigo, and some patients have vertigo as the only aura of migraine. Episodes of vertigo lasting about 20 minutes, with or without associated headache, should raise this possibility. Often, a therapeutic trial with anti-migraine medication is required to make this diagnosis.

Treatment of Vertigo

Antiserotonin and Antihistamine-type

There are three categories of drugs for treating true vertigo: anticholinergic and antihistamine-type drugs, and the phenothiazine agent promethazine.

Anticholinergic and antihistaminetype drugs include dimenhydrinate, diphenhydramine, meclizine, and cyclizine. All of these drugs are effective if the dosage is adequate—about 50 mg every six hours (see **Table 3**). They can produce major sedation at higher doses or in susceptible patients such as the elderly or those on multiple medications, but this is often of no concern.

Promethazine is the only phenothiazine that works against the nausea associated with vestibular imbalance and vertigo. Other phenothiazines, useful for chemical nausea, are of no help whatsoever in this setting. Promethazine may be effective primarily because it is an anticholinergic, not because it is a phenothiazine. It is useful also because it can be given together with the anticholinergic drugs and may be administered by a non-oral (e.g., rectal) route. A combination of promethazine and antihistamine is particularly effective for acute vertigo.

Summary

To evaluate dizziness, one must first decide whether it can be categorized as near-syncope, disequilibrium, ill-defined light-headedness, or vertigo. If it is vertigo, vestibular and auditory testing will allow one to place the patient into one of three categories: peripheral disease, peripheral disease with hearing loss, or central disease. When this distinction is made, one can create a reasonable differential diagnosis and arrive at the likely diagnosis. Some of these disorders (e.g., vestibular schwannoma) require specific evaluation and treatment, whereas others have a benign natural history and require only symptomatic relief for the duration. Symptomatic therapy of vertigo is straightforward and makes use of the three categories of drugs discussed. ■

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An Approach to Care of Injured Workers

Urgent message: Appropriate treatment of workplace injuries and illnesses minimizes long-term disability while promoting rapid return to work and safer work environments.

David M. Rosenberg, MD, MPH

Physicians rendering care to injured workers must be knowledgeable regarding these injuries and the necessary types of treatment. Also, they must provide this care in an empathetic and caring manner, coupled with aggressive intervention to promote prompt healing.

However, physicians must also realize that early return to work is not only important for maintaining the functional capacity of the injured worker, but also minimizes long-term and unnecessary disability.

For example, it has been shown that the risk for developing a chronic pain syndrome after an acute musculoskeletal injury is reduced eightfold when early activation is initiated.[1] Early return to work also avoids positive reinforcement of issues one wants to avoid, such as receiving disability income or inappropriate family and community sympathy, reduced responsibility, and the use of disability to resolve conflicts.[2]

Clearly, knowledgeable injury care avoids iatrogenic disability while promoting well being and optimal activity.[3]

To help with the return-to-work process, the provider must allay the worker's fears regarding the perceived seriousness of an illness where appropriate, as well as concerns of long-term impairment and disability.[4] Along these lines, discussions must include the natural history of the illness and the expected outcome.

Additionally, close follow-up during the initial post-injury period is critically important. It has been shown that risk factors for poor recovery include the following: 1) a previous delayed recovery in themselves or a family member; 2) chemical dependency; 3) depression; 4) job dissatisfaction; 5) workplace friction; and 6) economic and legal issues.[2]

Ideally, clinicians providing injury care will deliver intervention along established care paths for specific work-related injuries. Under these circumstances, every time an illness or injury occurs it would be treated in a similar fashion. In addition, it is important to have available 24-hour access to urgent care facilities and emergency rooms where providers are familiar with workplace injury care. It is also critically necessary to maintain excellent communication between the provider and the employers, so that issues surrounding care or other work-related issues can be discussed.

TAKE-HOME POINTS

- Risk for chronic pain syndrome is reduced eightfold when early activation is initiated.
- The provider must allay the worker's fears regarding the perceived seriousness of an illness where appropriate.
- Every time an illness or injury occurs, it should be treated in a similar fashion.
- A successful return-to-work program must assign responsibility to the employer, worker, and provider.

Indirect Healthcare Costs

The initiation of a transitional duty program is critically important in regard to indirect healthcare costs.

It has been suggested that early return to work following injuries, particularly those of the musculoskeletal variety, helps maintain functional capacity while minimizing long-term impairment and disability. This approach has been included in the recently published injury care guidelines established by the Work Loss Data Institute,[5] as utilized by various state-sponsored workers compensation programs and supported by the American College of Occupational and Environmental Medicine.

In addition, it has been shown that employer-sponsored early-return-to-work programs tend to promote safer work environments by modifying job duties or equipment to reduce the likelihood of exacerbating an existing injury or preventing re-injury.

Also, by demonstrating a desire to integrate the injured worker back into the workforce, employers reinforce their commitment to the safety and well being of employees while fostering a sense of workplace security and cooperation. Without this component of employer participation, medical care alone may be ineffective in reducing lost work time related to injury.[6]

Multi-party Involvment

A successful return-to-work program for injury care must have various levels of responsibility, which include the employer, worker, and provider.

From an employer's perspective, such a program should be started before an injury even takes place by educating management and workers regarding the process. This should result in a positive supervisor/management response following an injury or onset of symptoms.

In a situation where passive or active hostility is displayed, the worker may perceive work conditions negatively, with an adverse interpersonal climate not fostering a positive incentive to return to work, even if alternative positions are available. This is particularly true when extended Workers' Compensation benefits or sick leave benefits are available. Ideally, the employer would have transitional job descriptions readily available for a provider to review, and be willing to participate in modification as necessary.

The clinician's role is as has been described previously, utilizing an evidence-based empathetic approach to care with knowledge of the functional requirements of the workplace. Active communication between the provider and both the worker and the company is a necessity.

It is also key for the employee to maintain functional recovery, remaining active, in order to minimize disuse, atrophy, etc. He or she must also adhere to exercise and medication regimens, keep appointments, and take some responsibility for their own treatment.

Finally, during recovery, the worker must work within medical restrictions, and not beyond their capabilities.■

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A 45-Year-Old Man with Cough and Sore Throat:

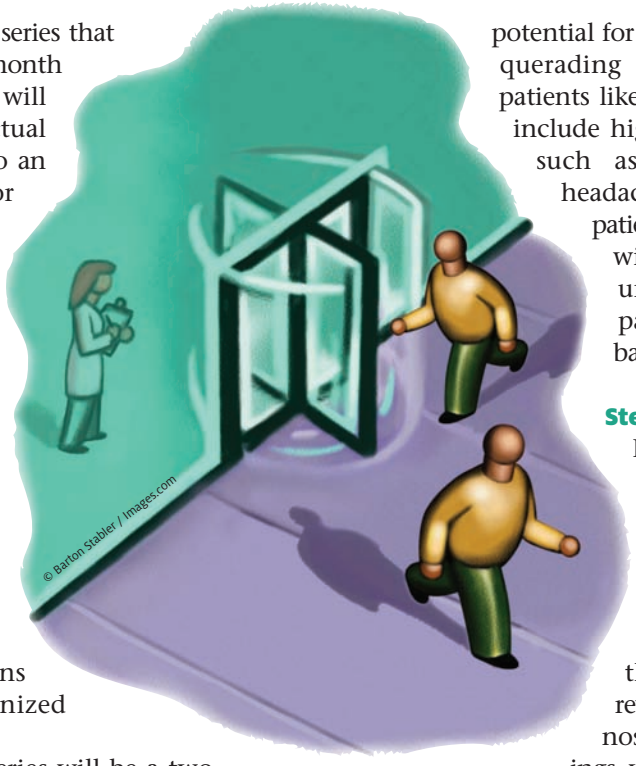
A Two-Step Approach to Avoiding a Bounceback

Urgent message: The clinician must address unexpected findings with further questions or testing.

Michael B. Weinstock, MD and Ryan Longstreth, MD, FACEP

This is the first article in a series that will appear every other month in *JUCM*, in which we will recount scenarios of actual patients who presented to an emergency department or urgent care facility, were evaluated and discharged, and then "bounced back."

Each of these cases is detailed in the book *Bouncebacks! Emergency Department Cases: ED Returns*, (2006, Anadem Publishing, www.anadem.com) which includes case-by-case risk management commentary by Gregory L. Henry, past president of The American College of Emergency Physicians (ACEP), and discussions by other nationally recognized experts.



The focus of the *JUCM* series will be a two-step process designed to improve patient safety and reduction in legal risk:

Step 1

Identify high-risk patients—specifically, patients with the potential for serious medical illness masquerading as a benign problem—or patients likely to be litigious. Examples include high-risk discharge diagnoses such as chest pain, fever and headache, abdominal pain, upset patients, patients who have issues with billing, a long wait, or unmet expectations, and patients who have bounced back.

Step 2

Review the chart *before* the patient leaves the urgent care. Affirm consistent documentation between the nurse/ tech and physician, address all documented complaints in H&P, confirm that the history is accurate, review potentially serious diagnoses, explore abnormal findings, write a progress note explaining the medical decision-making process (if unclear from the H&P), and assure that aftercare instructions are specific and that follow-up is timely and available.

The following case is an example of this approach. On the surface, the evaluation seems well thought out, but

a closer look reveals some serious documentation and evaluation issues. See how many you can spot!

Let's get started; remember that patient you saw last night?

> *"Each complaint (and certainly the chief complaint) needs to be addressed in the history and physical."*

A 45-Year-Old Man with Cough and Sore Throat

Initial Visit

[Note: The following is the actual documentation by the providers, including punctuation and spelling errors.]

Chief complaint (00:39)

Sore throat.

Vital signs

Time: 00:39
Temp(F): 97.8
Pulse: 110
Resp: 16
Syst: 110
Diast: 82
Pos: S
O2 Sat: 98
O2%: RA

History of Present Illness (physician assistant)

45-year-old male c/o cough and throat pain x 1 month. Admits to past hx of GERD. States he has been taking Zantac for a week. His PCP prescribed a cough medicine and an antibiotic, but the cough has not improved. Denies known fever. Admits to feeling hot and having intermittent chills. Denies n/v/d, abdominal pain, ear pain, chest pain, peripheral edema, calf muscle pain, shortness of breath, rhinorrhea. The history is provided by the patient. He refuses an interpreter.

Past Medical History/Triage (at 00:26)

Medication, common allergies: No known allergies. Current meds: Zoloft and Tramadol HCl and Zantac, and Lipitor.

Past medical/surgical history:

Depression, headache. No significant surgical history.

Physical Exam (physician assistant)

General: Well-appearing; well-nourished; A&O X 3, in no apparent distress.
Neck: No JVD or distended neck veins.
Resp: Normal chest excursion with respiration; breath sounds clear and equal bilaterally; no wheezes, rhonchi, or rales.
Card: Regular rhythm, without murmurs, rub.
Abd: Non-distended; non-tender, soft, without rigidity, rebound or guarding.
Skin: Normal for age and race; warm and dry without diaphoresis.
Extremities: No peripheral edema or calf muscle pain.

Results (01:43)

PA and lateral CXR. The heart size is enlarged. The pulmonary vasculature is within normal limits. No acute infiltrates or evidence of CHF is seen. Impression: Cardiomegaly.

Progress Note (03:23) (physician)

I spoke with his PCP and discussed the case including getting a cardiac ECHO and to ensure follow-up. I do not feel that he needs admission as there is no peripheral edema, crackles on exam, or pulmonary edema on CXR.

Diagnosis

Cough, gastritis.

Follow-Up

Prescriptions for Prilosec and Hycodan. Follow up with primary physician in 3 days. Outpatient testing for cardiac ECHO ordered with results to be sent to PCP. Discharge time was 03:44.

Discussion of Documentation and Risk Management Issues in Visit 1

Error 1

Error: It is documented in the HPI "He refuses an interpreter." Is our history accurate? Was the history given by the patient or elicited with yes/no questions (usually a less accurate history)? This brief sentence calls into question the reliability of the entire history.

Intervention: If there is a question about the patient's ability to adequately communicate, try to find other ways to obtain their history such as using an

interpreter (or language phone line), family members, writing questions and answers (hearing impaired). Document their understanding of the risks of refusing an interpreter.

Summary: If the patient is not able to communicate an accurate history, you will not be able to make an accurate diagnosis.

Error 2

Error: The chief complaint is not addressed in the history. The physical exam does not have a throat exam.

Intervention: The diagnosis can be determined 73% to 92% of the time from the history alone. Read the nurse's notes to ensure your evaluation reflects all of the patient's concerns.

Summary: Each complaint (and certainly the *chief* complaint) needs to be specifically addressed in the history and physical. The documentation of the nurse and physician need to be consistent. If this chart would have been reviewed before the patient left the ED, this major discrepancy may have been detected and addressed.

Error 3

Error: Heart failure was a concern of initial physician, but the patient was not questioned about symptoms specific for heart failure

Intervention: Patients and physicians have different understandings of the term "shortness of breath." Positive findings during evaluation may require more extensive H&P. After the cardiomegaly was found on CXR (an unexpected finding—the CXR was probably ordered to look for infiltrate), the physician should "close the loop" by returning to the bedside, and specifically asking about symptoms of heart failure such as dyspnea with exertion, orthopnea, and paroxysmal nocturnal dyspnea, as well as risk factors for heart failure (such as cardiac risk factors) in the patient or family history of coronary disease or heart failure. The most important thing is to make an accurate diagnosis, not to pad the chart with extraneous or inaccurate information.

Summary: *This is the most important lesson to be learned from this case:* When evaluation or testing reveals unexpected findings (in this case cardiomegaly), you need to address these findings with further questioning or testing.

"It is hard to justify a diagnosis if history and physical exam do not support it."

Error 4

Error: Elevated pulse not addressed.

Intervention: Just as abnormal findings on testing need to be addressed, abnormal vital signs need to be rechecked and addressed by discussion in a progress note (unless obvious; i.e., tachycardia in a young patient with dehydration which resolves with IV fluids).

Summary: Abnormal vital signs need to be rechecked.

Error 5

Error: Patient was diagnosed with gastritis and prescribed omeprazole, but the history and exam do not support this diagnosis.

Intervention: If the thought process is not clear by reading the chart, then the medical decision-making needs to be explained in a progress note. For example, if you have a young patient with sharp chest pain and you document an extensive review of symptoms (ROS) for DVT/PE and document reproducible chest pain with palpation, then a diagnosis of "muscular strain" is supported in the H&P, and a progress note is probably not necessary. In this case, the chief complaint is not reflected in the H&P, and the H&P does not support the diagnosis. This chart needs either a progress note to explain the medical decision, or a more complete H&P to justify the diagnosis

Summary: It is hard to justify a diagnosis if history and physical exam do not support it.

A 45-Year-Old Man with Cough and Sore Throat

Return Visit—36 Hours Later

- Returned 36 hours later with chief complaint of difficulty breathing. Nursing documentation was that he was anxious and speaking in brief phrases only.
- Physical exam documented "severe respiratory distress" and marked JVD.
- Initial SBP was 85 which soon decreased to 59.
- He was intubated and given IV fluids with an initial diagnosis of pericardial effusion with possible tamponade.
- Dopamine drip started.

"Our goal is to take good care of patients, not merely avoid lawsuits."

- ECHO results: Severely reduced left ventricular systolic function with ejection fraction (EF) of 15%.
- He had a stormy hospital course and was discharged to an ECF with tube feedings and DNR status.
- Final diagnoses
  - Cardiomyopathy of uncertain etiology
  - Acute renal failure, shock liver
  - Bilateral foot ischemia secondary to prolonged norepinephrine bitartrate and/or DIC
  - Encephalopathy

Summary of Case and Risk Management Principles

Our patient decompensated quickly—my wishes that you never have the misfortune to have this "time bomb" walk into your urgent care! He had been seen by two physicians (the PCP and the ED doc), but neither made this difficult diagnosis. The second physician came closer, and if an ECHO had been done, it would have likely revealed the diagnosis.

Symptoms often do not easily point to a diagnosis, but recognition of "red flags" sounds the alarm to explore more deeply.

Our patient was initially diagnosed with an infectious process and placed on antibiotics. On his first ED visit, his symptoms were cough and sore throat, and he specifically denied shortness of breath. It is noted that he refused an interpreter, but it is unclear if the communication during the interview was adequate.

In a busy urgent care, it is easy to string together a long list of ROS questions, and at the end if the patient answers "no," to assume the infor-

mation is accurate. It would be interesting to know the patient's understanding of the phrase "shortness of breath;" I have often had a patient answer "no" when asked about chest *pain*, but later learned he has chest *pressure*. Our patient had no SOB when seated on the gurney in the ED, but did he have dyspnea with exertion or orthopnea? We will never know for sure.

The initial physician did seem to be concerned about heart failure (HF), due to the cardiomegaly seen on CXR. A progress note was written before discharge to justify outpatient testing. If HF was a concern (using our "retrospect-o-scope"), it may have been helpful to confirm that the history was correct. If he had been re-questioned about dyspnea (or orthopnea) prior to discharge, the evaluation and outcome may have been different. In addition, an ECG could have been performed; a recent study showed that of 96 patients with HF, none had a normal ECG.[1] Unfortunately, he was sent home, decompensated quickly, and ended up in a nursing home on tube feedings.

Most likely, the defendant's case would stand up if brought to trial, but our goal is to take good care of patients, not merely to avoid lawsuits. ■

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1. Davie, AP, Love MP, McMurray JJ. Value of ECGs in identifying heart failure due to left ventricular systolic dysfunction. *BMJ*. 1996;313:300-301.

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Case Report

A 55-Year-Old Woman *with Abdominal Pain*

Urgent message: Noting 'red flags' specific to the individual patient is of key importance when details of the presentation do not add up.

Jill Chavinson Miller, MD

J.W. is a 55-year-old female who presented with abdominal pain. She reported that the pain woke her up the night before and lasted all day long, which prevented her from doing much that day. She described the pain as constant and gnawing, assessing its severity as 6 on a scale of 10.

The pain is located in her lower abdomen diffusely and does not radiate. She denies any fever, chills, nausea or vomiting. In addition, she reports:

- no diarrhea
- no frequency or urgency
- no back pain
- no chest pain or any respiratory complaints

J.W. is drinking fluids without difficulty. There were no alleviating or aggravating factors.

She lives elsewhere and is in town visiting her son and daughter-in-law to help with their baby.

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Observations and Findings

The patient appeared healthy and comfortable, in no distress at presentation.

- *Past medical/surgical history*: hysterectomy
- *Medications*: estrogen
- *Allergies*: sulfa
- *Social history*: social drinker, non-smoker
- *Physical*: *t-98.5, p 86, r 12, bp 138/84, O2 sat 98% ra*
- *HEENT*: normal
- *Resp*: normal; good air exchange
- *CV*: RRR no m/r/g, equal pulses throughout
- *ABD*: non-distended; BS normal. Soft, diffusely tender to palpation in the lower abdomen and bladder; also:
  - no guarding or rebound
  - negative Murphy's sign
  - no masses or hernia appreciated
  - no abdominal bruits.
- *Back*: no CVA tenderness
- *Skin*: no rashes; warm and dry
- *Neuro*: non-focal, alert and appropriate
- *Urinalysis*: SG 1.015; ph 6.5; LEU 75; NIT POS; PRO 30; GLU norm; KET 150; UBG norm; BIL neg; BLD 50
- *Chemistry*: glucose 138 (65-110); sodium 130 (135-145); potassium 3.8 (3.5-5.5); chloride 98 (95-107); Bun 10 (5-23); Cr 0.7mg/dL
- *CBC with diff*: WBC 17.3 (4.4-11.3); RBC 4.71 (4.0-5.2); HGB 14.9 (12.0-16.0); HCT 42.8 (36.0-46.0); neutrophil 15.36 (1.2-7.70); lymphocyte 1.12 (1.20-4.80); monocyte 0.80 (0.10-1.00); eosinophil 0.00 (0.00-0.70), basophil 0.02 (0.00-0.10)

Patient Course and Diagnosis

On discharge from the urgent care, J.W. was given ceftriaxone 1 g IM and sent to the emergency room for an imaging study. An abdominal CAT scan was done, revealing a thickened edematous appendix measuring at least 14 mm in the transverse diameter, consistent with acute appendicitis.

She was taken to the OR later that morning with a preoperative diagnosis of acute appendicitis.

She tolerated the procedure well and was found to have an appendix that was markedly distended and dilated, with fibrinous exudates and omentum tethered to it. Postoperative diagnosis was acute severe appendicitis.

The rest of her hospital course was unremarkable and she was discharged to home on postoperative day 2.

Discussion

Often in urgent care medicine, patients present in the very early stages of disease processes which have not yet declared themselves. Therefore, it is essential that we are diligent in looking for and paying attention to any "red flags" in the patient's history and physical findings.

It is also important to not let any one test lead our clinical impression—or, ultimately, our medical decision making—astray if all the information does not add up.

Our patient with non-specific abdominal pain had a few red flags in her history and physical that couldn't be explained by her urinary tract infection. In particular:

- She reported that the pain woke her up from sleep.
- This pain prevented her from helping out around the house, the reason she was in town in the first place. One would not expect a simple UTI in an otherwise healthy 55-year-old woman to have such an effect.
- And, finally, a WBC of 17. The main reason a CBC was obtained here was to help with our medical decision making. Had her WBC been normal, it may have been appropriate to discharge her to home with antibiotics to treat her UTI and to re-evaluate her non-localizing abdominal pain in 12 hours. However, because of the previously mentioned factors that are inconsistent with a urinary tract infection, she was sent on to an emergency room for an imaging study and, ultimately, found to have acute appendicitis.

While a detailed review of acute appendicitis is not the main focus of our discussion, it should be noted that the typical history and physical findings are present in only 50% to 60% of cases. Fever and leukocytosis usually follow later in the course of the illness but may remain absent, and the abdominal pain may never localize or may be as subtle as to be described as indigestion, flatulence, and sometimes just a sense of not feeling well.

"How we manage early disease speaks directly to what is our expertise."

Further, while most cases occur between the second and third decade, acute appendicitis can present at any age. At the extremes of age, the diagnosis is often missed or delayed secondary to more atypical presentations which predispose these patients to go on to rupture, thereby increasing their morbidity and mortality. In the elderly, pain and tenderness are often blunted. In addition, while a urinary tract infection is in the differential diagnosis, pyuria and microscopic hematuria are not uncommon and may be found in up to one-third of patients because the appendix lies close to the right ureter and bladder.

A lot of urgent care medicine is about triage. How we manage early disease speaks directly to what is our expertise.

We must ask ourselves, is this patient sick? Does he have a high-risk chief complaint such as chest pain, abdominal pain, syncope, etc.? Is she safe to be discharged to home, does she need to be admitted to the hospital (or, alternatively, do we have enough information to answer that question)?

When managing these high-risk patients, it is especially important to be able to fit the history and exam under one working diagnosis. If some critical information does not seem to fit, then we are obligated to pay attention and gather more information.

In this case, I could not reconcile her night pain and her general incapacity, as well as her moderate leukocytosis, with a simple urinary tract infection. The key to managing this typical urgent care case was paying attention to the "red flags" and realizing that not all was adding up. ■

On Rapid Disposition of Low-Risk- and Triage of Acute Chest Pain Patients, Appendicitis in Children and Women of Child-Bearing Age, and *H Pylori*

NAHUM KOVALSKI, BSc, MDCM

Each month, Dr. Nahum Kovalski will review 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.

Computed Tomography Coronary Angiography for Rapid Disposition of Low-risk Emergency Department Patients with Chest Pain Syndromes

Citation: Hollander JE, Litt HI, Chase M, et al. *Acad Emerg Med*. 2007;14(2):112-116.
URL: *http://www.aemj.org/cgi/content/abstract/14/2/112*
Key point: CT coronary angiography may safely allow rapid discharge of patients with negative studies.

Patients with recent normal cardiac catheterization are at low risk for complications of ischemic chest pain. Computed tomography coronary angiography has high correlation with cardiac catheterization for detection of coronary stenosis. Therefore, the investigators' emergency department incorporated CT coronary angiography into the evaluation of low-risk patients with chest pain.

Low-risk chest pain patients (Thrombolysis in Myocardial Infarction [TIMI] score of 2 or less) without acute ischemia on an electrocardiogram had CT coronary angiography performed in the ED. If the CT coronary angiography was negative, the patient was discharged home. The main outcomes were death and myocardial infarction within 30 days of ED discharge, as determined by telephone follow up and record review.

Of the 54 patients evaluated, after CT coronary angiography, 46 patients (85%) were immediately released from the ED, and none had cardiovascular complications within 30 days. Eight patients were admitted after CT coronary angiography: one had >70% stenosis, five patients had 50% to 69% stenosis, and two had 0–49% stenosis. Three patients had further noninvasive testing; one had reversible ischemia, and catheterization confirmed the results of CT coronary angiography. All patients were followed for 30 days, and none had an adverse event during index hospitalization or at 30-day follow up.

When used in the clinical setting for the evaluation of ED patients with low-risk chest pain, CT coronary angiography may safely allow rapid discharge of patients with negative studies. ■

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

MDCT in Early Triage of Patients with Acute Chest Pain

Citation: Hoffmann U, Pena AJ, Moselewski F, et al. *Am J Roentgenol*. 2006;187(5):1240-1247
URL: *http://www.ajronline.org/cgi/content/abstract/187/5/1240*
Key point: MDCT detection of coronary stenoses can greatly decrease unnecessary hospital admissions.

Current risk stratification of patients with acute chest pain but normal initial cardiac enzymes and nondiagnostic ECG is

inefficient. The authors sought to determine whether contrast-enhanced multidetector computed tomography (MDCT)-based detection of stenosis is feasible and improves early and accurate triage of patients with acute chest pain.

The authors studied 40 patients (53% men; mean age, 57 ± 13 years) with chest pain who were awaiting hospital admission to rule out an acute coronary syndrome despite the absence of diagnostic ECG changes and normal cardiac enzymes on ED presentation. Patients underwent contrast-enhanced MDCT before hospital admission.

All five patients (12.5%) with ACS (one with non-ST elevation myocardial infarction, four with unstable angina pectoris) had at least one significant coronary stenosis on MDCT (sensitivity, 100%). ACS was ruled out in 35 patients (87.5%). Significant coronary stenosis was excluded in 26 of the 35 patients without ACS by MDCT (specificity, 74%), potentially saving 70% of unnecessary hospital admissions.

MDCT-based detection of significant coronary stenoses has tremendous potential to decrease the number of unnecessary hospital admissions, without reducing appropriate admission rates, in patients with chest pain who have nondiagnostic ECG results and normal cardiac enzymes. ■

Atypical Clinical Features of Pediatric Appendicitis

Citation: Becker T, Kharbanda A, Bachur R. *Acad Emerg Med*. 2006;14:124-129.

URL: *http://www.aemj.org/cgi/content/abstract/14/2/124*

Key point: Forty-four percent of patients with proven appendicitis had six or more atypical characteristics.

The diagnosis of appendicitis remains challenging in children. Delays in diagnosis or misdiagnosis have important medical and legal implications. The typical, or classic, presentation of pediatric appendicitis has been modeled after adult disease; however, many children present atypically with subtle findings or unusual signs.

Children and adolescents with suspected appendicitis were enrolled over 20 consecutive months. Pediatric emergency physicians completed standardized data collection forms on eligible patients.

Seven hundred fifty-five patients were enrolled. The median age was 11.9 years; 36% of patients were diagnosed with appendicitis.

The most common atypical features included:

- absence of pyrexia (83%)
- absence of Rovsing's sign (68%)
- normal or increased bowel sounds (64%)
- absence of rebound pain (52%)
- lack of migration of pain (50%)
- lack of guarding (47%)
- abrupt onset of pain (45%)
- lack of anorexia (40%)
- absence of maximal pain in the right lower quadrant (32%)
- absence of percussive tenderness (31%).

Forty-four percent of patients with proven appendicitis had six or more atypical characteristics. The median number of atypical features for patients with proven appendicitis was five.

The greatest negative predictors, on the basis of likelihood ratios, were as follows:

- white blood cell count (WBC) of <10,000 per cubic millimeter (likelihood ratios [LR], 0.18)
- absolute neutrophil count (ANC) of <7,500 per cubic millimeter (LR, 0.35)
- lack of percussive tenderness (LR, 0.50)
- lack of guarding (LR, 0.63)
- no nausea or emesis (LR, 0.65).

Two atypical features are the strongest negative predictors of appendicitis in children: WBC of <10,000 per cubic millimeter and an ANC of <7,500 per cubic millimeter. ■

Update on *Helicobacter pylori* Treatment

Citation: Ables AZ, Simon I, Melton ER. *Am Fam Physician*. 2007;75:351-358

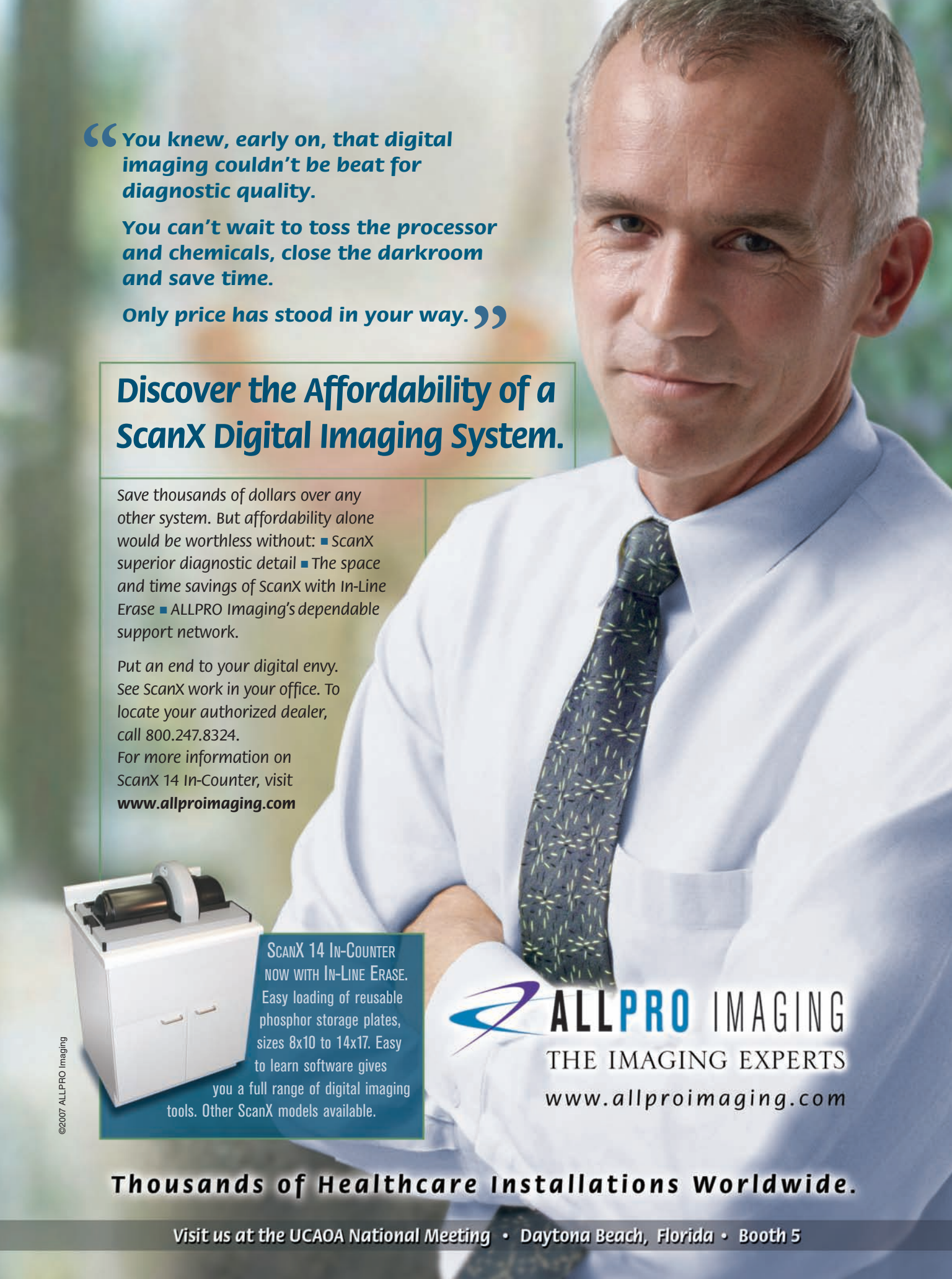
URL: *http://www.aafp.org/afp/20070201/351.html*

Key point: A "test-and-treat" strategy is recommended for most patients with undifferentiated dyspepsia.

One half of the world's population has *Helicobacter pylori* infection. Although it is unclear whether eradication of *H pylori* improves symptoms in patients with nonulcer dyspepsia, there is strong evidence that eradication of this bacterium improves healing and reduces the risk of recurrence or rebleeding in patients with duodenal or gastric ulcer.

A "test-and-treat" strategy is recommended for most patients with undifferentiated dyspepsia. With this approach, patients undergo a noninvasive test for *H pylori* infection and, if positive, are treated with eradication therapy. This strategy reduces the need for antisecretory medications as well as the number of endoscopies. The urea breath test or stool antigen test is recommended.

Until recently, the recommended duration of therapy for *H pylori* eradication was 10 to 14 days. Shorter courses of treatment (i.e., one to five days) have demonstrated eradication rates of 89% to 95% with the potential for greater patient compliance. A one-day treatment course consists of bismuth subsalicylate, amoxicillin, and metronidazole, all given four times with a one-time dose of lansoprazole. In children with documented *H pylori* infection, however, all regimens should continue to be prescribed for seven to 14 days until short-course treatment is studied and its effectiveness has been established. ■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INSIGHTS IN IMAGES

CLINICAL CHALLENGE: CASE 1

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

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

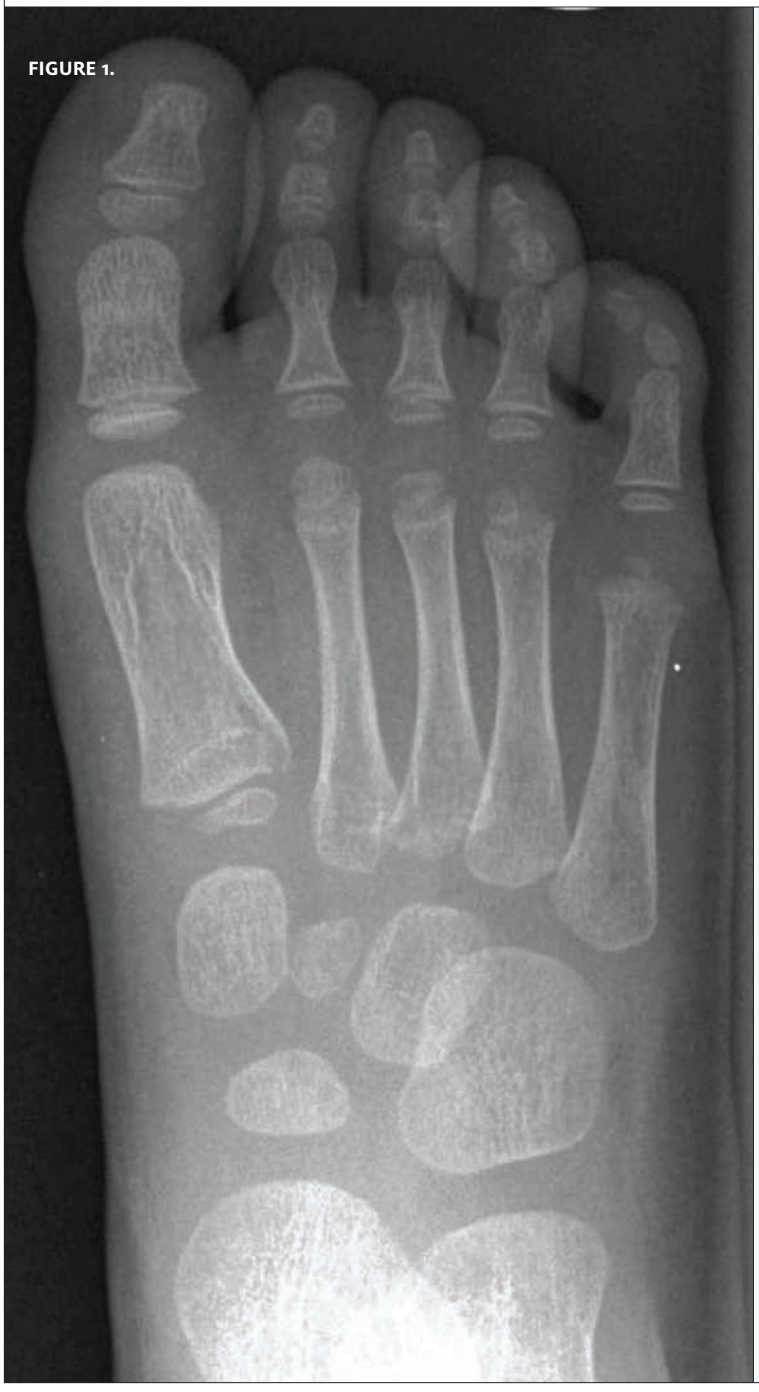


FIGURE 1.

The patient is a 3-year-old female who presented after a fall while running and complaining of pain over the foot. There was minimal local tenderness over the foot and minimal limp, but no other remarkable findings.

View the x-ray taken (**Figure 1**) and consider what your next steps would be. Resolution of the case is described on the next page.

THE RESOLUTION

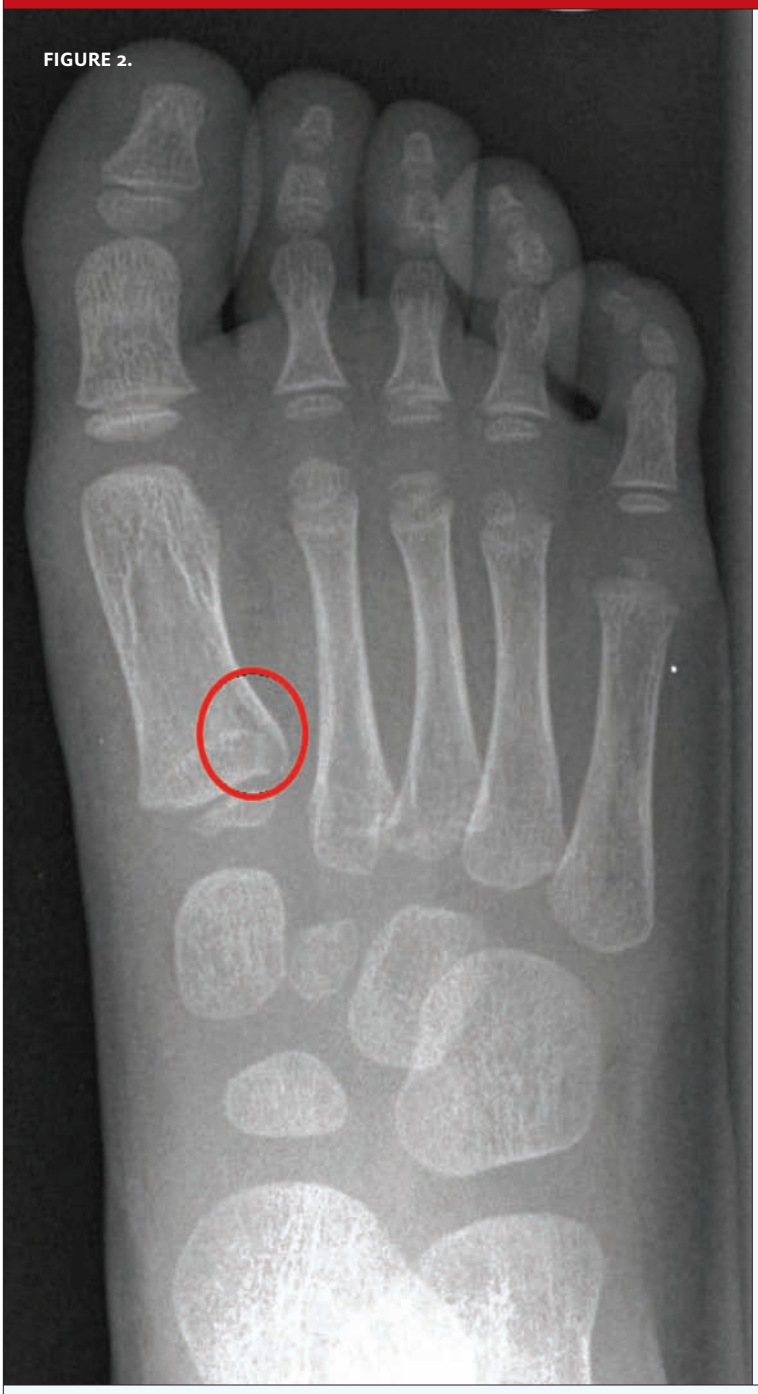


FIGURE 2.

The correct diagnosis is a fracture of the first metatarsal.

The first metatarsal is distinctive, compared with the other metatarsals, in that it is shorter and wider; in addition, it lacks interconnecting ligaments between itself and the second metatarsal, which allows for independent motion.

Three types of fracture predominate: avulsion, proximal shaft, and mid-shaft.

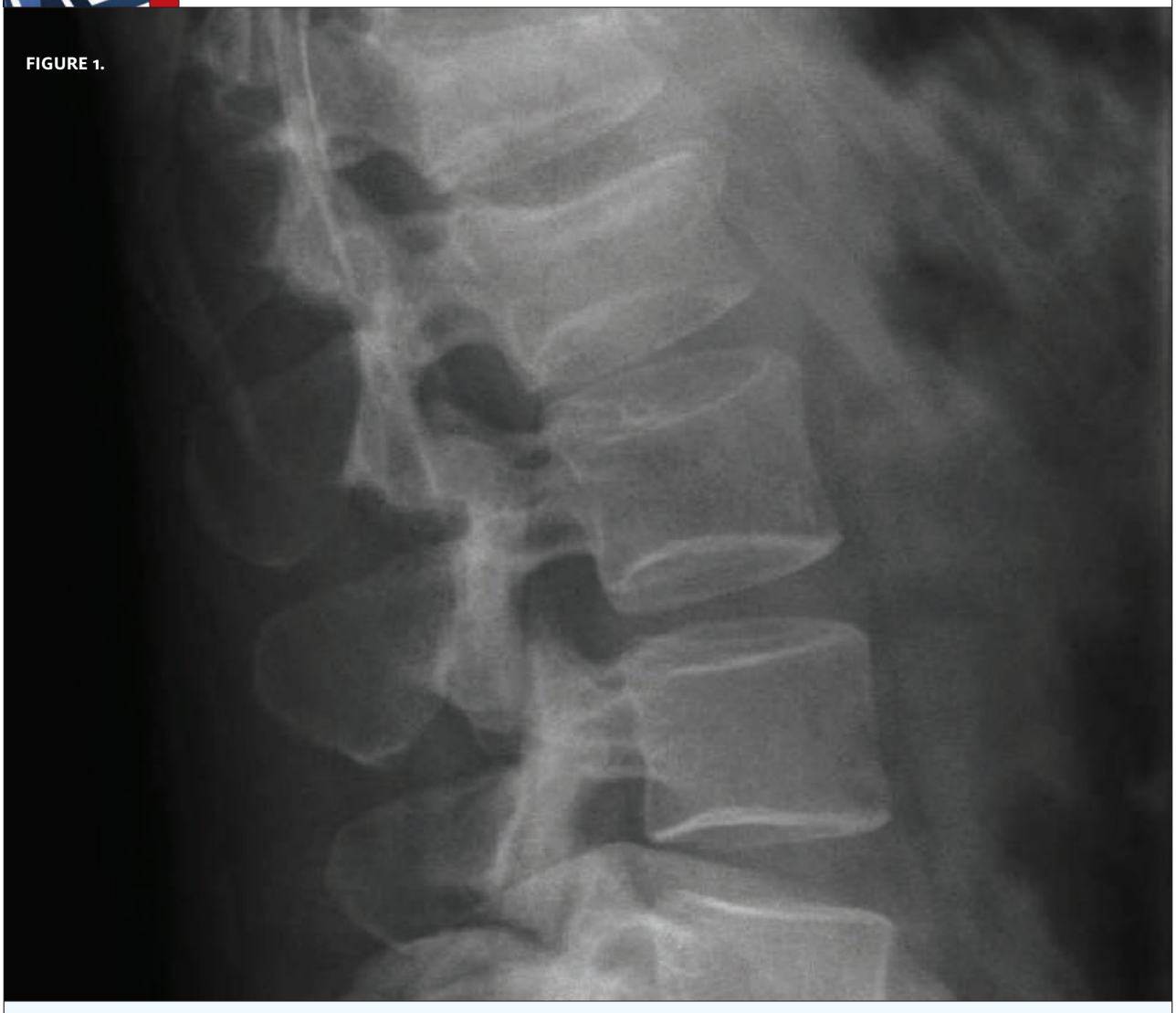
Any instability of the fracture requires operative fixation, which can take the form of a simple lag screw, plate (across the cuneiform) or, in the case of a comminuted fracture, an external fixator device. Accurate open reduction and bone grafting may be needed if the fracture extends into the articular surface. Lacking evidence of instability or of other fracture in the forefoot, a short leg plaster of paris (POP) cast may be applied, with weight bearing as tolerated. An alternative would be a removable Aircast boot, with the position of the foot in the cast plantigrade (on the soles) with no dorsal pressure on the first metatarsal.

Acknowledgment: Case presented by Nahum Kovalski, BSc, MDCM.

INSIGHTS IN IMAGES

CLINICAL CHALLENGE: CASE 2

FIGURE 1.

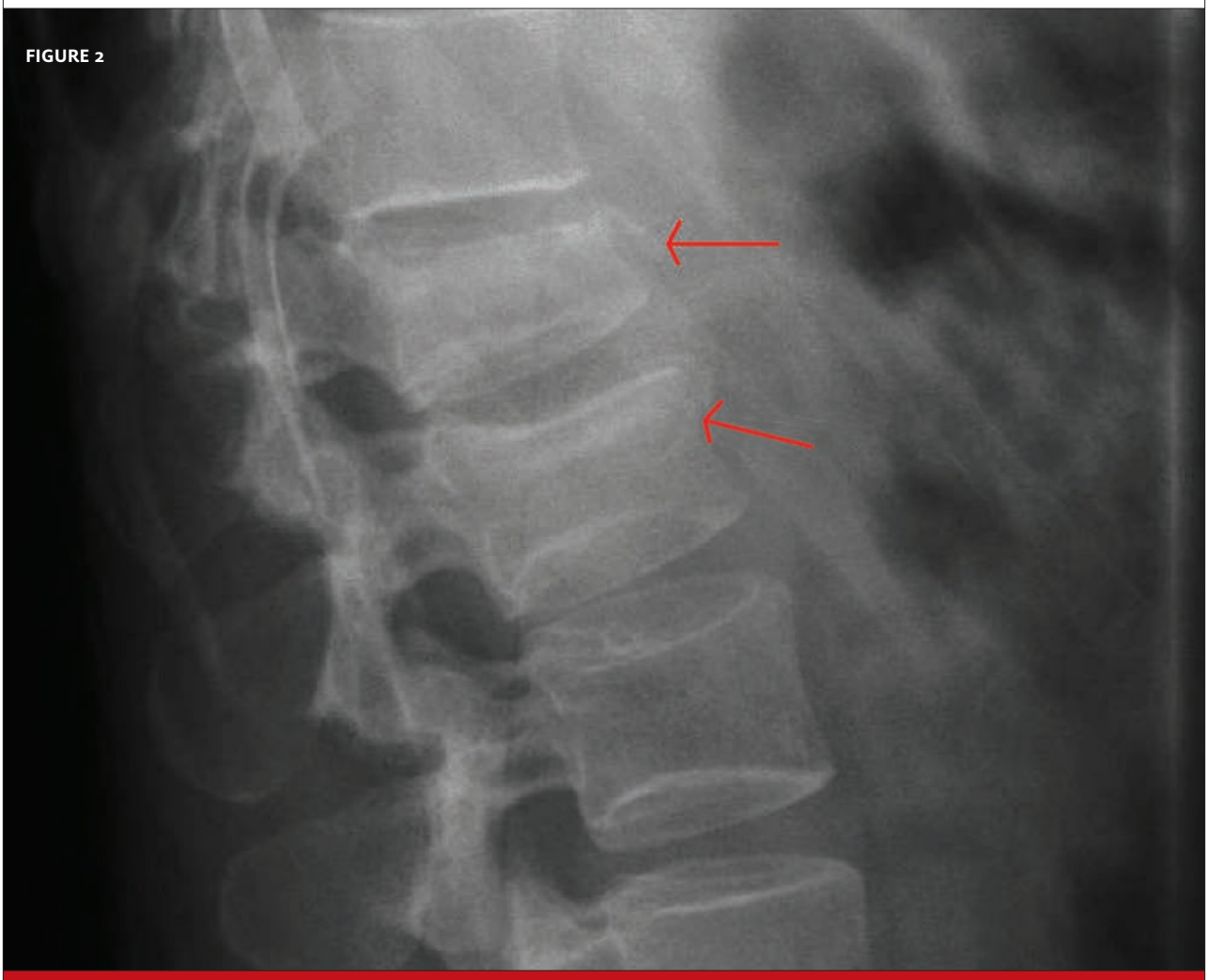


The patient is a 25-year-old male who presented to urgent care after falling from a height of two stories, landing flat on his feet. He is able to ambulate, though only with pain. In addition, he complains of back pain.

He is generally healthy, and no neurological deficit was found.

View the x-ray taken (**Figure 1**) and consider what your next steps would be. Resolution of the case is described on the next page.

FIGURE 2



THE RESOLUTION

The patient has a compression fracture of L1 and L2 vertebrae. He was transferred by ambulance to the hospital for CT evaluation.

Acknowledgment: Case presented by Nahum Kovalski, BSc, MDCM.

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Settling the Case

JOHN SHUFELDT, MD, JD, MBA, FACEP

The deposition is over. Your counsel tells you that, despite your barely concealed disdain for the opposing counsel, you managed to hold your own and not say anything from which you can't recover.

Unfortunately, you had to burn your dark blue suit both for the bad memories associated with it and because you are not sure if even dry cleaning it would help. Nevertheless, you are feeling pretty good!

A few weeks later, your attorney calls while you are seeing patients to say that the court-mandated settlement conference has to be scheduled, and asks if you want to attend. Your ire rises immediately and you respond, "Why on earth would I want to sit across the table from that person—what good can it possibly do? All they want is money!"

That is a very typical response when physicians are asked to attend a settlement conference, but there are some very good reasons why it may be in your best interest to attend.

In an effort to relieve the backlog of cases that exists in some jurisdictions, many states mandate that a settlement conference take place prior to an actual trial. It is very important for physicians to attend the settlement conference in order to help the defense team provide the best defense and the most alternatives.

Whether or not a physician has the right to settle depends on their malpractice policy. Today, most policies give the provider the absolute right to settle the case. However, some policies contain a "hammer" clause which can be as bad as the name implies (the provider is the nail in this scenario). The clause states that if the malpractice carrier believes the case should be settled and the physician chooses not to consent to a settlement proposal, the provider will be liable for any judgment in excess of the settlement offer.

In other words, if you have the chance to settle for $250,000 but elect to go to trial which results in a judgment against you for $1,000,000, you will be on the hook for $750,000.

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*.

Informed Consent

Going to trial can be costly and time consuming, especially for the solo practitioner who has to take time away from a practice to take a seat at the defense table during the proceedings. Moreover, there is no guarantee for winning.

Some physicians have opted to settle a case in order "get on with their lives" only to find out that the settlement was reported to the National Practitioner Data Bank and to their state's medical board. The state medical board may restrict the provider's privileges or require the provider to take continuing education, pay a fine, or be placed on probation and mandatory chart review.

Disputing the board's decision will also take time and money. Not all malpractice carriers pay for attorney representation before licensing boards; therefore, it is important to review malpractice policy limitations and coverage.

Before attending the settlement conference, take stock of your position. Have your attorneys give you "informed consent" much like you give your patients before a planned course of treatment. Going into the conference with a frank assessment of your chances of winning will allow you to make the best decision at the right time.

The following are some barriers which could hinder you from making the correct decision:

Not playing an active part in the representation. It is human nature to attempt to avoid things that are unpleasant. Perhaps as a result of this, many physicians do not want to take an active part in planning their defense. When this happens, they are often not prepared for discussions about settlement since they have not kept up with the case.

To avoid this common issue, make sure that you read all the expert depositions, the attorney correspondence, and the case reviews conducted by the insurance company. You may also want to attend the plaintiff's deposition to see for yourself how credible they will be on the stand. By doing this, you will be able to make an informed decision about the advisability of settling the case.

Searching for 'the truth.' The trial is not a search for truth; it is a battle, and only one party will win. Like in any battle, sometimes the army with the best equipment and tactics

does not win. For example, you can still lose the case even if your care was above the standard, your documentation was perfect, and your experts are the best in the field. Many trial outcomes are based on the selection of the jury, the demeanor of the attorneys, the rulings and biases of the judge, the jurisdiction in which the case was tried, and the personalities of the plaintiff and the defendant (think O.J. Simpson). If you as the defendant physician are viewed as aloof, arrogant, cocky, or uncaring, the jury may want to teach you "a lesson" and rule for the plaintiff despite the facts and findings.

"Sometimes, settlement is advisable even if the care is above the standard."

Fact-based decision making. Although extremely difficult, it is important to remove your emotional response from the equation of whether or not to settle. Being sued is an emotional roller coaster which may foreclose effective decision making. Thus, it is imperative to have an honest, blunt relationship with your counsel so that you trust them to help you make the decision. The last thing you would want to happen is that you make the wrong decision based upon your gut-level emotional response despite having the right facts.

Sometimes, settlement is advisable even if the care was above the standard, particularly if the documentation is inadequate to mount a defense. In these cases, it often comes down to the plaintiff's word against the doctor's and if the jury finds the plaintiff more likeable or believable, the plaintiff will probably prevail.

For example, suppose you have a patient with normal vitals, clear lungs, a normal chest x-ray, and a history of a recent long plane flight. You give her an aspirin and have a detailed discussion with her about the risk of pulmonary embolism and the need for further work-up, including a CT angiogram. You recommend that she goes directly to the emergency department and you place a call to the ED physician notifying her about the patient you are sending. The patient nods in agreement, but never shows up at the hospital. It's busy so you only chart, "discussed possibility of PE, pt understands." There is no mention of going to the emergency department or your discussion with the ED physician.

Unfortunately, the patient dies two days after her visit to your urgent care center. Your only defense is what is in the chart. You know you did the right thing and gave her appropriate informed consent, and that despite her clear understanding she did not follow through. Now her husband and six small children have initiated a cause of action against you.

Here is a set of facts which highlights the need for experienced counsel to help you with your options. You will not want the jury to have to witness each of her kids taking the stand saying, "I miss my mommy."

In cases like this, your best course of action may be to settle and avoid a potentially large plaintiff verdict colored by sympathy for her family.

Second Opinions

Occasionally, insurance companies will pressure physicians to settle for a nominal or nuisance amount even though the facts and documentation are on the physician's side. Sadly, there are times it costs more to mount a defense for a defendable case than it does to simply pay them to go away. When this occurs and you are feeling pressured to sign a consent-to-settle document, retain independent legal counsel for a second opinion. If the attorney agrees with you, he may be able to exert pressure on the insurance company to vigorously defend the case, as opposed to paying a small nuisance amount.

Remember, settlements have to be reported to the National Practitioner Data Bank, so do not enter into one without adequate justification.

The Settlement Conference

Settlement conferences are usually conducted by an attorney or mediator whose role is to get each side to understand the weakness of their case and the potential downside of going to trial. Often, the mediator is a very experienced trial attorney or judge who has witnessed what can go wrong in trial despite a great set of facts.

In a typical conference, all parties start out in the same room and the mediator goes over the ground rules, occasionally allowing each party to make a statement. After that, the parties separate and the mediator goes back and forth trying to broker a settlement.

This can be a very frustrating experience for a physician, since it often becomes a "dance of symmetry" in which both parties are making mirror image dollar concessions. It is important that your attorney outlines your defense with the mediator by citing authoritative texts, expert depositions, and any other pertinent evidence to make your case.

In the end, since your initial position was not to settle, you may not come to an agreement; however, you may gain more of an understanding about the opposition's strengths and weaknesses.

When to settle a case is a very complex decision that should be based on the cold hard facts of the case, the recommendations of counsel, and the risks and benefits of going to trial. Occasionally, the physician's and insurance company's interests diverge. In those rare cases it is imperative that the physician retain independent legal counsel to assist in making the best choice.

In the end, to achieve the best possible outcome physicians should receive informed consent about their options and risks. ■

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Career Opportunities

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Anatomy of an Occupational Health Sales Call

FRANK H. LEONE, MBA, MPH

"Tell 'em what you're going to tell 'em, tell 'em, and tell 'em what you told 'em."
—Mark Twain

Urgent care clinic operators would be well advised to keep in mind Mark Twain's advice on how to approach a speech or a paper; the same sequence applies to an occupational medicine sales call. In Phase I, it is best to articulate a clear objective for your sales call and provide your prospect with a "roadmap" for the course of the call ("Tell 'em what you're going to tell 'em"); Phase II is the time to conduct the sales interview ("Tell 'em"); and in Phase III, summarize key points, reiterate action steps, and depart on a high note ("Tell 'em what you told 'em").

In a typical sales call, phases I and III are likely to consume no more than one minute each, although their importance is disproportionately high. Consequently, phases I and III need to be exceptionally well developed and executed. They seldom are.

Phase I

Phase I of a typical sales call includes that all-important first minute. The likeability of the sales professional and the overall tone of the call are established during this phase. The sales professional should focus on doing several things:

- Respect your prospect's time. Determine at the outset exactly how much time he or she has to share with you. For example, you might say, "Thank you very much for finding time in your busy schedule to meet with me. About how much time do you have available?"
- Clearly state the objectives of the visit, i.e., "my objective here today is to learn more about...."
- Lay out your roadmap or the expected sequence of activity.
- Elicit approval for every step ("Is this acceptable to you?").
- The key here is to dismantle the inherent salesperson-prospect suspicion barrier by showing respect for the prospect and stating your intentions clearly up front.
- Phase I is extremely short and vitally important; meticulous care must be given to fine-tuning your approach during this phase.

Phase II

The purpose of most sales calls is to identify a problem and engage in a dialogue that moves your clinic into a position to provide a solution to that problem. Some basic rules include:

- Talk less than you might wish, especially at the outset.
- Ask broad, open-ended questions intended to uncover a problem.
- Listen for statements that beg for a greater degree of specificity and then probe for more information (e.g., if your prospect states, "Quality is important to me," follow up by asking, "How do you define quality?").
- Take notes to reinforce your apparent interest in what the prospect has to say and retain your focus.
- Summarize key points throughout the sales call.
- Move toward an "If we could, would you..." conclusion to Phase II.

Phase III

The last minute of a sales call has the potential to turn around an otherwise lackluster sales session. Conversely, a poorly executed last minute can nullify an otherwise good effort. Three steps should be routinely included in Phase III:

- Summarize the key points of your meeting.
- Verify your action step (i.e., what both parties are going to do next).
- Offer a sincere—and enthusiastic—final comment ("I am really excited about the possibility that your company may work with our clinic"). ■

Frank H. Leone is president and CEO of RYAN Associates and executive director of the National Association of Occupational Health Professionals. Mr. Leone will be a featured speaker at the UCAOA Urgent Care National Conference in Daytona Beach, FL, May 9-12. E-mail him at *fleone@naohp.com*.

CODING Q&A

How to Use the Level 1 Established Patient E/M Code (99211)

DAVID STERN, MD, CPC

Q. What is the code 99211?

A. The official description is as follows: "Office or other outpatient visit for the evaluation and management of an established patient, that may not require the presence of a physician. Usually, the presenting problem(s) are minimal. Typically, five minutes are spent performing or supervising these services."

This is a low-level Evaluation and Management (E/M) service. The code requires a face-to-face patient encounter with a staff member in the physician office, but a face-to-face encounter with the physician is not required. Even though the services may be performed by ancillary staff, it may be billed as if the physician personally performed the service if all billing and payment requirements for "incident-to" services are met.

To comply with incident-to requirements, documentation must show either:

- a link back to a previous visit with the physician (e.g., "Patient is seen on follow-up as directed by Dr. Smith".
- involvement of the physician directly in the visit (e.g., "History reviewed with Dr. Smith, who concurs").

Q. What specific documentation is required for 99211?

A. Unlike with other E/M services, the Centers for Medicare and Medicaid Services (CMS) has not quantified *specific* levels of history, physical exam, and complexity of medical decision making needed to meet requirements for 99211. Nevertheless, this should *not* be misunderstood to mean that there are no documentation requirements for 99211.

Although CMS has intentionally left the requirements somewhat vague, there are several documentation requirements in addition to the already-mentioned incident-to requirements. The record must document *clinically relevant and necessary exchange of information* (historical information and/or physical exam data) between provider (and/or ancillary staff) and patient. Documentation should also demonstrate an *influence on patient care* (medical decision-making, provision of patient education, etc.). Documentation of services coded to substantiate the code 99211 must be *legible* and must include the *identity and credentials* of the individual who provided the service.

David Stern is a partner in Physicians Immediate Care, with nine urgent care centers in Illinois and Oklahoma, and chief executive officer of Practice Velocity (www.practicevelocity.com), a provider of charting, coding and billing software for urgent care. He may be contacted at *dstern@practicevelocity.com*.

Q. When is it appropriate to use 99211?

A. Generally, visits to ancillary staff that involve an element of both evaluation and management may qualify for 99211. Examples of visits that qualify for 99211 include:

Blood pressure check that includes documentation of:

- a clinical reason for checking blood pressure
- blood pressure and other vital signs
- current medications listed (with level of compliance noted)
- the identity and credentials of the provider(s)

Recheck for cellulitis for a patient who has shown continuous improvement over several days but requires repeated antibiotic injection treatments.

Documentation may include:

- a clinical reason for recheck
- vital signs
- history of pain, fever, or other symptoms
- erythema, warmth, swelling, etc.
- the injection of antibiotic including drug name, lot number, and location of injection
- the identity and credentials of the provider(s)

Recheck for medication refill, with documentation including:

- a clinical reason for recheck
- current medications and compliance
- history of symptoms or their absence since previous visit
- the identity and credentials of the provider(s). ■

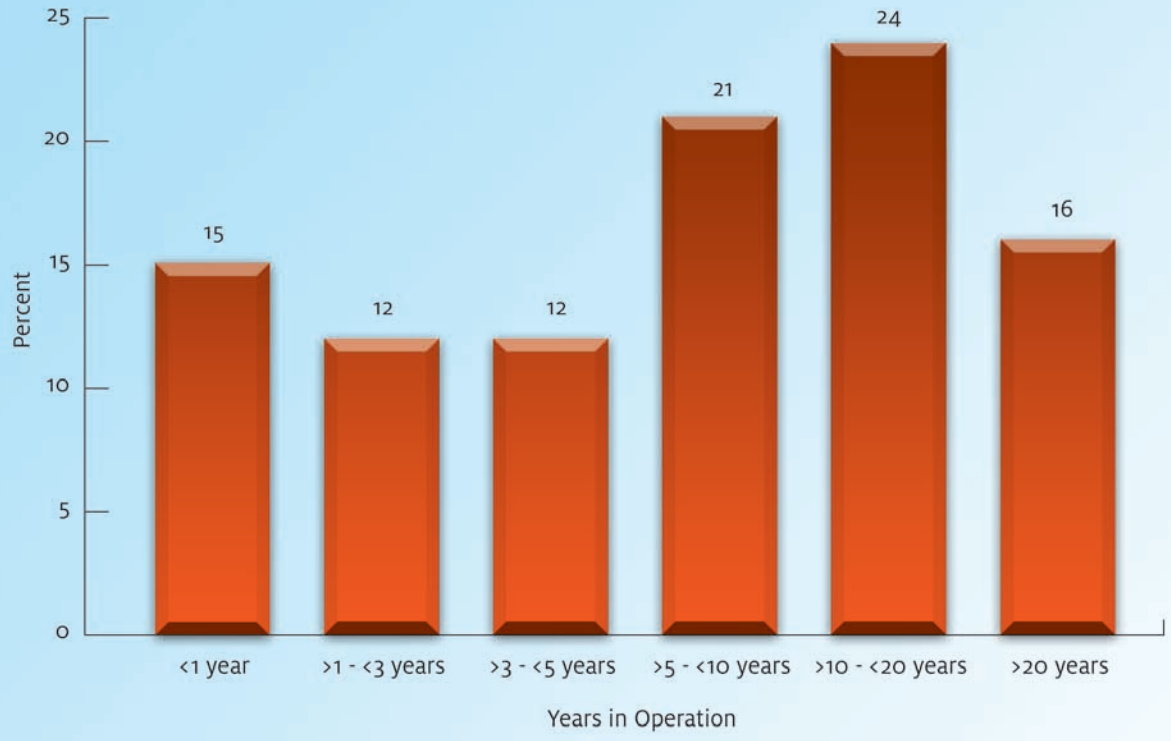
DEVELOPING DATA

UCAOA'S Survey Committee drew two important conclusions from its first industry-wide survey: urgent care is a growing industry nationwide, and those within the industry are hungry for benchmarking data. In each issue of *JUCM*, **Developing Data** will seek to fulfill that need.

In this issue: Answers to the question, "So how long have you been in business?"

As a distinct practice environment, "urgent care" is relatively young and just now becoming a part of the consumer healthcare vernacular. And yet, the pioneers have been in operation for more than 20 years. In other words, the industry is in the enviable position of demonstrating its stability while also growing at an ever-increasing pace; note that while 40% of respondents have been in business for more than 10 years, 39% opened their doors less than five years prior to the survey.

SO HOW LONG HAVE YOU BEEN IN BUSINESS?



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Next month in ***Developing Data****:*

Who's treating whom? Physicians aren't the only ones providing care in many urgent care centers; midlevel providers (e.g., physician assistants and nurse practitioners) are also treating patients—and there are plenty of patients to treat, as you'll see.

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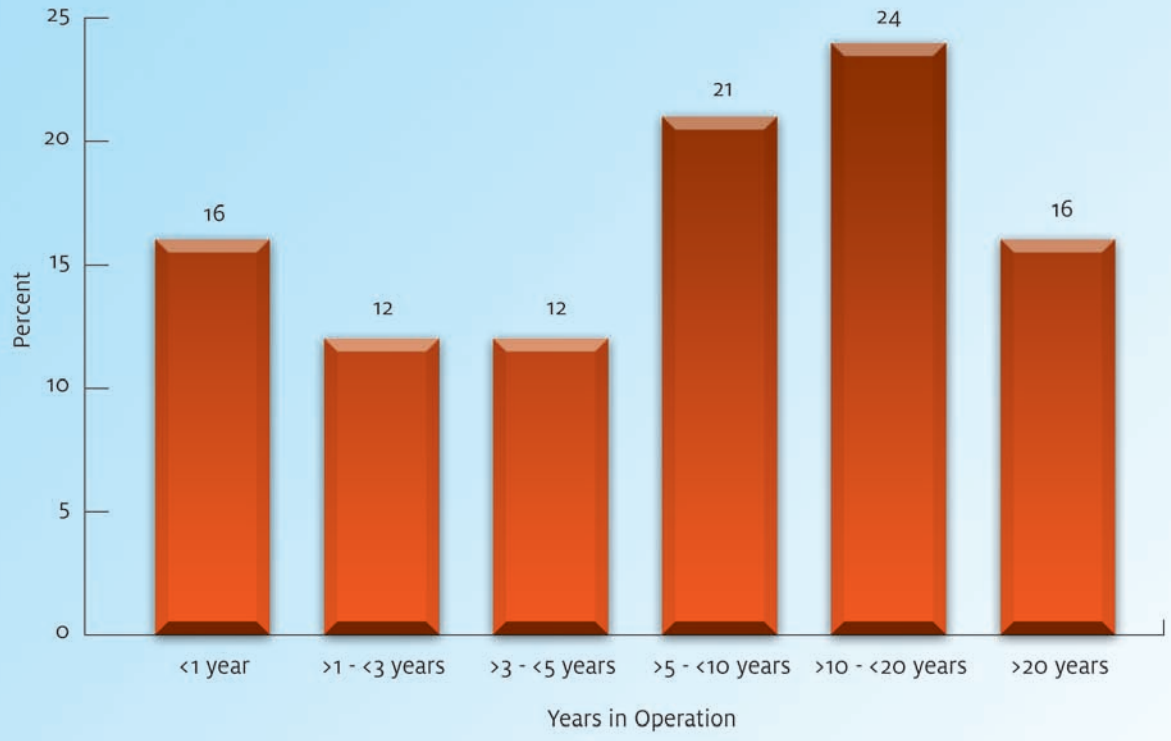

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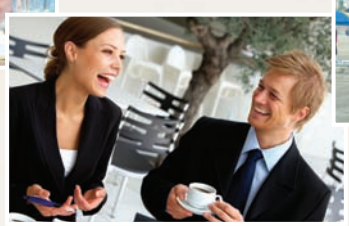

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