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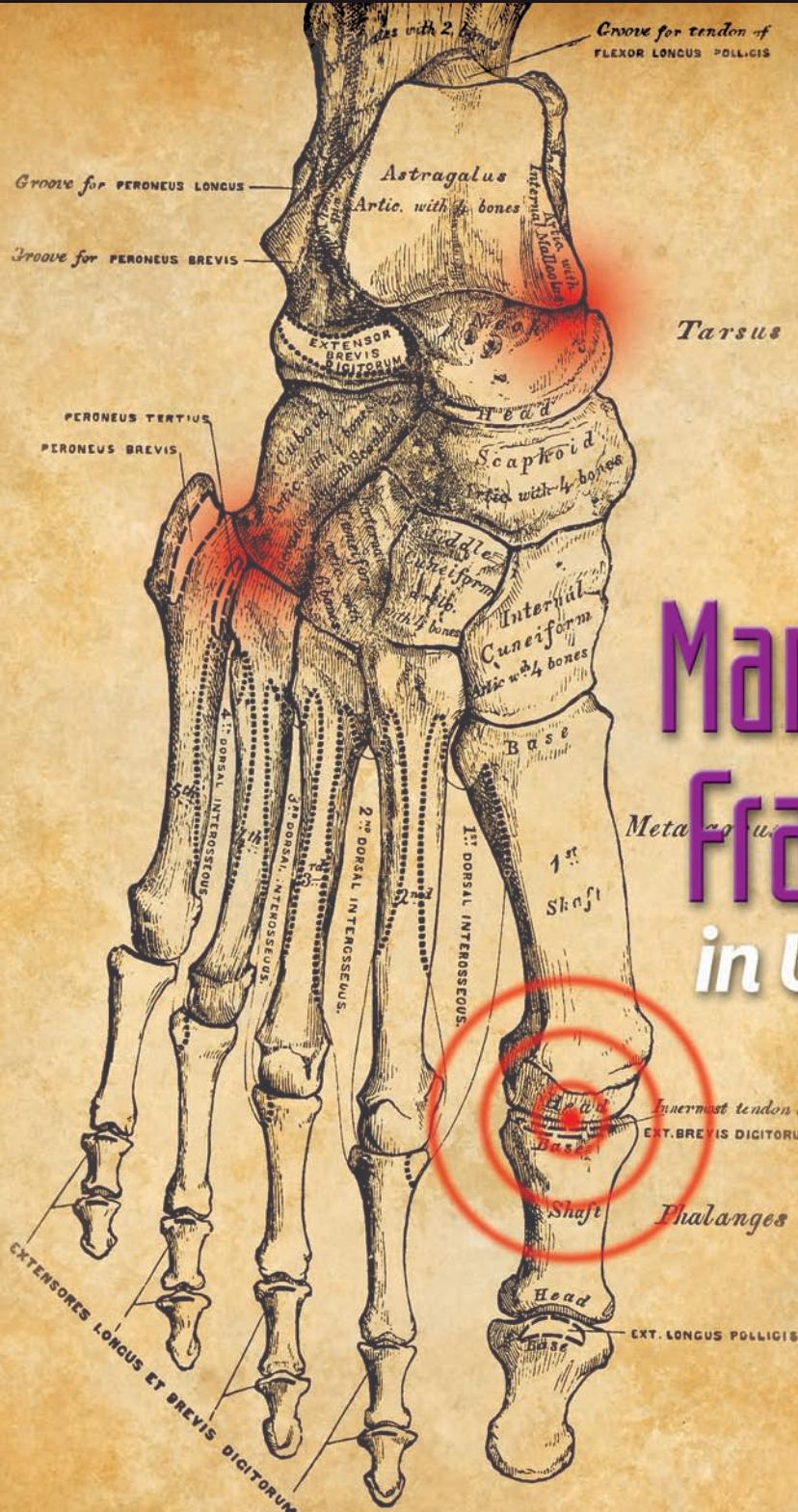
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Managing Foot Fractures in Urgent Care



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[†]*In vitro* data are not always indicative of clinical success or microbiological eradication in a clinical setting.

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(moxifloxacin HCl ophthalmic solution) 0.5% as base

*The dosing of VIGAMOX® solution is one drop in the affected eye(s) 3 times daily for 7 days.

IMPORTANT SAFETY INFORMATION

VIGAMOX® solution is indicated for the treatment of bacterial conjunctivitis caused by susceptible strains of the following organisms: *Corynebacterium* species[‡], *Micrococcus luteus*[‡], *Staphylococcus aureus*, *S. epidermidis*, *S. haemolyticus*, *S. hominis*, *S. warneri*[‡], *Streptococcus pneumoniae*, *Streptococcus viridans* group, *Acinetobacter lwoffii*[‡], *Haemophilus influenzae*, *Haemophilus parainfluenzae*[‡], *Chlamydia trachomatis* ([‡]efficacy for this organism was studied in fewer than 10 infections). VIGAMOX® solution is contraindicated in patients with a history of hypersensitivity to moxifloxacin, to other fluoroquinolones, or to any of the components in this medication. NOT FOR INJECTION. VIGAMOX® solution should not be injected subconjunctivally, nor should it be introduced directly into the anterior chamber of the eye. In patients receiving systemically administered quinolones, including moxifloxacin, serious and occasionally fatal hypersensitivity (anaphylactic) reactions have been reported, some following the first dose. As with other anti-infectives, prolonged use of VIGAMOX® solution may result in overgrowth of non-susceptible organisms, including fungi. The safety and effectiveness of VIGAMOX® solution in infants below 1 year of age have not been established. The most frequently reported ocular adverse events were conjunctivitis, decreased visual acuity, dry eye, keratitis, ocular discomfort, ocular hyperemia, ocular pain, ocular pruritus, subconjunctival hemorrhage, and tearing. These events occurred in approximately 1%–6% of patients.

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Vigamox®

(moxifloxacin hydrochloride ophthalmic solution) 0.5% as base

DESCRIPTION: VIGAMOX® (moxifloxacin HCl ophthalmic solution) 0.5% is a sterile ophthalmic solution. It is an 8-methoxy fluoroquinolone anti-infective for topical ophthalmic use.

CLINICAL PHARMACOLOGY:

Microbiology:

The following *in vitro* data are also available, but their clinical significance in ophthalmic infections is unknown. The safety and effectiveness of VIGAMOX® solution in treating ophthalmological infections due to these microorganisms have not been established in adequate and well-controlled trials.

The following organisms are considered susceptible when evaluated using systemic breakpoints. However, a correlation between the *in vitro* systemic breakpoint and ophthalmological efficacy has not been established. The list of organisms is provided as guidance only in assessing the potential treatment of conjunctival infections. Moxifloxacin exhibits *in vitro* minimal inhibitory concentrations (MICs) of 2 µg/ml or less (systemic susceptible breakpoint) against most ($\geq 90\%$) of strains of the following ocular pathogens.

Aerobic Gram-positive microorganisms:

Listeria monocytogenes
Staphylococcus saprophyticus
Streptococcus agalactiae
Streptococcus mitis
Streptococcus pyogenes
Streptococcus Group C, G and F

Aerobic Gram-negative microorganisms:

Acinetobacter baumannii

Acinetobacter calcoaceticus

Citrobacter freundii

Citrobacter koseri

Enterobacter aerogenes

Enterobacter cloacae

Escherichia coli

Klebsiella oxytoca

Klebsiella pneumoniae

Moraxella catarrhalis

Morganella morganii

Noisseria gonorrhoeae

Proteus mirabilis

Proteus vulgaris

Pseudomonas stutzeri

Anaerobic microorganisms:

Clostridium perfringens

Fusobacterium species

Prevotella species

Propionibacterium acnes

Other microorganisms:

Chlamydia pneumoniae

Legionella pneumophila

Mycobacterium avium

Mycobacterium marinum

Mycoplasma pneumoniae

Clinical Studies:

In two randomized, double-masked, multicenter, controlled clinical trials in which patients were dosed 3 times a day for 4 days, VIGAMOX® solution produced clinical cures on day 5-6 in 65% to 69% of patients treated for bacterial conjunctivitis.

Microbiological success rates for the eradication of the baseline pathogens ranged from 84% to 94%. Please note that microbiologic eradication does not always correlate with clinical outcome in anti-infective trials.

INDICATIONS AND USAGE: VIGAMOX® solution is indicated for the treatment of bacterial conjunctivitis caused by susceptible strains of the following organisms:

Aerobic Gram-positive microorganisms:

*Corynebacterium species**

*Micrococcus luteus**

Staphylococcus aureus

Staphylococcus epidermidis

Staphylococcus haemolyticus

Staphylococcus hominis

*Staphylococcus warneri**

Streptococcus pneumoniae

Streptococcus viridans group

Aerobic Gram-negative microorganisms:

*Acinetobacter lwoffii**

Haemophilus influenzae

*Haemophilus parainfluenzae**

Other microorganisms:

Chlamydia trachomatis

*Efficacy for this organism was studied in fewer than 10 infections.

CONTRAINdications: VIGAMOX® solution is contraindicated in patients with a history of hypersensitivity to moxifloxacin, to other quinolones, or to any of the components in this medication.

WARNINGS:

NOT FOR INJECTION.

VIGAMOX® solution should not be injected subconjunctivally, nor should it be introduced directly into the anterior chamber of the eye.

In patients receiving systemically administered quinolones, including moxifloxacin, serious and occasionally fatal hypersensitivity (anaphylactic) reactions have been reported, some following the first dose. Some reactions were accompanied by cardiovascular collapse, loss of consciousness, angioedema (including laryngeal, pharyngeal, or facial edema), airway obstruction, dyspnea, urticaria, and itching. If an allergic reaction to moxifloxacin occurs, discontinue use of the drug. Serious acute hypersensitivity reactions may require immediate emergency treatment. Oxygen and airway management should be administered as clinically indicated.

PRECAUTIONS:

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

and, where appropriate, fluorescein staining. Patients should be advised not to wear contact lenses if they have signs and symptoms of bacterial conjunctivitis.

Information for Patients: Avoid contaminating the applicator tip with material from the eye, fingers or other source.

Systemically administered quinolones including moxifloxacin have been associated with hypersensitivity reactions, even following a single dose. Discontinue use immediately and contact your physician at the first sign of a rash or allergic reaction.

Drug Interactions: Drug-drug interaction studies have not been conducted with VIGAMOX® solution. *In vitro* studies indicate that moxifloxacin does not inhibit CYP3A4, CYP2D6, CYP2C9, CYP2C19, or CYP1A2 indicating that moxifloxacin is unlikely to alter the pharmacokinetics of drugs metabolized by these cytochrome P450 isozymes.

Carcinogenesis, Mutagenesis, Impairment of Fertility: Long term studies in animals to determine the carcinogenic potential of moxifloxacin have not been performed. However, in an accelerated study with initiators and promoters, moxifloxacin was not carcinogenic in rats following up to 38 weeks of oral dosing at 500 mg/kg/day (approximately 21,700 times the highest recommended total daily human ophthalmic dose for a 50 kg person, on a mg/kg basis).

Moxifloxacin was not mutagenic in four bacterial strains used in the Ames *Salmonella* reversion assay. As with other quinolones, the positive response observed with moxifloxacin in strain TA 102 using the same assay may be due to the inhibition of DNA gyrase. Moxifloxacin was not mutagenic in the CHO/HGPRT mammalian cell gene mutation assay. An equivocal test was obtained in the same assay when v79 cells were used. Moxifloxacin was clastogenic in the v79 chromosome aberration assay, but it did not induce unscheduled DNA synthesis in cultured rat hepatocytes. There was no evidence of genotoxicity *in vivo* in a micronucleus test or a dominant lethal test in mice.

Moxifloxacin had no effect on fertility in male and female rats at oral doses as high as 500 mg/kg/day, approximately 21,700 times the highest recommended total daily human ophthalmic dose. At 500 mg/kg orally there were slight effects on sperm morphology (head-tail separation) in male rats and on the estrous cycle in female rats.

Pregnancy: Teratogenic Effects:

Pregnancy Category C: Moxifloxacin was not teratogenic when administered to pregnant rats during organogenesis at oral doses as high as 500 mg/kg/day (approximately 21,700 times the highest recommended total daily human ophthalmic dose); however, decreased fetal body weight and slightly delayed fetal skeletal development were observed. There was no evidence of teratogenicity when pregnant Cynomolgus monkeys were given oral doses as high as 100 mg/kg/day (approximately 4,300 times the highest recommended total daily human ophthalmic dose). An increased incidence of smaller fetuses was observed at 100 mg/kg/day. Since there are no adequate and well-controlled studies in pregnant women, VIGAMOX® solution should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

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

Pediatric Use: The safety and effectiveness of VIGAMOX® solution in infants below 1 year of age have not been established.

There is no evidence that the ophthalmic administration of VIGAMOX® solution has any effect on weight bearing joints, even though oral administration of some quinolones has been shown to cause arthropathy in immature animals.

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

ADVERSE REACTIONS: The most frequently reported ocular adverse events were conjunctivitis, decreased visual acuity, dry eye, keratitis, ocular discomfort, ocular hyperemia, ocular pain, ocular pruritis, subconjunctival hemorrhage, and tearing. These events occurred in approximately 1-6% of patients. Nonocular adverse events reported at a rate of 1-4% were fever, increased cough, infection, otitis media, pharyngitis, rash, and rhinitis.

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1. Data on file. Alcon Laboratories, Inc.



Share Your Insights

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

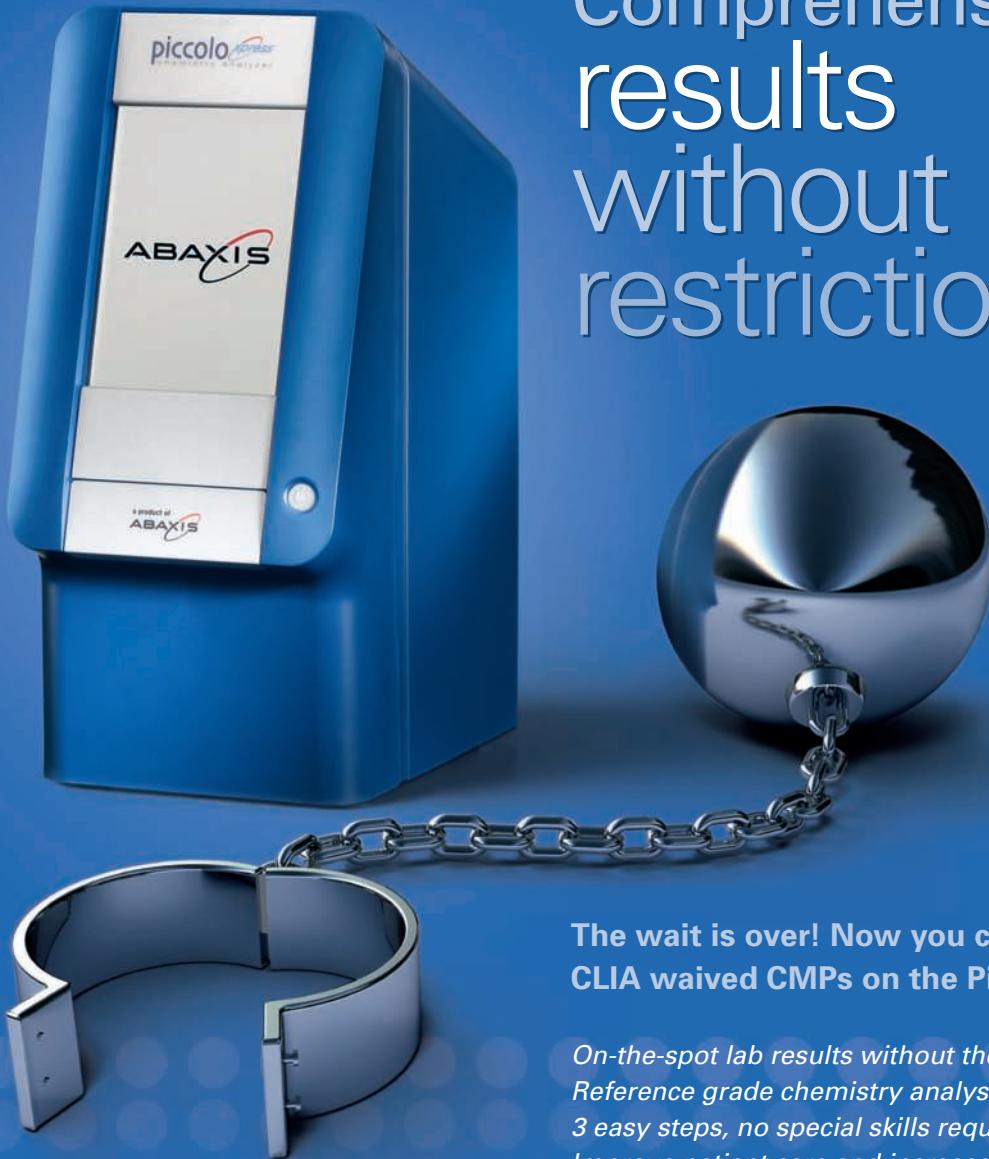
Nothing supports this goal more than **Insights in Images**, where urgent care practitioners can share the details of actual cases, as well as their expertise in resolving those cases. After all, in the words of UCAOA Executive Director Lou Ellen Horwitz, everyday clinical practice is where "the rubber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

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

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

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LETTER FROM THE EDITOR-IN-CHIEF

A Defense of Family Medicine or an Indictment of Emergency Medicine?



I expected a firm retort from our colleagues in academic and traditional family medicine with regard to my column Is Urgent Care "Real" Family Medicine? (*JUCM*, October 2008). Unexpectedly, however, the column brought concern from one of our urgent care colleagues with roots in emergency medicine.

In his letter—excerpts from which are presented here—Dr. Bryan Dunn of Boerne/Bulverde Urgent Care in Texas writes:

"Your editorial came across as a slap in the face to emergency physicians, especially those who practice urgent care medicine...."

Your editorial claims that 'we' (family physicians) are 'less distracted by the critical patient, allowing for greater attention to be paid to the majority of patients with acute, undifferentiated problems.' This is stated to be a 'real advantage' that family physicians offer....

I fail to see how my training as an emergency physician is somehow a disadvantage. I am quite comfortable treating those who are very sick or badly injured and at the same time providing a timely and accurate diagnosis in a friendly way to those who have minor complaints.

The second point that your editorial makes is that family physicians have a 'greater ability to evaluate a patient within context, understanding agendas more quickly, addressing psychosocial and cultural needs more accurately.' Do you have any type of documentation to support this?...

It is my experience and opinion that a capable emergency physician can deal with almost any situation presenting to an urgent care center, and in many cases provide definitive treatment when physicians trained in other disciplines would send that patient to the emergency department."

The intent of my column was a defense of family physicians practicing in urgent care, not an indictment of emergency physicians practicing in urgent care. Any perception of segregation within urgent care is bad for the discipline, so I thank Dr. Dunn for letting us know how he perceived the column. If he felt that way, then I am sure others do, as well.

Family physicians practicing in urgent care are often perceived by their colleagues as abandoning the entire premise of family medicine; the column was my rebuke of that notion. My comments regarding emergency medicine were intended to compare the urgent care setting vs. the emergency department setting in the evaluation of the "non-critical" patient. I wholly support the notion that emergency physicians practicing in urgent care settings are also less distracted by the critical patient, and would hypothesize that their outcomes and compliance might improve in these patients, as well.

Family physicians do receive extensive training in human behavior, family structure and dynamics, and family counseling and education. Understanding the role of each in the setting of acute and chronic disease and wellness is a cornerstone of family medicine training. It is, again, my opinion that this assists the family physician in the assessment of the undifferentiated patient.

All this being said, emergency physicians practicing in urgent care bring a wealth of competencies to the evaluation of the undifferentiated patient, many of which are highlighted in Dr. Dunn's letter.

I have argued from the beginning that urgent care is a blended discipline, borrowing from family medicine, emergency medicine, occupational medicine, and other specialties, and that it is in the interest of all those who practice in this setting to share their expertise and participate in the development of learning tools to fill competency gaps.

I hope we have unveiled an important opportunity to further discuss the role of *all* those practicing in urgent care, and look forward to continued dialogue exploring opportunities for collaboration and understanding. ■

Lee A. Resnick, MD
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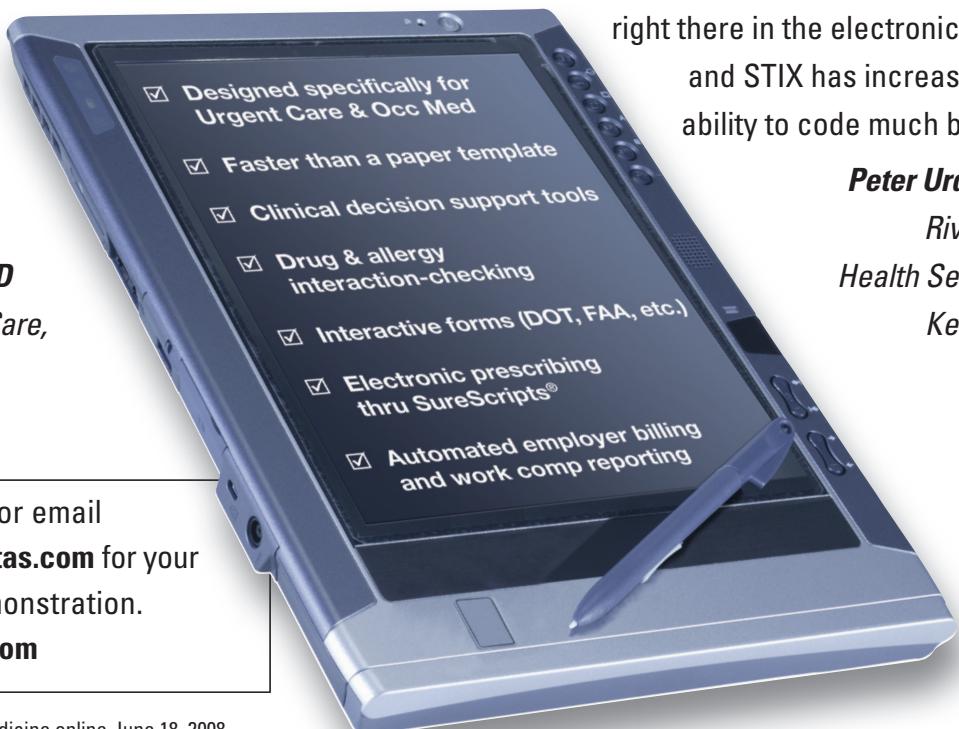


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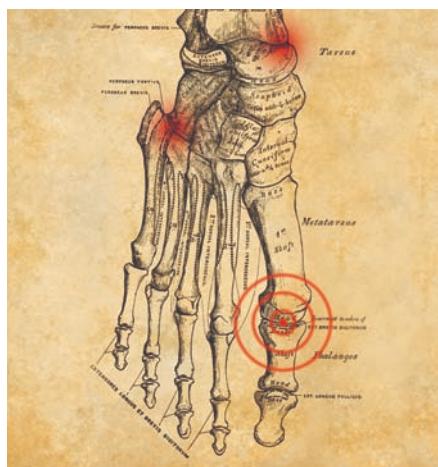
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December 2008

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**CLINICAL**

11 Managing Foot Fractures in Urgent Care

Many foot fractures can be treated in the urgent care center, while others require immediate referral. Making the distinction and recognizing the role of the urgent care clinician in both scenarios is imperative to positive outcomes. The first in a two-part series.

By Phillip H. Disraeli, MD, FAAFP

BOUNCEBACKS

20 The Case of a 37-Year-Old Female with Flu-like Symptoms

Limiting the differential to "typical" diagnoses for patients within a certain age or demographic group can have catastrophic consequences for the patient and expose the clinician to significant liability.

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

PRACTICE MANAGEMENT

34 Failing to Plan—or Planning to Fail? Designing a Clinic for Success

Ample space and a comfortable waiting room are only the most basic considerations when designing or expanding your facility. Make sure the floor plan helps lay the foundation for good care and a healthy bottom line.

By Patrice Pash, RN, BSN, COHC

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From the UCAOA Executive Director

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In the next issue of JUCM:

In the second half of our discussion on managing foot fractures in the urgent care setting, Dr. Phillip Disraeli turns his attention to injuries to the cuboid, cuneiforms, navicular, talus, Chopart joint, and calcaneus.



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JUCM The *Journal of Urgent Care Medicine* supports the evolution of urgent care medicine by creating content that addresses both the clinical practice of urgent care medicine and the practice management challenges of keeping pace with an ever-changing healthcare marketplace. As the Official Publication of the Urgent Care Association of America, **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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It's likely that patients and clinicians alike take their feet for granted—until they stub their toe on the dresser in the middle of the night or experience the agony of a Lisfranc joint disruption. Similarly, it's easy to overlook how complex the anatomy of the foot really is and to underestimate the importance of recognizing when to treat and when to refer to the ED or orthopedics.

We hope our cover story, *Managing Foot Fractures in Urgent Care* (page 11) by **Phillip H. Disraeli, MD, FAAFP**, will be of service in that regard. In it, the author will review proper management and follow-up for simple nondisplaced fractures of the foot, as well as the urgent care clinician's role in other significant injuries to the toes, metatarsals, and Lisfranc joint. We'll continue the discussion in our January issue, with emphasis on other parts of the foot.



Dr. Disraeli is a partner in Metro Urgent Care in Frisco, TX, as well as director of clinical programs for the Urgent Care Association of America, helping to develop the clinical content for UCAOA's CME programs. His areas of interest include electronic health records, orthopedics, office-based procedures, and wellness.

In this month's Bouncebacks feature (*The Case of a 37-Year-Old Female with Flu-like Symptoms*, page 20), **Ryan Longstreth, MD, FACEP** and **Michael B. Weinstock, MD** review the potentially catastrophic consequences of limiting the differential diagnosis based on a patient's age or other demographics.



Drs. Weinstock and Longstreth are colleagues at Mt. Carmel St. Ann's Emergency Department in Columbus, OH. In addition, Dr. Weinstock is clinical assistant professor of emergency med-

icine at The Ohio State University College of Medicine.

We also welcome the contributions of **Patrice Pash RN, BSN, COHC** (*Failing to Plan—or Planning to Fail? Designing a Clinic for Success*, page 34). Ms. Pash, director of operations and consulting for National Med Network, shares her expertise on how the space in which a clinic resides can contribute to (or detract from) its success. As a consultant to new urgent care start-ups, she has assisted more than 40 new centers across the U.S. Her medical background includes pre-hospital emergency medicine, cardiology, and occupational health.



Also in this issue:

Nahum Kovalski, BSc, MDCM reviews abstracts on emergency room crowding and patient satisfaction, blunt abdominal trauma in children, types of fractures that raise suspicion of child abuse, and other topics relevant to urgent care.

John Shufeldt, MD, JD, MBA, FACEP explains how improving efficiency can help you offer better care and reduce your risk of getting on the wrong side of a malpractice suit.

Frank Leone, MBA, MPH suggests ways to figure out whether prospective occupational health clients are trendsetters or more likely to follow the herd—and how making that distinction can help you get their business.

David Stern, MD, CPC answers questions on proper coding and reimbursement for symptoms of infections, modifiers for x-rays, and counseling patients' families.

If you have a thought about any of these articles—or an idea for one of your own—express it in an e-mail to our editor-in-chief, **Lee A. Resnick, MD**, at 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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FROM THE EXECUTIVE DIRECTOR

Everything Speaks

■ LOU ELLEN HORWITZ, MA

bet you have a really good-looking waiting room—comfortable chairs, recent magazines, maybe even a television.

I was in an urgent care center about a year ago, with a fine waiting room. Good signage, nice chairs, little area for the kids with toys. But step through the door toward the exam rooms, and there was equipment in the hallways, clinical stations covered with papers, handwritten labels taped on cabinets....

About two months ago, I called another center at about 11 in the morning. I got a recorded message with no way to talk to a person or leave a message. It turns out they didn't open until 3 p.m.; the message said that, but I didn't hear it.

Finally, a few days ago I answered an incoming call from a member to our office. The first thing that member said to me was, "Thanks for taking my call."

Have our collective expectations gotten so low that a member is now surprised when someone at their association will talk to them immediately?

All of these examples are about one thing: Everything you do, everything you say, everything you *don't* say, what your clinic looks like, how your staff behaves, the collection of signs on your wall about what insurance you accept and don't...*all* of that says something. Everything speaks. Some of it is obvious, but most of it is completely under our radar.

Don't stop reading and start looking around your clinic, though. You won't see most of it. Sure, that faded sign with the tattered Scotch tape may scream out at you to be refreshed, but what you most likely need is an outside opinion.

Happily, although there are expert "mystery shoppers" out there, you can gain a tremendous amount of perspective from bringing in free consultants (also known as friends). You will need to pick your most honest friend if you are looking for genuine, unabashed feedback. Tell them what you are trying to accomplish: to see your clinic through the customer's eyes.



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

It is probably best that you aren't there for the visit, so you will learn what you really need to know. What is the experience of visiting your clinic *saying*?

Then comes the fun part of acting on what you learn. Odds are you will have some "low-hanging fruit" that you can deal with easily, and some more challenging aspects that will take considerable effort. Some things will be regulatory and unchangeable, but they are still worth examining in their presentation.

"When you know what you want to change, get the people who are closest to the patient involved."

This is a great time for a staff-wide effort, as well. When you know what is being "said" by your clinic that you want to change, get the people who are closest to the patient involved. They will help you come up with the best answers.

We've been talking about this concept in our own office, and it's been an interesting experience for us. I hope it will be for you, too, and that it will help each of your clinics continue to improve the urgent care experience for the community you all serve. Together, those efforts will improve the urgent care experience across the nation.

Looking forward to seeing many of you in a few months in Las Vegas. Remember that early registration ends December 31!

[Postscript: I wish I could claim credit for the title of this article, "Everything Speaks"—it is such a simple distillation of an idea—but I can't. It belongs to a consultant named Karen Baird, whom I heard speak in October, and she should get the credit.] ■



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Managing Foot Fractures in Urgent Care

Urgent message: Acute injuries to the foot often send patients to an urgent care center—though on occasion they don't present for weeks, or even months, after the injury occurred. Understanding the natural history of untreated fractures in the foot is imperative to positive outcomes. The first in a two-part series.

Phillip H. Disraeli MD, FAAFP

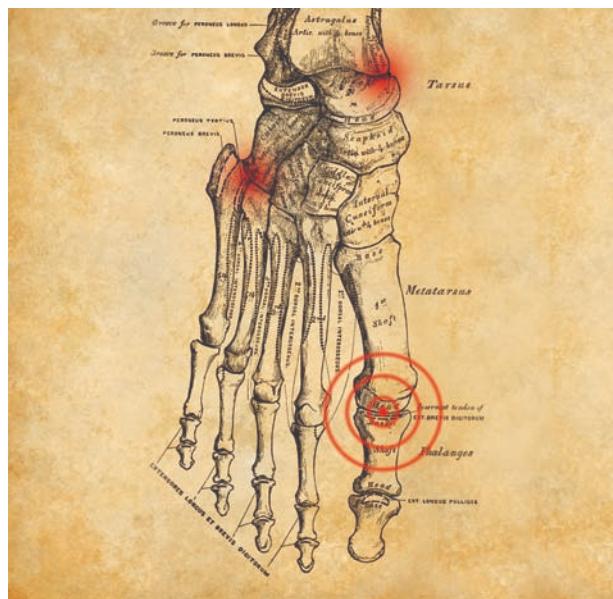
Introduction

This article will focus primarily on two aspects of care:

1. Proper management of and follow-up for simple nondisplaced fractures in the foot.

2. The role of the urgent care clinician in patients with other significant fractures, the vast majority of whom will need to be referred to orthopedics for definitive care; this will include pitfalls to avoid in the acute assessment and management of these patients.

The scope of foot fractures seen in the urgent care setting varies by locale and demographics of the patient population. For example, young families in suburban areas are more likely to present with forefoot fractures and stress fractures; in more urban or industrial environs, ur-



© iStockPhoto; Composite: Tom DePenda

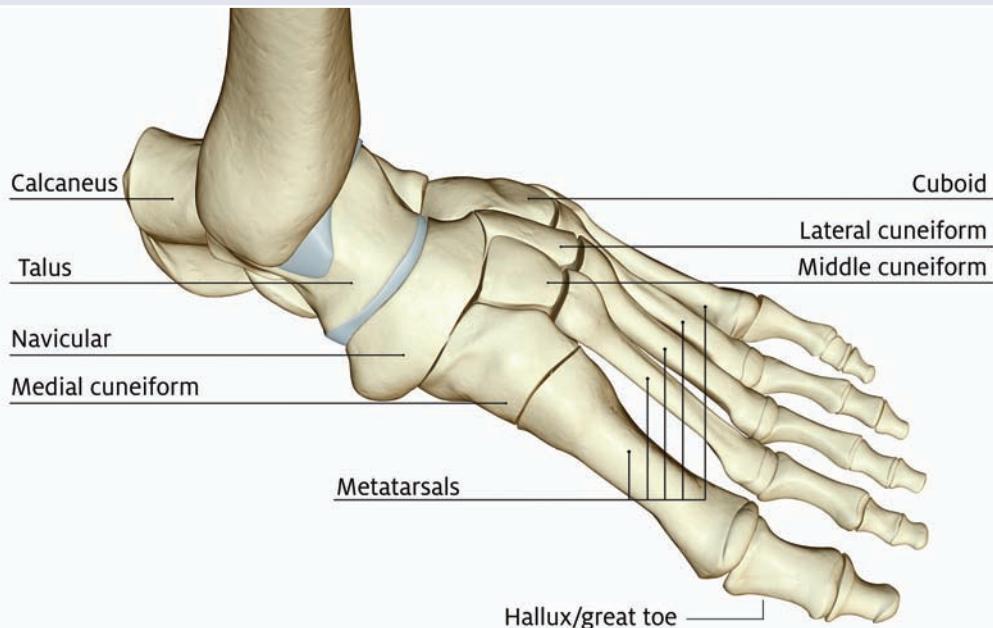
gent care clinicians are more likely to see injuries resulting from motor vehicle accidents or high-energy trauma leading to fractures and dislocations of the more rigid midfoot and hindfoot.

Our examination of foot fractures in urgent care will be divided into two parts. In this first installment, we will discuss fractures of the toes, metatarsals, and Lisfranc joint (tarsal-metatarsal joints); the second will appear in the January issue of *JUCM* and focus on injuries, particularly fractures, to the cuboid, cuneiforms, navicu-

lar, talus, Chopart joint, and calcaneus, as well as compartment syndrome.

Great Toe (Hallux)

The great toe, or hallux, and its metatarsal are anatomi-

Figure 1. Relevant key anatomy of the foot.

© BSIP / Photo Researchers, Inc.

ically distinct from the rest of the forefoot and are designated as the first ray. The first ray is essential to proper ambulation, especially during toe push off.

Fractures of the hallux commonly occur from a direct blow to the foot. The strong flexor tendons on the plantar surface of the toe may cause the fracture to displace and lead to chronic deformities and shoe-fitting problems if not fixed properly.

A simple, nondisplaced fracture of the distal phalanx can be treated with buddy taping of the toes for two to three weeks and a post-op shoe. However, transverse fractures through the proximal phalanx are more troublesome. These should be immobilized with a CAM walker—a high-top walking boot—for two to three weeks before converting to a rigid shoe.

Because of their anatomic importance, displaced fractures of the proximal phalanx need to be fixed with a K wire and should be referred to orthopedics or podiatry. Due to the crush mechanism of injury, the clinician should check carefully for nailbed lacerations and a subungual hematoma.

Fractures that extend into the first metatarsophalangeal (MTP) joint space will often lead to chronic stiffness of the MTP joint. Luckily, most patients can com-

pensate and adapt to some stiffness in this joint if the remainder of the foot has normal mobility. Displaced fracture fragment requires open fixation. Otherwise, minimal involvement of the first MTP joint can be managed with a CAM walker for three weeks, followed by a rigid post-op shoe.

The lesser toes are not as important, anatomically. The majority of fractures to these toes are the result of a direct blow or stubbing the toes while barefoot. The urgent care clinician can usually manage these injuries on site. Lacerations should be examined, cleaned, and repaired first.

A fracture dislocation or displaced fracture, if revealed by x-ray, can usually be manipulated without anesthesia and the toes buddy-taped. The patient should be advised to keep them taped for three weeks, and to wear a rigid shoe. It is expected that patients can convert to a comfortable shoe after three weeks, with eventual healing in six weeks in most cases.

Amputations of the lesser toes should be immediately referred to the ED for management.

Sesamoids of the Great Toe

The sesamoid bones of the great toe lie within the substance



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of the flexor hallucis brevis tendon sheath and bear up to 50% of the body weight, experiencing even greater forces during jumping activities. Their purpose is to reinforce the tendon during push-off of the toe. They also assist by elevating the first metatarsal off the ground.

These sesamoids are bipartite in 25% of patients. Acute fractures may occur when landing on the ball of the foot. Stress fractures are usually the result of repetitive activities that involve landing on the toes, such as ballet, basketball, and volleyball.

CT scan or bone scintigraphy may be necessary to identify the fracture.

Differential diagnosis of sesamoid pain includes sesamoiditis, bursitis, and nerve entrapment in the area. Typically, the fracture responds well to modified activities, elimination of jumping, and a post-operative shoe for four to six weeks.

Freiberg's Infarction

An important entity for the urgent care practitioner to be aware of when considering forefoot pain is Freiberg's infarction (**Figure 2**). This is a type of osteonecrosis that occurs in the metatarsal heads, especially the second, and is more frequent in women.

As the infarction progresses, the metatarsal head collapses down, causing progressive metatarsalgia. The patient presents with pain and swelling in the ball of the foot.

Typically, x-rays are negative at first, as the radiography often lags behind the infarction by up to six months. A high index of suspicion should prompt the clinician to consider an MRI or bone scan. When diagnosed early, the infarction can be managed conservatively with modification of activities and a post-op shoe. If the infarction has progressed to collapse of the metatarsal head, however, the patient should be referred for arthroplasty.

Metatarsal Fractures

Weight is borne in six contact points of the forefoot—the

When to Treat, When to Refer

Definitive care in urgent care center	Splint and refer to orthopedics
<ul style="list-style-type: none"> ■ Nondisplaced fractures of great toe ■ Nondisplaced and minimally displaced fractures of toes 2–5 ■ Stress fractures of metatarsals 2–4 ■ Single, nondisplaced fractures of metatarsals 2–4 ■ Avulsion fractures of base of 5th metatarsal ■ Fractures of sesamoids of the great toe 	<ul style="list-style-type: none"> ■ Displaced fractures of great toe, or involvement of the MTP joint ■ Fractures of the first metatarsal ■ Jones' and stress fractures of the base of the 5th metatarsal ■ Displaced fractures of metatarsals 2–5 ■ Freiberg's infarction ■ Suspected or confirmed Lisfranc disruptions

Note: Urgent care clinicians who opt to treat foot fractures in the urgent care center must ensure follow-up and repeat x-rays to confirm healing. As noted in this article, crutches or a CAM walker need to be available when indicated if providing definitive care of the less complicated injuries mentioned.

Figure 2.



X-ray showing Freiberg's disease of second metatarsal head with flattening of articular surface. Reprinted from *Clinics in Sports Medicine*, volume 27, issue 2, Prisk VR, O'Laughlin PF, Kennedy JG, Forefoot injuries in dancers, pages 305-320, copyright © 2008 with permission from Elsevier.

two sesamoids of the great toe and the four lesser metatarsal heads.

When assessing injuries of the metatarsal region of the forefoot, the urgent care practitioner should consider three separate zones for mechanisms of injury and treatment:

The first is the first metatarsal, part of the first ray already mentioned.

The second combines the second through the fourth

metatarsals. These are relatively rigid, with several muscular attachments.

The third is the fifth metatarsal, which is all-important because of the unique attachment of the peroneus brevis tendon laterally and the propensity for non-union in some fractures.

Typically in metatarsal fractures, patients cannot tolerate any displacement in the dorsal or volar plane due to weight bearing. Therefore, any fracture that might lead to this angulation in the sagittal plane should be referred to orthopedics.

Systematic exam

A systematic exam of the area is crucial. First, axially load each toe. Then palpate each bone, and try to sublux each joint, if tolerated. Check the neurovascular status of the foot and capillary refill to ensure good perfusion.

Remember that injuries to the area lead to swelling on the dorsal aspect of the foot because the tissue is looser on that side. However, bruising will vary, so check the sole of the foot. Standard three-view x-rays of the foot (anteroposterior [AP], lateral, and oblique) are usually adequate to show fractures of the area. The lateral view is especially important to rule out sagittal displacement.

Although most metatarsal fractures are effectively treated conservatively, surgery is typically considered in the face of severe displacement, multiple fractures, intra-articular injury, open fractures, compartment syndrome, abnormal skin tension, significant sagittal displacement in any ray, or significant transverse displacement in the border rays.

First metatarsals

For first metatarsal fractures, one must remember that a third of the body weight is borne through this area; this is a disproportionate amount, considering the size of the first ray. Even nondisplaced fractures have to be treated with non-weight bearing for up to four weeks. Most of these will be casted, with a few treated in a CAM walker if reliably stable. Therefore, all first metatarsal fractures need to be referred to orthopedics. The displaced and intra-articular fractures will require screw fixation.

The patient will be able to tolerate some medial or lateral displacement, but no displacement in the AP direction should be considered acceptable. The urgent care clinician should place the patient in a posterior splint, order non-weight bearing, and refer to orthopedics.

Second through fourth metatarsals

For acute fractures of the second through fourth



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metatarsals, conservative treatment is permissible if the fracture is single and nondisplaced with no other injuries. (Remember that the metatarsal heads must be even during weight-bearing.)

Treatment options for the urgent care clinician include a CAM walker or post-operative shoe, for a total of six weeks of protected weight-bearing. Careful follow-up is necessary to ensure healing, with x-rays every two weeks.

Keep in mind that dorsal or volar angulation can occur during healing due to the strong pull of surrounding muscles and ligaments. If not treated, this angulation leads to metatarsalgia or painful calluses. Medial and lateral angulation of the lesser metatarsals can also cause interdigital nerve impingement.

Fractures with more than 3 mm of displacement will require operative repair. Multiple fractures should be referred to orthopedics.

The key to stress fractures of the second to fourth metatarsals is proper recognition. Stress fractures have a different mechanism of injury. Whereas acute fractures are a result of a direct blow or twisting trauma to the foot, stress fractures are the result of repeated microtrauma, sometimes with underlying abnormal anatomy.

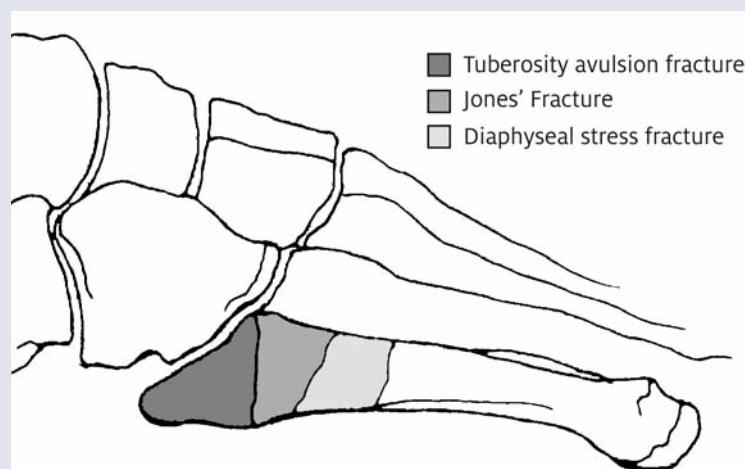
Stress fractures of the metatarsal are also known as "march" fractures because they are relatively common among military recruits. However, any person experiencing an abrupt increase in the intensity and frequency of walking or running may develop a stress fracture. Special populations include athletes, runners, and dancers.

Eighty percent of stress fractures in the foot occur in the second or third metatarsal.

Another common cause of stress fracture of the forefoot is a tight gastrocnemius muscle, which forces too much weight onto the forefoot. Other patients may be putting too much stress over a certain part of the foot (instead of equally distributing it) as a result of obesity, leg misalignment, or a sudden change in activity level, shoe wear, or walking surface.

Palpation of the forefoot may reveal body tenderness of the shaft of the metatarsals. Testing vibration of the surrounding bone with a low tuning fork can elicit pain at the fracture site and raise the index of suspicion.

Figure 3.



Anatomical fracture zones of the proximal fifth metatarsal. Reprinted from *Clinics in Sports Medicine*, volume 25, issue 1, Fetzer G, Metatarsal shaft fractures and fractures of the proximal fifth metatarsal, pages 139-150, copyright © 2006 with permission from Elsevier. Originally published in Foot and Ankle International, July/August 1993, Vol. 14(6) page 360.

Once diagnosed, stress fractures usually respond to modification of activities for four weeks, with special care to avoid running and jumping. Patients should wear a post-operative shoe during healing.

Fifth metatarsal

The fifth metatarsal is unique in comparison with the other metatarsals for a number of reasons:

- It is the only one with extrinsic tendon attachments; the peroneus brevis and tertius attach at its base.
- It has strong ligamentous attachments from the plantar fascia.
- It is the most mobile of the metatarsals.
- Most importantly, there is a tenuous vascular supply to the base that impacts bone healing in the area.

All these factors come together to make the base of the fifth metatarsal the most difficult to assess and critical to treat for urgent care clinicians.

X-rays of the fifth metatarsal must be viewed carefully, with a hot light and magnifier being most helpful.

In children, one should note the existence of an apophysis on the base of the fifth metatarsal; it runs parallel to the base, and can be easily confused with an avul-

sion fracture. However, avulsion fractures run perpendicular to the shaft. The apophysis is first seen in girls aged 9 to 11 years and boys aged 11 to 14 years. This apophysis usually disappears two to three years after appearance, with bone maturation.

The clinician should focus on the typical locations for fractures of the base (**Figure 3**).

- First, there is an avulsion type of fracture. Controversy exists as to the exact mechanism of injury for these avulsions; i.e., is it the peroneus brevis tendon or the plantar aponeurosis causing the avulsion?

These avulsions are seldom displaced and are caused by inversion of the foot or ankle.

Avulsion fractures are usually treated non-operatively with a CAM walker or surgical shoe, depending on patient tolerance. Radiographic healing is prolonged, so the patient should be treated clinically. Most people will require some immobilization

for six to eight weeks, until the fracture site is non-tender.

- A second type is the Jones' fracture, which occurs at the junction of the diaphysis and metaphysis in the proximal fifth metatarsal.

This region is notorious for poor healing because of a poor blood supply, leading to more non-unions. However, the healing rate is actually *higher* than reported because previous studies had pooled data with stress fractures of the metatarsal.

Nondisplaced or minimally displaced fractures can be treated for six weeks in a *non-weight bearing* short leg cast, after which weight bearing is gradually increased over the next two weeks. Most fractures treated with this regimen go on to successful union.

Displaced fractures require screw fixation by orthopedics.



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MANAGING FOOT FRACTURES IN URGENT CARE

The most common error found among urgent care and emergency clinicians is not recognizing the Jones' fracture and then failing to place the patient on crutches.

- The third type of fracture of the fifth base is a stress fracture; most of these patients will have some prodromal symptoms of pain in the area.

The fracture probably occurs in the metadiaphyseal region because it is the transition zone for both vascular supply and tendon forces. The bone here remains relatively avascular in comparison with its proximal and distal ends (a watershed area), and its area is an interface between the proximal attachment and pull of the peroneus brevis and the distal influence of the adductor muscles.

Therefore, most stress fractures of the proximal fifth metatarsal should be treated like a Jones' fracture, with a non-weight bearing cast and crutches. This is distinct from stress fractures of the other metatarsals. If the x-ray shows any sign of sclerosis at the fracture margins, it will likely not heal with simple immobilization, but require screw fixation and bone grafting.

Acute fractures of the shaft of the fifth heal well with a CAM walker or surgical shoe. Patients can tolerate a little more displacement in this area because of the mobility of the bone.

Lisfranc Injuries

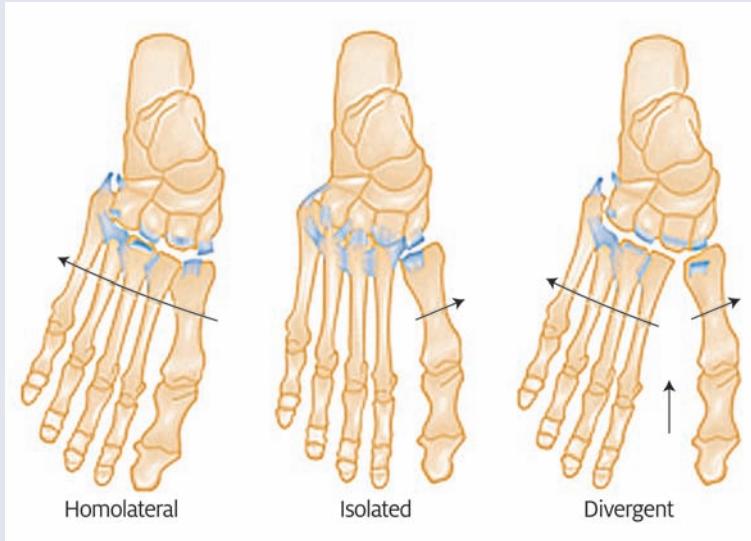
The joint between the rigid tarsal bones and the more mobile metatarsal bones is called the tarsal-metatarsal, or Lisfranc, joint; the Lisfranc disruption is an important injury pattern in the midfoot.

This joint contains articulations between the cuboid and fourth and fifth metatarsals on the lateral side, and between the cuneiforms and their respective first to third metatarsals on the medial side.

The Lisfranc ligament may be injured by direct crushing blow or high-energy impact. A typical mechanism is for the patient to sustain a heavy axial load onto the heel while the forefoot is planted on the ground in dorsiflexion, i.e., a football player has his forefoot planted in the turf and another player lands across the heel. This injury may also occur in motor vehicle accidents.

In general, single Lisfranc joint disruptions are more common with sports injuries and multiple disruptions occur with motor vehicle accidents.

Typically, the patient will present with pain in the midfoot, pain with weight bearing and inability to walk on their toes. Inspection of the foot will reveal dorsal

Figure 4. Classification of Lisfranc injuries.

The ligamentous anatomy of the Lisfranc complex is also depicted. Source: Hardcastle PH, Reschauer R, Kutscha-Lissberg E, et al. Injuries to the tarsometatarsal joint: Incidence, classification and treatment. *J Bone Joint Surg Br.* 1982;64:349-356.

swelling and ecchymosis of the midfoot. During palpation, the clinician will note tenderness of one of the tarsal-metatarsal articulations.

If the patient can tolerate it, the examiner should try to stress the individual tarsal-metatarsal joints. This is performed by holding the midfoot fixed and individually dorsiflexing each joint. Pain with this stress or instability compared with the contralateral side should elicit suspicion for a Lisfranc disruption.

Another useful technique is to passively pronate and supinate the forefoot. Pain with this test is highly suggestive of Lisfranc disruption.

In cases of suspected Lisfranc injury, careful examination for a symmetric dorsalis pedis pulse is mandatory. Even more common than a dorsalis pedis interruption, however, is a disruption of the first intermetatarsal artery located in the intermetatarsal space. This injury is a common cause of compartment syndrome in the foot and should be considered in Lisfranc injuries.

Lisfranc injuries range from stretch of the ligament, to complete tear of the ligament, to associated fractures and dislocations in the region. **Figure 4** shows typical Lisfranc injury patterns.

X-rays are always indicated when a diagnosis related

to Lisfranc injury is being entertained.

On the AP and oblique view of the foot, one should look for medial side alignment of each cuneiform with its respective metatarsal base. The fourth metatarsal should align with the cuboid bone on the medial aspect.

Reviewing the lateral film, an imaginary line drawn dorsally should align the metatarsals and their respective tarsal bones. The plain films may show a widening of the space between the first and second metatarsal bases (2 mm or more), with an associated avulsion fracture of the second metatarsal. This avulsion is referred to as the "fleck sign."

Keep in mind that normal x-rays do not rule out a Lisfranc disruption. The joints may still be unstable and should be tested with weight-bearing films or stress radiographs under anesthesia if suspected. Some authors recommend CT scanning to better delineate the Lisfranc ligament and its supporting structures.

Patients with suspected Lisfranc injuries must be referred to orthopedics for further evaluation. Stress radiographs may be necessary to determine if the Lisfranc joint is stable.

Some of these injuries are subtle but can still lead to disability. A Grade 1 sprain of the Lisfranc ligament may be treated conservatively, but any unstable ligament tear or associated dislocation must be treated operatively.

Patients will undergo open reduction and internal fixation (ORIF) and be non-weight bearing for several weeks. Even with ideal repair, 40% of patients will suffer some degree of disability and limp.

Urgent care clinicians should place patients with suspected Lisfranc injuries in a posterior splint with crutches and refer them to orthopedics. If there is a dislocation, neurovascular compromise, or compartment syndrome, the patient should be sent to the emergency department immediately.

Part 2, to be published in the January 2009 issue of *JUCM*, will resume with treatment of the midfoot and hindfoot and compartment syndrome.

For Resources and Suggested Reading associated with this article, log on to www.jucm.com. ■

Bouncebacks

The Case of a 37-Year-Old Female with Flu-like Symptoms

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

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

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

The Case of a 37-Year-Old Woman with Headaches

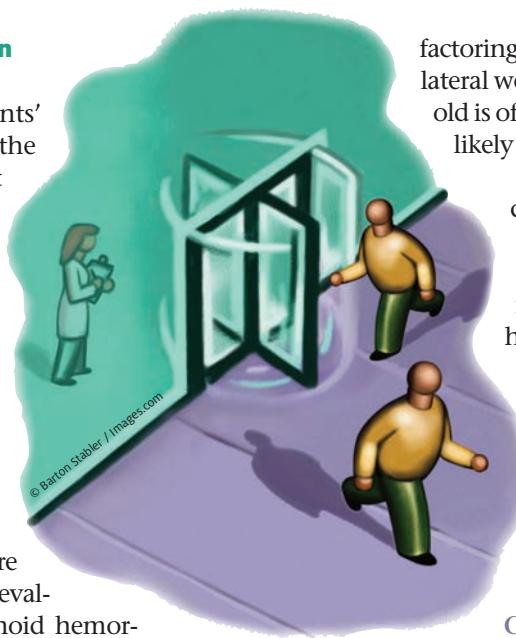
In primary care medicine, patients' symptoms are approached from the "front door;" what are the most likely causes?

Urgent care medicine often starts with a "back door" approach; think "worst first," then proceed backward through the differential after excluding life-threatening causes. Urgent care does not have the luxury of an established patient relationship or defined return visit—we often have only one chance to get it right!

The differential for an urgent care patient with headache starts with evaluation for meningitis, subarachnoid hemorrhage, tumor, and carbon monoxide poisoning. This is usually possible through history and physical alone.

Conversely, the primary care physician may start with a differential including migraine, tension, or cluster headaches.

The practice of empiric medicine allows for an accurate diagnosis after cursory evaluation *most* of the time; unfortunately, however "most" is not often enough. For example, empiric medicine will be wildly inaccurate without



factoring in the age of the patient; while unilateral weakness and numbness in a 76-year-old is often from a stroke, what are the most likely reasons in a 37-year-old woman?

If the differential does not include the diagnosis, then appropriate and timely therapy will not occur. This case will add one more item to the differential diagnosis of headaches.

Initial Visit

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

CHIEF COMPLAINT (at 08:54):

Flu-like symptoms

VITAL SIGNS

Time	Temp (F)	Rt.	Pulse	Resp	Syst
08:57	97.8	T	76	18	141
11:19	97.3	O	88	16	120
Diast	Pos	O2 sat	O2%	Pain scale	
94	S				
70	S				

HISTORY OF PRESENT ILLNESS (at 09:12):

The patient presents with a spontaneous onset of a severe, sharp frontal headache that began gradually today at 6AM. The symptoms are constant and 8/10 in severity. She did have vomiting which beg. 3 hours ago. She did use Tylenol which was minimally effective. She does not have a history of headaches. Patient complains of photophobia. She denies, fever, rash, confusion, loss of consciousness, weakness of the extremities, slurred speech, vertigo, myalgias, diplopia or blurred vision, cough, rhinorrhea, facial pain, neck stiffness, light-headedness, nausea/vomiting, or abdominal pain.

PAST MEDICAL HISTORY/TRIAGE:

Allergies: NKDA

Medications: Tylenol

PMH: None

PSH: None

Social history: No smoking, alcohol or drugs

Family history: Heart disease, HTN. No CA, DM, CVA.

PHYSICAL EXAM (at 09:17):

General: Well-developed, well-nourished, poorly-hydrated

Eyes: Pupils are equal, round and reactive to light. The extraocular muscles are intact. Fundoscopic exam is normal.

Neck: There is no cervical lymphadenopathy. No masses or thyromegaly, no JVD.

Cardiovascular: The heart has a regular rate and rhythm without m/r/g.

Respiratory: The lungs are clear to auscultation and percussion bilaterally.

GI: There is no pain with palpation.

Musculoskeletal: There is full ROM with movement.

Integumentary: The skin appears normal for age and race. It is warm and dry.

Neuro: Patient is alert and oriented to person, place, and time. Cranial nerves II-XII are intact. Sensory and motor functions are intact. Finger to nose is WNL. Grasp is equal bilaterally. The gait is normal.

ORDERS (at 09:17): Demerol 50mg IVP, Phenergan 12.5mg IVP. IV fluids NS 2 L bolus

RESULTS (results at 10:53):

Test	Flag	Value	Units	Ref. Range
WBC		13.1	K/uL	4.6-10.2
HGB		13.4	G/DL	13.5-17.5
PLT		254	K/uL	142-424

Test	Flag	Value	Units	Ref. Range
NA		136	MMOL/L	135-144
K		3.9	MMOL/L	3.5-5.1
CL		102	MMOL/L	98-107
CO2		28	MMOL/L	22-29
BUN		12	MG/DL	7-18
CREAT		0.8	MG/DL	0.6-1.3

Test	Flag	Value	Units	Ref. Range
CK	H	233	U/L	21-232
CKMB	H	5.9	NG/ML	0.0-5.0
RELIND		2.5		0.0-4.0
TROPI		.06	NG/ML	.00-.27

Urine: Urine pregnancy results are negative. Urine dip - WNL.

PROGRESS NOTES (at 11:57):

Patient is feeling much better. Patient is ready to go home. Spinal tap was discussed with the patient and her husband, but they refused, promising to return if fever, stiff neck, weakness, paralysis, or sensory loss.

RADIOLOGY:

UNENHANCED BRAIN CT: Negative

DIAGNOSIS (at 11:58):

Gastroenteritis, Cephalgia

DISPOSITION (12:26): The patient was discharged to Home ambulatory with spouse. Follow with the PCP on call (she is given name and number) if not improved in 3-4 days. Aftercare instructions for gastroenteritis and headache. Prescriptions for Phenergan and darvocet.

Discussion of Documentation and Risk Management**Issues at Initial Visit**

Error #1: Incompletely documented progress note.

Discussion: The patient presented with a severe new-onset headache, which should be concerning for subarachnoid hemorrhage. Brain CT has a sensitivity of 91% in patients without focal neurologic symptoms; lumbar puncture is mandatory if the CT is negative.

The progress note documents discussion and refusal of LP, but not that the patient was apprised of the risks of missed subarachnoid hemorrhage and a rebleed rate of about 30%, with likely permanent neurologic impairment.

No one wants to have a needle inserted into their back, but when faced with a poor outcome and possible admission to an extended-care facility and loss of in-

dependence, most will choose short-term discomfort to avoid serious long-term consequences.

Patients have every right to refuse the LP, but when the implications of missed diagnosis are so extreme, risks need to be documented and patients should be asked to repeat back those risks to ensure understanding.

Teaching point: The patient can only give informed refusal of a given procedure when the risks and benefits are discussed and understood completely. When patients do not accept your advice, document specifics of the discussion, including risks of missed diagnosis

Error #2: One set of cardiac markers without an EKG.

Discussion: One would assume acute coronary syndrome (ACS) was considered, as a troponin was ordered. This does seem a bizarre evaluation with this presentation. If this diagnosis were being considered, an EKG and (at the least) a review of symptoms (ROS) including chest pain would be needed. The troponin excludes acute myocardial infarction (AMI) ranging from six hours previous to one week previous, but does not exclude a more recent AMI or angina (which would not cause a change in troponin). Her symptoms started three hours prior to presentation, so we would not expect the first troponin to be elevated even with AMI.

Teaching point: One set of cardiac enzymes drawn three hours after onset of symptoms without an EKG does not rule out ACS or AMI.

Error #3: Conflicting documentation and inappropriate discharge diagnosis.

Discussion: One of the patient's discharge diagnoses was gastroenteritis. There was mention of vomiting in the HPI, but no diarrhea; ROS says no vomiting and also has no mention of diarrhea.

The documented symptom complex and exam findings should support the diagnosis. Discrepancy between doctor and nurse documentation can be the death knell of a legal defense; discrepancy within a physician's documentation causes the observer to question the accuracy of the entire chart. If there is diagnostic uncertainty, better to not guess at a diagnosis.

Additionally, this chart leaves a strange feeling that something is being left out. Why was so much done on a routine headache patient (e.g., blood work with less than three hours of vomiting, cardiac enzymes)? Was there something else about the patient not noted in the record?

Teaching point: Gastroenteritis is a garbage diagnosis probably seen on more malpractice charts than any other. If there is no diarrhea, the patient does *not* have

gastroenteritis. If there is uncertainty, this should be discussed with the patient and reflected in the chart.

Error #4: Ineffective medication prescription.

Discussion: If you want to treat pain use effective pain medications such as hydrocodone (Vicodin) or oxycodone (Percocet). Medications such as propoxyphene (Darvocet) or acetaminophen plus codeine (Tylenol #3) are no more effective against pain than plain acetaminophen, but they are more effective at causing vomiting, sedation, and falls.

Teaching point: If you want to treat pain, then use effective medications.

Error #5: Inadequate follow-up instructions.

Discussion: Aftercare instructions need to be time- and action-specific. The patient presented with an undifferentiated and incompletely worked up high-risk complaint. The patient was told to see her primary care physician if not improved in three to four days; the natural history of a sentinel bleed from subarachnoid hemorrhage is improvement followed by sudden catastrophe with rupture of the aneurysm. If this was the physician's chief concern, how would the follow-up ensure the diagnosis was not missed? It is also reasonable to tell the patient to return immediately for any new or worsening symptoms.

Teaching point: Patients need to know exactly when to return and why to return.

SUMMARY OF ED VISIT 2 (THREE DAYS LATER)

- 18:34: ED return (3 days later) with complaint of left arm numbness and weakness
- 21:21: Pt. is seen with history confirming intermittent HA and neck pains for 4 days. Initial set of vital signs are normal. Neuro exam documents left upper and lower extremity weakness
- Brain CT repeated at 21:27 is again normal
- 22:40: Progress note documents administration of pain meds for right neck pain radiating to occiput
- 23:08: Lumbar puncture done with WBC = 0 and RBC = 1
- 23:23: Nurse notes sudden change of condition; pt. incontinent of urine and right eye is deviated to the right. Pt. cannot move body in coordinated fashion.
- Doctor orders neck CT
- 01:35: Only minimal use of left side, mental status grossly decreased with ability to follow simple commands only
- 02:02: Radiologist calls with CT results: Right carotid artery dissection
- Admission: Inpatient MRI demonstrates large right middle cerebral artery infarct with edema and subfal-

cine herniation and brainstem infarct. No flow in the right internal carotid artery

- Two days later: Pt. is unresponsive with fixed pupils, no purposeful movements. EEG shows brain death. Pt. extubated and expires
- Final diagnosis: Carotid artery dissection

Discussion of Carotid Artery Dissection and Documentation Points

Of the 1 million headache visits to ED every year, less than 4% will have a serious cause. Carotid artery dissection is fairly rare, with an incidence of 2.5 to three cases per 100,000. It may be spontaneous in origin or secondary to trauma, ranging from high-speed multisystem traumas to seemingly benign manipulations in a physician or chiropractor's office.

This brings us to the most important learning point of this case: stroke symptoms in young patients need an expanded differential compared with older patients.

The initial ED evaluation had some bizarre aspects within the documentation and evaluation, but the diagnosis was not able to be made at that time. When the patient returned to the ED she had headache, neck pain, and stroke symptoms. In a 37-year-old woman without cardiac disease, hypertension, or atherosclerotic disease, an embolic stroke remains in the differential, along with other possibilities. The initial "cookbook" evaluation including head CT and lumbar puncture did not seem to be pursued initially, which delayed diagnosis for about five hours.

The initial presentation of carotid dissection is often non-specific, as the only initial symptom may be pain—often, a severe headache or pain to the ipsilateral face, orbit, or neck. Physical exam may reveal a carotid bruit on auscultation.

Many patients later develop an ischemic cerebral event, usually due to distal embolization from the dissecting vessel. These patients often will present with headache plus a focal neuro deficit such as cranial nerve

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Causes of Stroke in Patients Less than Age 40	
Cause	Incidence (N=272)
Migraine	29
Atherothrombotic	25
Dissection of extracranial arteries	20
Cardioembolic	17
Non-atherosclerotic vasculopathy	17
Others	51
Hypercoagulable state	4
Cerebral venous thrombosis	1

Source: Varona JF, Bermejo F, Guerra JM, et al. Long-term prognosis of ischemic stroke in young adults. Study of 272 cases. *J Neurol.* 2004;51(12):1507-1514.

palsy or Horner's syndrome.

While this is true in the patient discussed here, an initial consideration of the differential diagnosis appears to be lacking. Head CT scan was ordered almost two hours after presentation, and while it may have been appropriate for initial screening, it fails to target the most likely diagnosis.

The initial diagnostic work-up to evaluate for carotid dissection often starts with a CT scan of the head and neck. Those with a normal CT and high pre-test probability should have MRI/MRA of the head and neck.

The mainstay of therapy is systemic anticoagulation to prevent ischemia due to thromboembolic events, unless contraindications, such as the following, exist:

- large infarct with associated edema and mass effect
- infarction hemorrhagic transformation
- intracranial aneurysm
- intracranial dissection extension.

In these circumstances, the alternative therapy is usually antiplatelet agents. For those who fail medical management, alternative therapies include angioplasty, intra-arterial thrombolysis, or stenting.

Summary

Initially, the patient presented with new-onset severe headache and vomiting, a collection of nonspecific and incredibly common symptoms encountered on a daily basis. Unfortunately, she had no other hard findings to point toward carotid artery dissection, and missing the diagnosis on the initial visit may actually be considered the standard of care.

As Greg Henry noted in *Bouncebacks!*, "There will be, once in your career, a case such as this and there is nothing you can do to prevent it. If every patient with a normal exam and a headache were admitted to the hospital..., we would hurt more people than we help."

Signs and Symptoms in Patients with Carotid Artery Dissection	
Sign or Symptom	Patients (%)
Ipsilateral headache (slow onset, constant)	58-92
Cerebral ischemia	63-90
Oculosympathetic paresis	9-75
Neck pain	18-46
Subjective bruit /pulsatile tinnitus	12-39
Scalp tenderness	8-27
ICA tenderness	8-19
CN palsy	5-12
Syncope	11
Amaurosis fugax	4-6
Neck swelling	3

Source: Zetterling M, Carlstrom C, Konrad P. Internal carotid artery dissection. *Acta Neurol Scand.* 2000;101(1):1-7.

The real opportunity to help was when she returned with headache, neck pain, and neurological symptoms. Adding carotid dissection to our differential will help prevent such catastrophic outcomes.

Resources and Suggested Reading

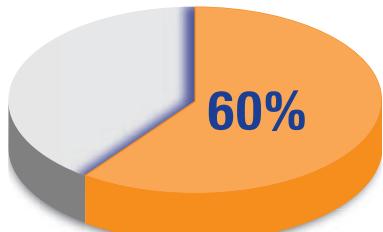
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Tussionex®: The only FDA-approved 12-hour Rx syrup antitussive

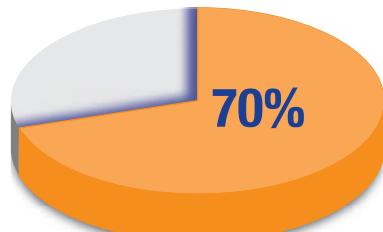


Syrup formulation preferred by patients and physicians

- 7 out of 10 consumers preferred syrup for the treatment of cough^{1*}



agreed that syrup gives them a feeling of instant relief



agreed that syrup coats the throat with soothing medication

- 9 out of 10 physicians preferred to prescribe a syrup for the treatment of cough^{1†}

INDICATION AND IMPORTANT SAFETY INFORMATION

TUSSIONEX® is indicated for the relief of cough and upper respiratory symptoms associated with allergy or a cold in adults and children 6 years of age and older. Each 5 mL of TUSSIONEX® contains hydrocodone polistirex equivalent to 10 mg hydrocodone bitartrate and chlorpheniramine polistirex equivalent to 8 mg chlorpheniramine maleate.

TUSSIONEX® is contraindicated in children less than 6 years of age due to the risk of fatal respiratory depression, and in the presence of known allergy or sensitivity to hydrocodone or chlorpheniramine. The most common adverse reactions associated with TUSSIONEX® are sedation, drowsiness, and mental clouding, which may impair the mental and/or physical abilities required for potentially hazardous tasks such as driving or operating machinery. TUSSIONEX® should not be taken with alcohol or other CNS depressants. TUSSIONEX® is dosed at 5 mL every 12 hours in patients 12 years of age and older, and at 2.5 mL every 12 hours in patients 6-11 years of age. Overdose with TUSSIONEX® has been associated with fatal respiratory depression. Patients should be advised to measure TUSSIONEX® with an accurate measuring device. A household teaspoon is not an accurate measuring device. As with any other drugs in this class, the possibility of tolerance and/or dependence, particularly in patients with a history of drug dependence, should be considered.

Please see full Prescribing Information on reverse.

*Data from a consumer survey (N=510) conducted January 31–February 6, 2007. Questions asked during survey: If cough medicine was available in 1 form only, which would you prefer: Syrup? Tablets or capsules? Please indicate your level of agreement with each of the following statements about why you would prefer cough medicine in syrup form instead of tablets or capsules: Cough syrup gives me a feeling of instant relief. Cough syrup makes the tickle in my throat go away. Cough syrup coats my throat with soothing medication. Use a 7-point scale where "1" means "do not agree at all" and "7" means "strongly agree."

[†]Data from a physician survey (N=102) conducted in September 2005. Question asked during survey: For treatment of cough, do you prefer to prescribe a: Syrup? Tablet? Capsule?

Reference: 1. Data on file. UCB, Inc.

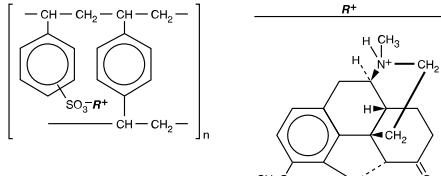
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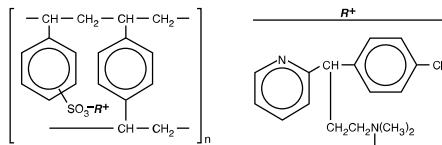
(hydrocodone polistirex and chlorpheniramine polistirex)
Extended-Release Suspension

DESCRIPTION: Each teaspoonful (5 mL) of TUSSIONEX Pennkinetic Extended-Release Suspension contains hydrocodone polistirex equivalent to 10 mg of hydrocodone bitartrate and chlorpheniramine polistirex equivalent to 8 mg of chlorpheniramine maleate. TUSSIONEX Pennkinetic Extended-Release Suspension provides up to 12-hour relief per dose. Hydrocodone is a centrally-acting narcotic antitussive. Chlorpheniramine is an antihistamine. TUSSIONEX Pennkinetic Extended-Release Suspension is for oral use only.

Hydrocodone Polistirex: Sulfonated styrene-divinylbenzene copolymer complex with 4,5 α -epoxy-3-methoxy-17-methylmorphinan-6-one.



Chlorpheniramine Polistirex: Sulfonated styrene-divinylbenzene copolymer complex with 2-[*p*-chloro- α -(2-dimethylaminoethyl)-biphenyl]pyridine.



Inactive Ingredients: Ascorbic acid, D&C Yellow No. 10, ethylcellulose, FD&C Yellow No. 6, flavor, high fructose corn syrup, methylparaben, polyethylene glycol 3350, polysorbate 80, pregelatinized starch, propylene glycol, propylparaben, purified water, sucrose, vegetable oil, xanthan gum.

CLINICAL PHARMACOLOGY: Hydrocodone is a semisynthetic narcotic antitussive and analgesic with multiple actions qualitatively similar to those of codeine. The precise mechanism of action of hydrocodone and other opiates is not known; however, hydrocodone is believed to act directly on the cough center. In excessive doses, hydrocodone, like other opioid derivatives, will depress respiration. The effects of hydrocodone in therapeutic doses on the cardiovascular system are insignificant. Hydrocodone can produce miosis, euphoria, and physical and psychological dependence.

Chlorpheniramine is an antihistamine drug (H₁ receptor antagonist) that also possesses anticholinergic and sedative activity. It prevents released histamine from dilating capillaries and causing edema of the respiratory mucosa.

Hydrocodone release from TUSSIONEX Pennkinetic Extended-Release Suspension is controlled by the Pennkinetic System, an extended-release drug delivery system, which combines an ion-exchange polymer matrix with a diffusion rate-limiting permeable coating. Chlorpheniramine release is prolonged by use of an ion-exchange polymer system. Following multiple dosing with TUSSIONEX Pennkinetic Extended-Release Suspension, hydrocodone mean (S.D.) peak plasma concentrations of 22.8 (5.9) ng/mL occurred at 3.4 hours. Chlorpheniramine mean (S.D.) peak plasma concentrations of 58.4 (14.7) ng/mL occurred at 6.3 hours following multiple dosing. Peak plasma levels obtained with an immediate-release syrup occurred at approximately 1.5 hours for hydrocodone and 2.8 hours for chlorpheniramine. The plasma half-lives of hydrocodone and chlorpheniramine have been reported to be approximately 4 and 16 hours, respectively.

INDICATIONS AND USAGE: TUSSIONEX Pennkinetic Extended-Release Suspension is indicated for relief of cough and upper respiratory symptoms associated with allergy or a cold in adults and children 6 years of age and older.

CONTRAINDICATIONS: TUSSIONEX Pennkinetic Extended-Release Suspension is contraindicated in patients with a known allergy or sensitivity to hydrocodone or chlorpheniramine.

The use of TUSSIONEX Pennkinetic Extended-Release Suspension is contraindicated in children less than 6 years of age due to the risk of fatal respiratory depression.

WARNINGS: Respiratory Depression: As with all narcotics, TUSSIONEX Pennkinetic Extended-Release Suspension produces dose-related respiratory depression by directly acting on brain stem respiratory centers. Hydrocodone affects the center that controls respiratory rhythm and may produce irregular and periodic breathing. Caution should be exercised when TUSSIONEX Pennkinetic Extended-Release Suspension is used postoperatively and in patients with pulmonary disease, or whenever ventilatory function is depressed. If respiratory depression occurs, it may be antagonized by the use of naloxone hydrochloride and other supportive measures when indicated (see OVERDOSAGE).

Head Injury and Increased Intracranial Pressure: The respiratory depressant effects of narcotics and their capacity to elevate cerebrospinal fluid pressure may be markedly exaggerated in the presence of head injury, other intracranial lesions, or a pre-existing increase in intracranial pressure. Furthermore, narcotics produce adverse reactions, which may obscure the clinical course of patients with head injuries.

Acute Abdominal Conditions: The administration of narcotics may obscure the diagnosis or clinical course of patients with acute abdominal conditions.

Obstructive Bowel Disease: Chronic use of narcotics may result in obstructive bowel disease especially in patients with underlying intestinal motility disorder.

Pediatric Use: The use of TUSSIONEX Pennkinetic Extended-Release Suspension is contraindicated in children less than 6 years of age (see CONTRAINDICATIONS).

In pediatric patients, as well as adults, the respiratory center is sensitive to the depressant action of narcotic cough suppressants in a dose-dependent manner. Caution should be exercised when administering TUSSIONEX Pennkinetic Extended-Release Suspension to pediatric patients 6 years of age and older. Overdose or concomitant administration of TUSSIONEX Pennkinetic Extended-Release Suspension with other respiratory depressants may increase the risk of respiratory depression in pediatric patients. Benefit to risk ratio should be carefully considered, especially in pediatric patients with respiratory embarrassment (e.g., croup) (see PRECAUTIONS).

PRECAUTIONS: General: Caution is advised when prescribing this drug to patients with narrow-angle glaucoma, asthma, or prostatic hypertrophy.

Special Risk Patients: As with any narcotic agent, TUSSIONEX Pennkinetic Extended-Release Suspension should be used with caution in elderly or debilitated patients and those with severe impairment of hepatic or renal function, hypothyroidism, Addison's disease, prostatic hypertrophy, or urethral stricture. The usual precautions should be observed and the possibility of respiratory depression should be kept in mind.

Information for Patients: As with all narcotics, TUSSIONEX Pennkinetic Extended-Release Suspension may produce marked drowsiness and impair the mental and/or physical abilities required for the performance of potentially hazardous tasks such as driving a car or operating machinery; patients should be cautioned accordingly. TUSSIONEX Pennkinetic Extended-Release Suspension must not be diluted with fluids or mixed with other drugs as this may alter the resin-binding and change the absorption rate, possibly increasing the toxicity.

Patients should be advised to measure TUSSIONEX Pennkinetic Extended-Release Suspension with an accurate measuring device. A household teaspoon is not an accurate measuring device and could lead to overdosage, especially when a half a teaspoon is measured. A pharmacist can recommend an appropriate measuring device and can provide instructions for measuring the correct dose.

Shake well before using.

Keep out of the reach of children.

Cough Reflex: Hydrocodone suppresses the cough reflex; as with all narcotics, caution should be exercised when TUSSIONEX Pennkinetic Extended-Release Suspension is used postoperatively, and in patients with pulmonary disease.

RX Only

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Drug Interactions: Patients receiving narcotics, antihistamines, antipsychotics, antianxiety agents, or other CNS depressants (including alcohol) concomitantly with TUSSIONEX Pennkinetic Extended-Release Suspension may exhibit an additive CNS depression. When combined therapy is contemplated, the dose of one or both agents should be reduced.

The use of MAO inhibitors or tricyclic antidepressants with hydrocodone preparations may increase the effect of either the antidepressant or hydrocodone.

The concurrent use of other anticholinergics with hydrocodone may produce paralytic ileus.

Carcinogenesis, Mutagenesis, Impairment of Fertility: Carcinogenicity, mutagenicity, and reproductive studies have not been conducted with TUSSIONEX Pennkinetic Extended-Release Suspension.

Pregnancy: Teratogenic Effects – Pregnancy Category C

Hydrocodone has been shown to be teratogenic in hamsters when given in doses 700 times the human dose. There are no adequate and well-controlled studies in pregnant women. TUSSIONEX Pennkinetic Extended-Release Suspension should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

Nonteratogenic Effects: Babies born to mothers who have been taking opioids regularly prior to delivery will be physically dependent. The withdrawal signs include irritability and excessive crying, tremors, hyperactive reflexes, increased respiratory rate, increased stools, sneezing, yawning, vomiting, and fever. The intensity of the syndrome does not always correlate with the duration of maternal opioid use or dose.

Labor and Delivery: As with all narcotics, administration of TUSSIONEX Pennkinetic Extended-Release Suspension to the mother shortly before delivery may result in some degree of respiratory depression in the newborn, especially if higher doses are used.

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

Pediatric Use: The use of TUSSIONEX Pennkinetic Extended-Release Suspension is contraindicated in children less than 6 years of age (see CONTRAINDICATIONS and ADVERSE REACTIONS, Respiratory, Thoracic and Mediastinal Disorders).

TUSSIONEX Pennkinetic Extended-Release Suspension should be used with caution in pediatric patients 6 years of age and older (see WARNINGS, Pediatric Use).

Geriatric Use: Clinical studies of TUSSIONEX did not include sufficient numbers of subjects aged 65 and over to determine whether they respond differently from younger subjects. Other reported clinical experience has not identified differences in responses between the elderly and younger patients. In general, dose selection for an elderly patient should be cautious, usually starting at the low end of the dosing range, reflecting the greater frequency of decreased hepatic, renal, or cardiac function, and of concomitant disease or other drug therapy.

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

ADVERSE REACTIONS: **Gastrointestinal Disorders:** Nausea and vomiting may occur; they are more frequent in ambulatory than in recumbent patients. Prolonged administration of TUSSIONEX Pennkinetic Extended-Release Suspension may produce constipation.

General Disorders and Administration Site Conditions: Death

Nervous System Disorders: Sedation, drowsiness, mental clouding, lethargy, impairment of mental and physical performance, anxiety, fear, dysphoria, euphoria, dizziness, psychic dependence, mood changes.

Renal and Urinary Disorders: Ureteral spasm, spasm of vesical sphincters, and urinary retention have been reported with opiates.

Respiratory, Thoracic and Mediastinal Disorders: Dryness of the pharynx, occasional tightness of the chest, and respiratory depression (see CONTRAINDICATIONS).

TUSSIONEX Pennkinetic Extended-Release Suspension may produce dose-related respiratory depression by acting directly on brain stem respiratory centers (see OVERDOSE). Use of TUSSIONEX Pennkinetic Extended-Release Suspension in children less than 6 years of age has been associated with fatal respiratory depression. Overdose with TUSSIONEX Pennkinetic Extended-Release Suspension in children 6 years of age and older, in adolescents, and in adults has been associated with fatal respiratory depression.

Skin and Subcutaneous Tissue Disorders: Rash, pruritis.

DRUG ABUSE AND DEPENDENCE: TUSSIONEX Pennkinetic Extended-Release Suspension is a Schedule III narcotic. Psychic dependence, physical dependence and tolerance may develop upon repeated administration of narcotics; therefore, TUSSIONEX Pennkinetic Extended-Release Suspension should be prescribed and administered with caution. However, psychic dependence is unlikely to develop when TUSSIONEX Pennkinetic Extended-Release Suspension is used for a short time for the treatment of cough. Physical dependence, the condition in which continued administration of the drug is required to prevent the appearance of a withdrawal syndrome, assumes clinically significant proportions only after several weeks of continued oral narcotic use, although some mild degree of physical dependence may develop after a few days of narcotic therapy.

OVERDOSAGE: Signs and Symptoms: Serious overdose with hydrocodone is characterized by respiratory depression (a decrease in respiratory rate and/or tidal volume, Cheyne-Stokes respiration, cyanosis), extreme somnolence progressing to stupor or coma, skeletal muscle flaccidity, cold and clammy skin, and sometimes bradycardia and hypotension. Although miosis is characteristic of narcotic overdose, mydriasis may occur in terminal narcosis or severe hypoxia. In severe overdose apnea, circulatory collapse, cardiac arrest and death may occur. The manifestations of chlorpheniramine overdose may vary from central nervous system depression to stimulation.

Treatment: Primary attention should be given to the reestablishment of adequate respiratory exchange through provision of a patent airway and the institution of assisted or controlled ventilation. The narcotic antagonist naloxone hydrochloride is a specific antidote for respiratory depression which may result from overdose or unusual sensitivity to narcotics including hydrocodone. Therefore, an appropriate dose of naloxone hydrochloride should be administered, preferably by the intravenous route, simultaneously with efforts at respiratory resuscitation. Since the duration of action of hydrocodone in this formulation may exceed that of the antagonist, the patient should be kept under continued surveillance and repeated doses of the antagonist should be administered as needed to maintain adequate respiration. For further information, see full prescribing information for naloxone hydrochloride. An antagonist should not be administered in the absence of clinically significant respiratory depression. Oxygen, intravenous fluids, vasopressors and other supportive measures should be employed as indicated. Gastric emptying may be useful in removing unabsorbed drug.

DOSAGE AND ADMINISTRATION: *It is important that TUSSIONEX is measured with an accurate measuring device* (see PRECAUTIONS, Information for Patients). A household teaspoon is not an accurate measuring device and could lead to overdose, especially when half a teaspoon is to be measured. It is strongly recommended that an accurate measuring device be used. A pharmacist can provide an appropriate measuring device and can provide instructions for measuring the correct dose.

Shake well before using.

Adults and Children 12 Years and Older: 5 mL (1 teaspoonful) every 12 hours; do not exceed 10 mL (2 teaspoonsfuls) in 24 hours.

Children 6-11 Years of Age: 2.5 mL (1/2 teaspoonful) every 12 hours; do not exceed 5 mL (1 teaspoonful) in 24 hours. This medicine is contraindicated in children under 6 years of age (see CONTRAINDICATIONS).

HOW SUPPLIED: TUSSIONEX Pennkinetic (hydrocodone polistirex and chlorpheniramine polistirex) Extended-Release Suspension is a gold-colored suspension.

NDC 53014-548-67 473 mL bottle

For Medical Information: Contact: Medical Affairs Department / Phone: (866) 822-0068 / Fax: (770) 970-8859

Storage: Shake well. Dispense in a well-closed container.

Store at 20-25°C (68-77°F); excursions permitted to 15-30°C (59-86°F) [see USP Controlled Room Temperature].

TUSSIONEX Pennkinetic Extended-Release Suspension

Manufactured for:

UCB, Inc.

Smyrna, GA 30080

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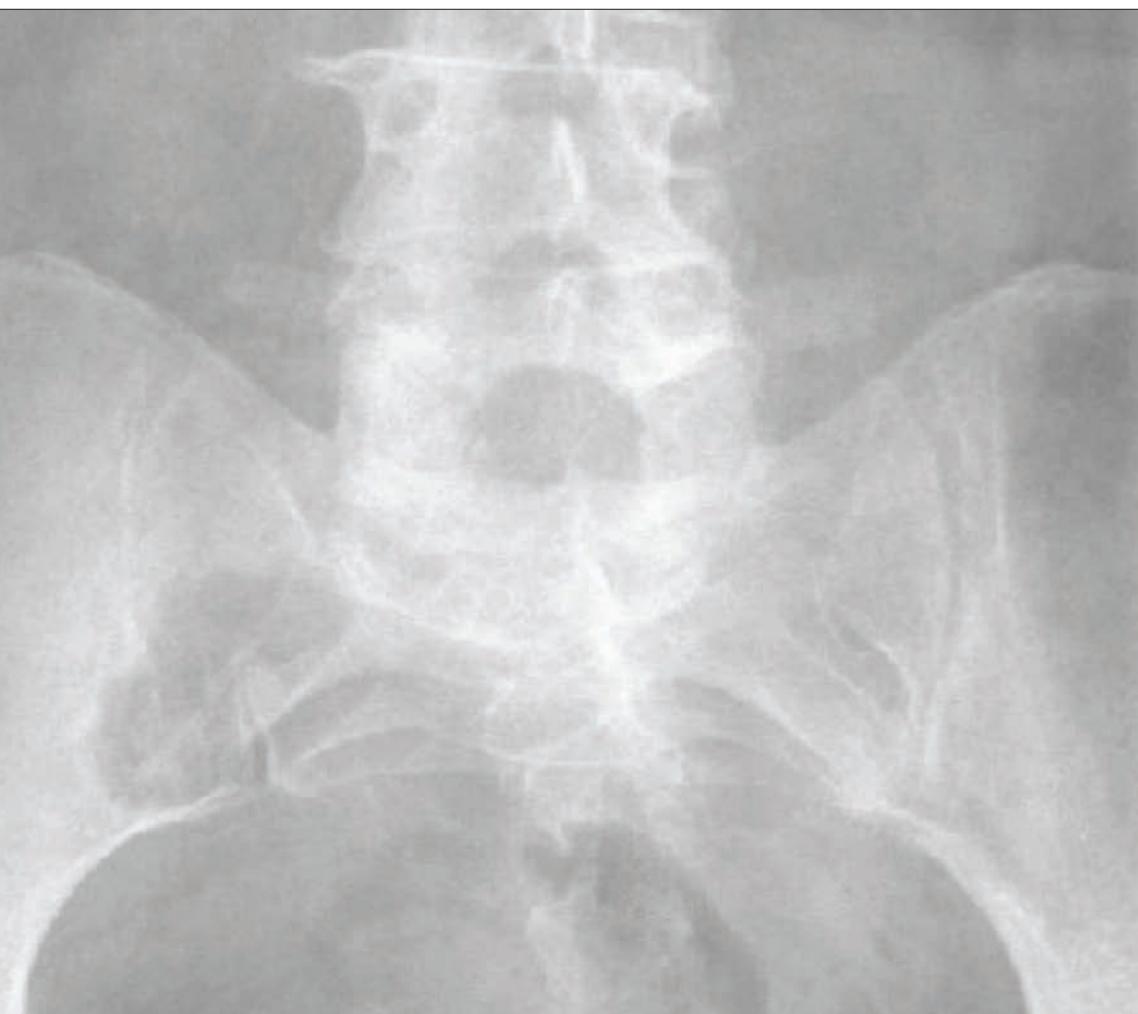
INSIGHTS IN IMAGES

CLINICAL CHALLENGE

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



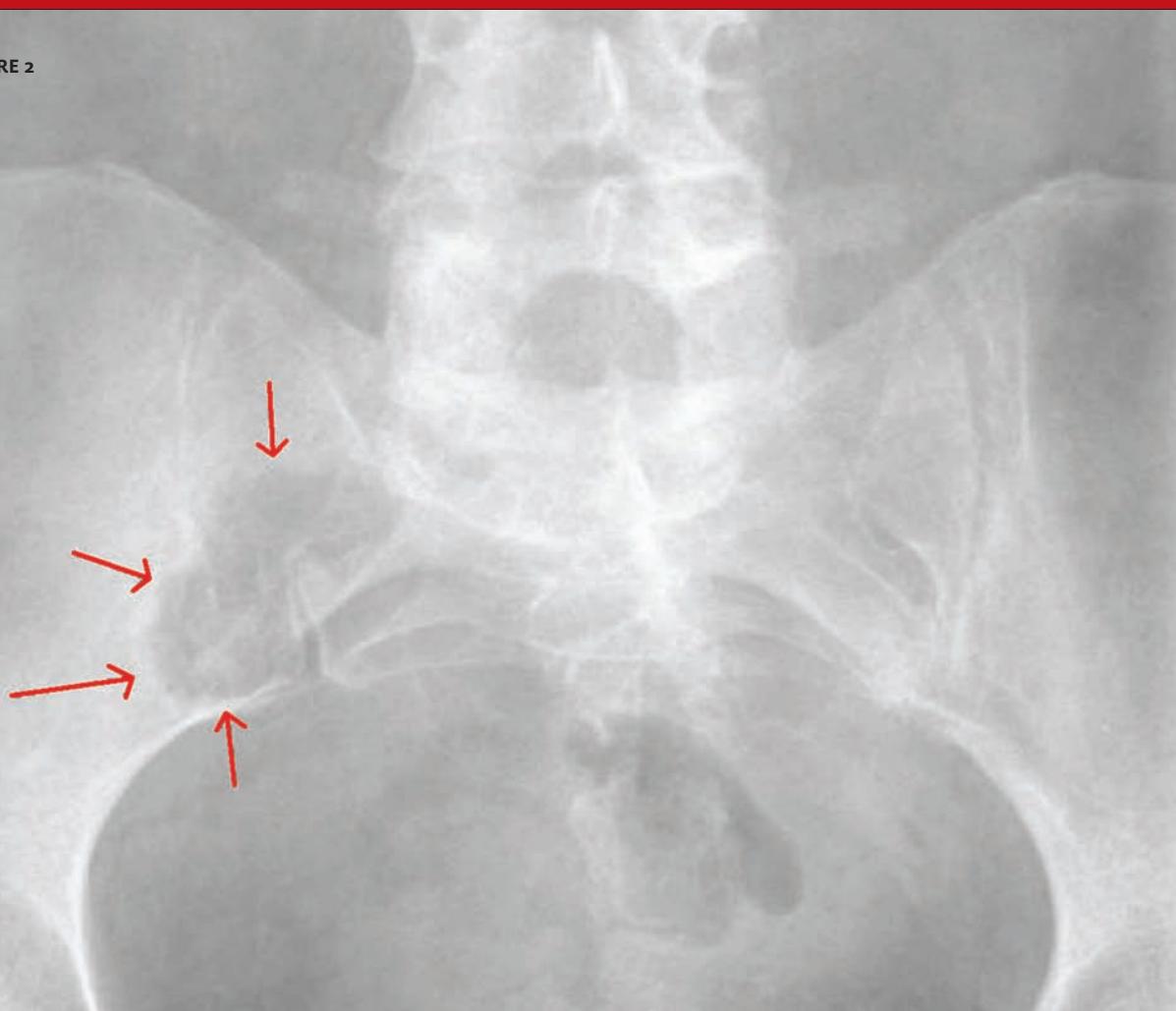
The patient is a 55-year-old female who experienced a blow to the back when she fell while riding a bus. She complains of pain in her neck, shoulder, and back.

On examination, you find that her vitals are stable and she has no significant past medical history.

View the x-ray taken (Figure 1) and consider what your diagnosis and next steps would be. Resolution of the case is described on the next page. (Hint: this is an incidental finding.)

THE RESOLUTION

FIGURE 2



The x-ray shows a lesion over the right ilium, as marked by the arrows.

Initially, this was thought to be overlying gas. However, closer attention reveals that the bone abutting the lesion is slightly thickened. In addition, the edge of the lesion ends at the lower border of the ilium (whereas a gas bubble would have a separate border, distinct from that of the bone).

The radiologist's opinion was that this was an osteolytic lesion that required CT for further follow-up.

The fact that this was a random finding teaches a valuable lesson: Do a complete, thorough reading of all films, regardless of the focused complaint.

Acknowledgment: Case presented by Nahum Kovalski, BSc, MDCM

H.C. Chin, MD
Anshin Medical Healthcare
New York, NY



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ABSTRACTS IN URGENT CARE

On ED Crowding, Blunt Abdominal Trauma in Children, Suspicion of Child Abuse, Nontraditional Pets, and Hand Hygiene

■ NAHUM KOVALSKI, BSc, MDCM

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

ED Crowding Adversely Affects Patient Satisfaction

Key point: *Dissatisfaction lasts throughout entire hospital stay.*

Citation: Pines JM, Iyer S, Disbot M, et al. The effect of emergency department crowding on patient satisfaction for admitted patients. *Acad Emerg Med.* 2008;15:825-831.

Recent studies on emergency department overcrowding have shown adverse patient outcomes when patients are boarded in the emergency department. To address how patient satisfaction relates to ED overcrowding, these authors retrospectively reviewed Press Ganey satisfaction surveys that were completed by patients who were admitted through the ED at a single urban academic medical center during a two-year period. The authors correlated satisfaction data with validated ED crowding factors, such as hallway placement, boarding time, and waiting time.

Data were available for 1,501 hospitalizations—approximately 15% of all patients admitted through the ED during the study period.

In logistic regression analysis, both ED hallway placement and prolonged ED boarding time (>4.7 hours) were associated with lower satisfaction with ED care and lower satisfaction with overall hospital care.



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

[Published in *J Watch Emerg Med*, October 3, 2008—Diane M. Birnbaumer, MD, FACEP.] ■

Normal CT in Kids with Blunt Abdominal Trauma? Send Them Home

Key point: *The negative predictive value of a normal CT scan with newer-generation 16-slice scanners is 99.8%.*

Citation: Awasthi S, Mao A, Wootton-Gorges SL, et al. Is hospital admission and observation required after a normal abdominal computed tomography scan in children with blunt abdominal trauma? *Acad Emerg Med.* 2008;15(10):895-899.

The practice of admitting children with blunt abdominal trauma for 24 hours of observation was established in the era of early-generation computed tomography (CT). These authors assessed the value of this practice in children with normal findings on scans obtained with newer-generation 16-slice CT scanners.

In a prospective, observational cohort study at a level I trauma center, the authors evaluated 1,085 children (age <18 years) with blunt abdominal trauma and no evidence of pre-defined intra-abdominal injury on CT.

Of these patients, 737 (68%) were admitted for observation and 348 were discharged to home. All patients' medical records were reviewed to identify return visits within 30 days of initial presentation. None of the discharged patients and two of the admitted patients developed delayed intra-abdominal injury. The negative predictive value of a normal abdominal CT scan was 99.8%.

ABSTRACTS IN URGENT CARE

Although this study was conducted in a high-volume trauma center with board-certified radiologists, the results likely can be generalized to non-trauma centers where radiologists who do not see many pediatric trauma patients and who might or might not be board certified interpret the CT scans. Good discharge instructions and follow-up are important to identify the few cases of low-grade intra-abdominal injury that might be missed.

[Published in *J Watch Emerg Med*, October 24, 2008—Diane M. Birnbaumer, MD, FACEP.] ■

When to Suspect Abuse in Children with Fractures

Key point: No single fracture type or location is specific for abuse.

Citation: Kemp AM, Dunstan F, Harrison S, et al. Patterns of skeletal fractures in child abuse: Systematic review. *BMJ*. 2008;337:a1518. (Comment in *BMJ* 2008;337:a1398.)

Deciding whether to initiate an investigation for suspected child abuse can be difficult. Underreporting might expose children to greater injury, but investigations disrupt families, regardless of the final determination.

Researchers systematically reviewed published studies that compared fractures resulting from physical abuse and from other causes in children <18 years. Review articles, consensus statements, expert opinion, and other methodologically weak studies were excluded; 32 studies were included.

Overall, fractures resulting from abuse were most common in infants and toddlers. Among femoral fractures, the mid-shaft of the femur was the most common fracture location in both abused and non-abused children. Metaphyseal femoral fractures were more common in abused than non-abused children. In children <15 months, spiral fractures were the most common type of abusive femoral and humeral fractures. Supracondylar humeral fractures were less likely to result from abuse than non-abuse.

After exclusion of children who were involved in motor vehicle crashes or violent trauma, the probability that a fracture was caused by abuse was 71% for rib fractures, 48% for humeral fractures, 30% for skull fractures, 28% for femoral fractures, and 25% for radial and ulnar fractures.

In all cases of suspected abuse, a skeletal survey should be performed, including oblique views of the chest to assess for rib fractures. The bottom line is that no single fracture type or location is specific for abuse. Clinicians must perform a careful assessment to determine whether the story fits the situation, particularly in children <18 months and in those who are not ambulatory.

[Published in *J Watch Emerg Med*, October 24, 2008—Kristi L. Koenig, MD, FACEP.] ■

Exposure to Nontraditional Pets: It's a Jungle Out There

Key point: Education about home pets can reduce the risk of many infections.

Citation: Pickering LK, Marano N, Bocchini JA, et al. Exposure to nontraditional pets at home and to animals in public settings: Risks to children. *Pediatrics*. 2008;122(4): 876-886.

Ownership of exotic nontraditional pets is on the rise in the U.S. Although families might not consult pediatricians before getting such pets, there is an opportunity to teach parents about potential risks.

In conjunction with the American Academy of Pediatrics' Committee on Infectious Diseases, these authors examined original research and review publications to identify and summarize illnesses and injuries associated with exposure to nontraditional pets at home and to animals in public settings.

The article is packed with information, but the most important medical points are as follows:

- Reptiles, amphibians, rodents, and baby poultry can be sources of *Salmonella*.
- Rodents (e.g., hamsters) can carry lymphocytic choriomeningitis virus, *Yersinia pestis*, *Yersinia pseudotuberculosis*, and *Mycobacterium marinum* and can cause many skin infections.
- Animals at petting zoos and other public locations (malls, schools, fairs) can be sources of infection, particularly gastrointestinal infections (e.g., from *Escherichia coli* o157, *Campylobacter*, *Giardia*).
- Aggressive animal behavior can lead to bites, scratches, falls, and crush injuries, exposing children to infectious organisms ranging from *Pasteurella* and *Capnocytophaga* to fatal infections such as herpes B virus.
- The degree to which nontraditional animals cause allergies is unclear, but allergy can be caused by sensitization to dander, scales, fur, feathers, excrement, and saliva as well as by flea bites.

The information in this article makes a compelling case for discussing animal exposure during healthcare evaluations. The authors provide informative Web-based resources for families and references for guidelines for prevention of disease transmission from exposure to animals, including hand hygiene, adult supervision, teaching children about safety near animals, and extra precautions for young children, immunosuppressed people, elders, and pregnant women.

[Published in *J Watch Pediatr and Adolesc Med*, October 29, 2008—Peggy Sue Weinrib, MD.] ■

ABSTRACTS IN URGENT CARE

A Little Hand Hygiene Goes a Long Way

Key point: Meta-analysis results of community-based intervention studies indicate that use of non-antibacterial soap and hand-hygiene education significantly reduce respiratory and GI illnesses.

Citation: Aiello AE, Coulborn RM, Perez V, et al. Effect of hand hygiene on infectious disease risk in the community setting: A meta-analysis. *Am J Public Health.* 2008;98(8):1372-1381.

Does hand washing really reduce the incidence of gastrointestinal and respiratory illnesses in the community, and, if so, by how much? Which is better: alcohol-based hand sanitizers, non-antibacterial (i.e., plain) soap, or antibacterial soap?

To answer these questions, investigators from the University of Michigan and Columbia University identified more than 5,000 relevant studies published from 1960 to 2007 and pooled results from 30 community-based intervention studies (conducted in developed and developing countries) that met criteria for review; 19 of the 30 studies focused on children aged 5 years and younger.

Compared with no education, hand-hygiene education alone significantly reduced the risk for GI illness (seven studies) by 31% and for respiratory illness (four studies) by 14%. Education plus use of non-antibacterial soap significantly reduced the risk for GI illness by 39% (six studies) and for respiratory illness by 51% (one study), compared with control conditions, but had no significant effect in the two studies that combined the two outcomes. In two studies, use of antibacterial soaps did not offer an advantage over plain soap for either illness. Although alcohol-based hand sanitizer plus education did not reduce the risk for either illness alone, this strategy showed a protective effect in the three studies that combined the two outcomes (21% reduction). In two studies, benzalkonium chloride-based hand sanitizer significantly reduced the risk for GI and respiratory illnesses alone and the two outcomes combined by about 40%.

This meta-analysis provides solid community-based (vs. hospital-based) research to use when educating patients about the virtues of hand washing.

Education is essential: The authors cite results from a U.S. study of 7,800 participants indicating that only 67% (75% of women and 58% of men) washed their hands after using a public restroom. The finding that plain soap works as well as antibacterial soaps is reassuring, given concerns that use of antibacterial soaps might actually promote emergence of antibiotic-resistant bacteria.

[Published in *J Watch Pediatr and Adolesc Med*, September 10, 2008—Alain Joffe, MD, MPH, FAAP.] ■



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Practice Management

Failing to Plan—or Planning To Fail? Designing a Clinic for Success

Urgent message: Making the best use of the space you have is not just a matter of comfort and esthetics; an efficient floor plan contributes to providing proper—and cost-effective—care and services.

Patrice Pash, RN, BSN, COHC

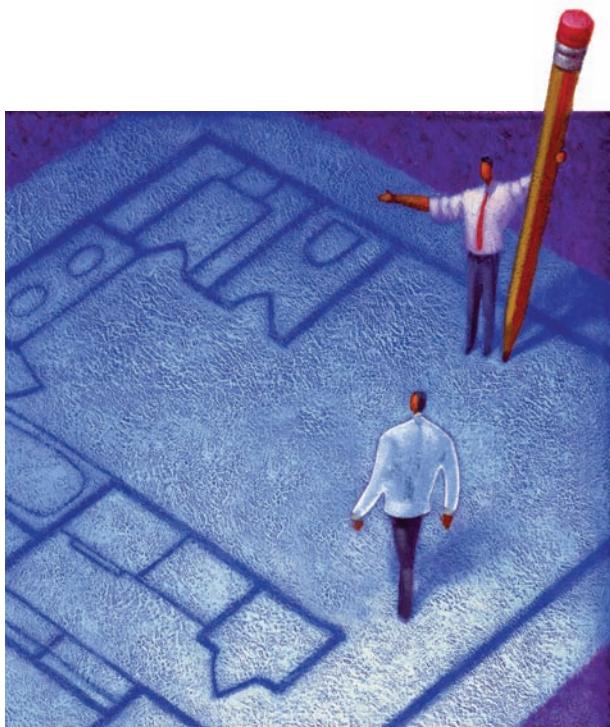
So you've signed the lease or purchased the property and you're sitting there staring at this huge empty shell, dreaming of the potential finished space.

What will it look like?
How many exam rooms do you need?

What additional offices might be necessary as the business grows?

It might seem like the simple answer is to hand off all these questions to your architect, but considering that many out there today have never been involved in designing or planning for a true urgent care center, you may find that your architect has as many questions as you do. Working together, you can certainly come up with a viable plan, but first you need to know what you need to be functional—now and into the future.

What happens when you find that four exam



rooms are simply not enough during flu season?

Perhaps you've taken on a corporate client that sends you potential employees for drug testing and you realize that your one and only restroom is woefully inadequate.

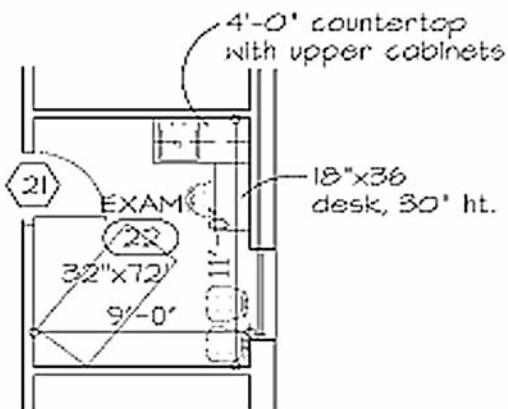
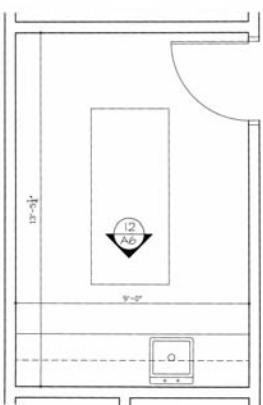
Failing to plan properly now may come back to haunt you later on.

Exam Rooms

One of the most common questions when planning is, how many exam rooms will I need? Logic might dictate that if you have a large enough shell to go ahead and build as many

exam rooms as will comfortably fit.

However, on average, a single practitioner can effectively cover five or six exam rooms, with an additional one or two larger procedure rooms. Having more only allows you to stack up patients in the rooms during high-volume times; it does not alleviate patient flow

Sample exam room.**Sample procedure room.**

issues. From a patient satisfaction standpoint, having to wait in a small, uninviting space almost certainly magnifies the irritation caused by the perceived wait. Most mature clinics find that having folks spend a blended time between the waiting room and the exam room conveys a sense of attention and movement.

If, however, your space allows and you will potentially have more than one practitioner available to work at some point, then it is common to increase the number of exam rooms to eight, and definitely plan for two procedure rooms. As a rule, most new clinics

are building out something in the range of six to eight exam and two procedure rooms when possible. This number is almost always adequate to manage the volume of even the busiest facilities, five, 10, even 20 years into the future.

Now, a word about exam room size.

On average, the typical exam room should be no less than 9 by 9 feet. This allows for the placement of a standard treatment table (32 by 72 inches), an accompanying patient chair, a typical cabinet/sink base combo, and a small writing desk for the physician. A room this size provides enough space for patient and family to be seen without feeling cramped. It also allows the practitioner to access the patient from nearly any side.

Procedure Rooms

The procedure room is not just an overgrown exam room. You want to have a space that is conducive to managing everything from a laceration to a cardiac arrest, allowing for plenty of "elbow room" for additional staff plus a larger sized gurney.

In addition, your procedure room tends to house a wider variety of medical supplies and equipment than the standard exam room. Many facilities will place their autoclave and their crash cart in this space, as well as casting and splinting materials. Planning for adequate cabinetry to store these materials is also important.

The sample layout pictured shows a procedure room that is approximately 13 feet, 5 inches by 9 feet, but in general allow minimally 12 by 12 feet for this space. Typically, procedure rooms will run in a line with your exam rooms, so the overall dimensions are often dictated by the wall-to-hall length of your exam room. Also allow for cabinets and counters when determining the overall dimensions. These will reduce the usable space by up to 25 ½ inches (standard counter depth).

Nurses Station

The next area to consider when planning is the nurses station. Like in a well-run emergency department, the nursing area is the central nervous system of your clinic, the center of activity.

Accessibility and storage are the hallmarks of a

well-designed space. In addition, since it is the focal point for the other exam and procedure rooms, it is also wise to plan this space to occupy a place where you have “line of sight” to the majority of the treatment areas. Remember that in the early days of your clinic, staffing will most likely be minimal. Having the procedure room(s) located directly across from the nursing station will allow staff to monitor and react to any patients requiring greater attention.

Since a good portion of the nursing area is devoted to the management of the patient, attention to finishing this space is important. Your staff will require an area to prepare injections, perform certain lab tests, make and return phone calls, and dispense medications.

These activities necessitate the inclusion of adequate counter space and cabinetry, which should be sufficient to contain a month's worth of necessary supplies, such as needles, syringes, CLIA-waived tests, medications, and other patient care items.

Do not fall into the trap that “more is better.” While you can certainly argue that you can never have enough storage space, it is easy to over-order just to fill the empty cabinets you have.

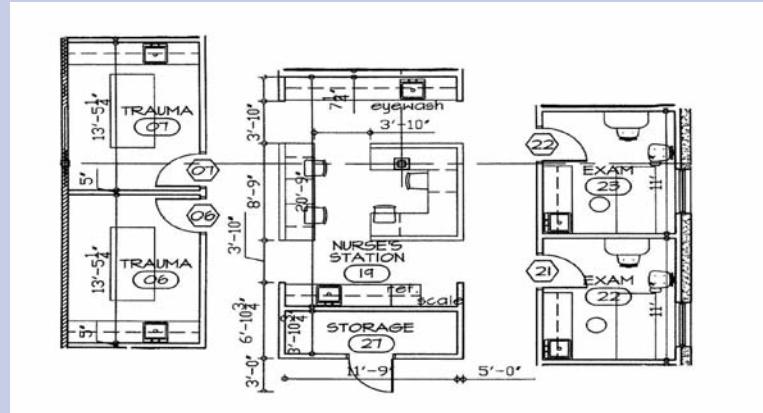
Also remember that staff will need workstations for computer access and phones to properly manage documentation, referrals, and patient callbacks. Minimally, planning for at least three work areas—one physician, one nursing, and possibly one x-ray tech—should be considered when designing the space.

It may seem like the work is done once the elements of exam, procedure, and nursing station have been addressed. However, there are still some areas within your new facility that should be addressed in the planning stage.

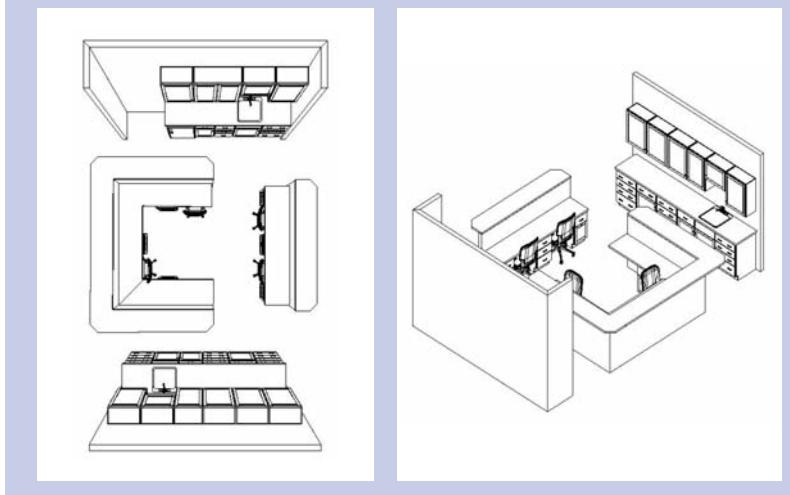
Drug-screen Considerations

For instance, will you be performing drug screen collections? If so, then assuming that you can adequately

Sample nurses station.



A more realistic rendering of the same nursing station.



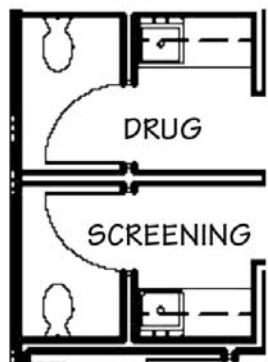
conduct these collections within the one patient-use restroom that is allotted to the floor plan could potentially lead to violations of Department of Transportation (DOT) drug testing guidelines.

The DOT states that the collection site must meet the following guidelines (49CFR Part 40.31):

“The first, and preferred, type of facility for urination that a collection site may include is a single toilet room, having full privacy door, within which urination can occur.

“You must have a source of water for washing

Sample drug-screening area.



hands, which if practical, should be external to the closed room where urination occurs. If an external source is not available, you may meet this requirement by securing all sources of water and other substances that could be used for adulteration and substitution (e.g., water faucets, soap dispensers) and providing moist towelettes outside the closed room.”

The simplest way to meet these requirements is to create a dedicated restroom that is used solely for collections, and that has the toilet area segregated from the hand washing area and where toilet flushing is controlled externally. This can be achieved by the use of a remote hydraulic flush valve.

If space is a concern, installing a remote shut-off valve controlling the water supply to the bathroom when it's being used for drug screen collection will make you compliant. However, this does not prevent the test subject from flushing the toilet. This could be addressed by the use of tankless toilets, or by securing both the tank and the handle.

Optimally, it would be advisable to plan for at least four separate restrooms within the floor plan: one for patients in the waiting room, one for general patient use, one for drug screen collection, and one for staff-only use.

Radiology

Last, but certainly not least, you should put some consideration into the space dedicated for your radiology suite. While most reputable vendors will work with your architect on the design, layout, shielding, and

electrical specifications of the unit you are purchasing, as a rule you should allot (minimally) an area that is 12 by 18 feet. At these dimensions, you will be able to accommodate a four-way float top table, as well as the standard wall Bucky and tech area for controls and processing. This is required equipment for performing computerized radiology.

If you choose to perform more traditional radiology, producing hard film instead of computerized images, then you will also need to allow for an additional 5 foot by 9 foot space for the dark room. This space, of course, should be devoid of any external light sources.

You can trim down your installation costs by trying to place the radiology suite along an outer/ external corner of the facility. By doing this, you reduce the need to lead line/shield as many walls.

Other Spaces to Remember

While we've addressed the main clinical needs for a new clinic, there are still several other spaces that you must plan for. Spaces such as the reception/waiting room, a physician's office, a utility/janitor's closet, an IT room/closet for computer services, a break room for staff, and possibly other ancillary offices can be situated as the overall dimensions of the shell allow.

The reception area should be open and inviting, and allow staff to observe and communicate with waiting patients. The waiting room itself should offer easy access and ample seating.

When planning the staff break room, remember that OSHA regulations dictate that the space used for consumption of employee food, drink, or personal items *must* be separated from any patient treatment areas. This merely means that you need to create a space that is separated by a closeable door.

Finally, remember storage. While much of your storage needs can be met by the appropriate use of cabinetry within the nursing area or exam or procedure rooms, items such as larger DME, crutches, etc., will require additional space. Storage for janitorial supplies, laundry supplies, and biohazard waste awaiting pick-up will all need to be considered.

In summary, with sufficient thought and planning toward the layout of your new facility, you can comfortably operate well into the future, secure that you have done the work early on to prevent problems and to maximize the efficient use and operation of the space. Work with your architect, and know what you need to effectively treat your patients.

Plan now and you won't be remodeling later. ■



Strategies on Responding to Variable Patient Acuity and Flow

■ JOHN SHUFELDT, MD, JD, MBA, FACEP

Over the years, I have worked with a variety of providers who exhibited significantly disparate skill levels in their ability to manage patient flow. Practicing good medicine is a given; some have been amazingly intelligent providers who make *House* look like a PG1 psychiatry resident from a non-accredited medical school. Their only downside was that they were pathetically slow, or communicated at the level of a mollusk.

Effective and efficient providers share the ability to communicate, to work efficiently in a team environment, and to multitask—all while rapidly identifying and solving the problems of large and varying acuity patient loads.

Such efficiency is highly respected, yet rarely taught, and can actually improve the care you administer and, thus, help minimize your liability exposure.

Greater physician efficiency leads to improved patient satisfaction; better patient flow (patients/hour) diminishes wait times.

Improved efficiency also cuts down on wasted time (and its energy-draining properties), allowing more time to focus on seriously ill patients and reducing the risk of medical errors.

Finally, enhanced efficiency goes hand-in-glove with improved teamwork and increased employee satisfaction. This, in turn, leads to lower turnover and an overall more positive workplace.

Enhanced efficiency can be attained by focusing on three specific strategy categories: physical, cognitive, and patient disposition.

Physical Strategies

Carry the appropriate gear. You don't need to be outfitted like



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a SWAT team member, but you should have the "obvious" gear close at hand: stethoscope, pen, trauma shears, and eye protection. You can also use your shears or stethoscope end as a reflex hammer.

In addition, keep in mind three key words before each patient encounter:

- **Document.** If you are using an EMR, bring the computer tablet into the room with you, as you would a paper chart, for efficient reference and documentation. This also makes the patient believe that you have their data close at hand.
- **Complete.** Complete the record while talking to the patient and explaining the treatment plan. In other words, multitask. Listen while writing or typing.
- **Anticipate.** Ask the patient if they have any additional questions before you exit.

Use technology effectively. We all know how frustrating it is to hear a patient say, "I don't what they said or what they put me on." Don't make a patient's primary physician suffer the same fate. Have electronic, modifiable discharge summaries and follow-up instructions on hand to send home with the patient.

PDAs allow point-of-care searching for interactions, drug doses, and procedures. Newer models may include a digital camera suitable for medical photography. Resist the temptation to abuse such technology, however; recently, a fifth-year surgical resident at the Mayo Clinic used his PDA to snap a picture of a patient's penis with the phrase "HOT ROD" tattooed on it, then sent the pictures to his friends. He is now available to cover urgent care shifts, if you need some help.

In-house laboratory investigations can also streamline your time with the patient. Having the results of urinalysis, CBC, and other tests on the chart prior to entering the exam room will allow you to make a one-stop disposition.

Choreograph your movements. Think of the water-ballet scene in *Caddyshack*; choreograph group tasks, and plan your route through the center. If standing orders are used, first

review diagnostic imaging, then evaluate lab results, then see the patient.

Similarly, learn to multitask and minimize the time you spend waiting on various processes. While the laceration you just anesthetized is being irrigated, see a patient and discharge the one waiting after medications were given.

Focus. Communicate to all members of the urgent care team situations in which you “allow” interruptions. Personal cell phone calls while in the nursing station or exam room are unprofessional.

Treat even acceptable interruptions as red flags—warning signs that your clinical reasoning is in peril of distraction or derailment. “It fell through the cracks” is kind of like “My neighbor’s dog told me to kill the people” as a defense in a malpractice suit.

Recognize biological limitations. Consider the impact of proper hydration and nutrition in maintaining your optimum performance. I eat Balance Bars throughout the day as opposed to breaking for meals; this way, at least I have some “balance” in my life.

Similarly, plan breaks. Brief windows of time to attend to basic needs may help you recharge and refocus. Do so responsibly, however; I had one former clinician who went outside to hit golf balls between patients—not a career-enhancing move!

Cognitive Strategies

Visualize your timeline. See, in your mind, the current group of patients moving in concert through the process. Frontload ancillary services when necessary. Empower triage and other teammates to initiate treatment. Off-load your clerical and administrative tasks when appropriate

Consider the patient’s plan. Recognize and seek to understand the patient’s (and the family’s) agendas. There may be overlapping motives of fear, pain, and basic needs.

When I am getting nowhere with my history, I occasionally ask, “What would you like to accomplish during today’s visit?”

Coordinate tasks chronologically. Time your patients so that rate-limiting activities like wound irrigation, anesthetizing a wound, packing a nose, draining an abscess, obtaining cultures, etc., occur during what would otherwise be waiting times.

Be cognizant of “business hours.” Keep in mind availability of consultation services, diagnostic services (e.g., ultrasound) and other healthcare professionals at various hours of the day and night.

Maintain your index of suspicion. Beware the high-risk misses: pulmonary embolism, acute coronary syndrome, missed or retained foreign body, occult fracture, lung mass, appendicitis, stroke, subarachnoid bleed, meningitis, is-

chemic bowel, and acute-angle closure glaucoma.

I sometimes have to remind myself that just because someone comes to an urgent care does not mean that they are not hiding something insidious.

Maintain flow. If all patients are stable, initiate simple cases before engaging more complex ones. For example, dilate the eye for the retina you need to visualize, anesthetize the laceration you plan to close, then initiate your assessment of the 92-year-old patient complaining of feeling “weak and dizzy” for the past decade.

Disposition Strategies

Set the stage at the initial encounter. Prepare patients for your planned disposition (e.g., “This is what will happen if the tests are negative and you are well enough to go home...”). Recognize the inevitable disposition early on; an elderly patient who cannot walk and lives alone requires transfer and admission to an inpatient unit. Initiate this process as soon as you recognize the need.

Strive to make a decision regarding disposition within the first 30 minutes. This starts with recognizing the limitations of the urgent care setting; we provide episodic acute and semi-acute care to our patients. Enable a diagnostic strategy that provides you with the information you need (i.e., only the critical information) to make a timely decision.

Beware of asking a patient a question if you do not want to deal with the answer.

Prepare for consultations. When communicating with a consultant, within the first minute provide:

- the bottom line (i.e., level of acuity: “I have a sick patient who has a PE”)
- a short patient profile (“38-year-old obese smoker on BCP with dyspnea”)
- your clinical impression (“their d-dimer is positive, I think they have a PE”)
- what the patient now requires (“I am going to send them to you for a spiral CT”).

Be flexible. Your ability to deal with nuance changes with the patient volume. Remember, patients pay our salaries. Treat them like they are handing you money, because they are.

Limitations

These elements of performance have not been subjected to quantitative research. Rather, these clinical pearls represent more than 20 years of “experience-based medicine.” One of the benefits of experience is gaining awareness of when and where you can safely “cut” corners to gain efficiency without increasing error.

At the end of the day, efficient care combined with excellent communication and customer service are the hallmarks of a successful and profitable urgent care center. ■



The Herd Mentality and Occupational Health Sales

■ FRANK H. LEONE, MBA, MPH

The Merriam-Webster dictionary defines *herd* as "a group of individuals usually having a common bond" or "a number of animals kept under some type of human control." So let us think bulls (to some, a fitting metaphor for a piece on sales).

For every early adaptor or contrarian, there seem to be 10 other people who prefer to follow the leader. For every buyer of urgent care occupational health services who buys offensively out of desire, there appear to be 10 who buy defensively out of fear.

The secret to playing the herd mentality card to your advantage is twofold:

1. to discern to what degree your prospect is a defensive buyer
2. to understand and employ the "herd mentality" selling approach when you do identify such a defensive buyer.

More people see the world as stark black or white as opposed to a more realistic gray. For example, a preponderance of Hollywood movies simplistically portray characters as either a hero or a villain to the core. Left behind is a balanced portrait of the human spirit. We seem to live in a world in which the bandwagon is a convenient place to land.

There are usually abundant signs to suggest where one fits along the early adaptor/market follower continuum. For example, early adaptors tend to "march to the beat of their own drummer."

Size up your prospect; does he appear, act, or dress differently than other prospects in similar positions? What does her office look like; does it make a statement or is its décor generic? If the answer is the former, save the herd mentality approach for the next prospect.



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

Prospects most amenable to a herd mentality approach are easy to spot. They tend to be cautious, preferring to fit in with their surroundings. Check out their clothes, jewelry, haircut, or office décor. These prospects are more likely to make decisions out of fear and follow the lead of others.

Once you've identified which prospects are likely to follow the herd, you can employ a couple of strategies to appeal to their comfort zone based on your position within the marketplace.

Market Leader Strategies

If your clinic is the market leader (or the only viable player) you need to make the most of your leadership:

- *Frequently call attention to this leadership position.* Be prepared to tell the prospect why your leadership will benefit them in case they have not or cannot make this connection themselves. For example:

"Gotham Urgent Care provided occupational health services to 81 of the 100 largest employers in Gotham City during the past year. I believe you will find that this strong endorsement from your fellow employers will provide your company with confidence regarding our ability to manage your health and safety and lower your associated costs."

- *Use testimonial quotes.* Obtain and use quotes from satisfied clients in promotional literature or proposals. These quotes should convey a benefit statement to the prospect (e.g., "After two years, the Gotham Urgent Care approach has made a demonstrable decrease in our company's health/safety costs."). The more prospects recognize that a testimonial comes from a company or job title just like theirs, the more comfortable they will feel in working with your program and jump on your proverbial bandwagon.

Gathering testimonials can be done through an annual questionnaire. Build a library of such testimonial quotes, dividing them by such categories as industry type, job title, and testimonial message. Correspondence to herd



Coding Symptoms of Infections, Modifiers for X-rays, and Counseling Family Members

■ DAVID STERN, MD, CPC

Q. Our doctor saw a patient for a sore throat. The rapid strep screen was positive, so she placed the following diagnoses on the chart:

- **034.0: Streptococcal sore throat**
- **780.61: Fever presenting with conditions classified elsewhere**
- **784.1: Throat pain**
- **780.79: Other malaise and fatigue**

I told her that since we had a specific infection that was the cause of second, third, and fourth diagnoses, we should code the confirmed infection, but not the sore throat. She said that she was addressing each symptom in her plan (for example, acetaminophen for the pain and fever and rest for the malaise), so it was appropriate to code the symptoms as well as the diagnoses.

Who is right?

Question submitted by Jenni Rosenbalm, CPC, PV Billing

A. You are right. In general, the physician should code symptoms when the underlying diagnosis that is causing the symptom has *not* yet been determined.

In your example above, the second diagnosis (780.61: "fever presenting with conditions classified elsewhere") does seem to be correct at first glance, since strep throat is a "condition classified elsewhere." When you look at the specific definition of the code, however, this code specifically excludes:



David E. Stern, MD, CPC, is a certified professional coder. He is a partner in Physicians Immediate Care, operating 12 urgent care centers in Oklahoma and Illinois. Stern serves on the Board of Directors of the Urgent Care Association of America and speaks frequently at urgent care conferences. He is CEO of Practice Velocity (www.practicevelocity.com), providing urgent care software solutions to more than 500 urgent care centers. He welcomes your questions about coding in urgent care.

- [fever as an] effect of heat and light
- [fever] associated with a confirmed infection.

Rather, this code is for use with conditions that are frequently associated with fever but are not the specific cause of the fever. Often, there is an associated and presumed infection, but there is not yet a specific "confirmed infection." These conditions "classified elsewhere" include neutropenia, leukemia and sickle-cell disease.

Q. We do x-rays at our urgent care and would like to know if there are different modifiers for the procedures that we do in the office. Could you provide me with a list of modifiers used with x-rays?

Question submitted by Michelle, Defiance Family Physicians

A. Modifiers for x-rays are not unique to the urgent care setting. Commonly used modifiers for x-ray procedures in the urgent care setting include:

- **-R: right**—Use this modifier for a film series performed on the right side of the body.
- **-L: left**—Use this modifier for a film series performed on the left side of the body.
- **-TC: technical component**—Use this modifier when coding only for performing the technological procedure of taking the x-ray; the physician reading is not included in the code.
- **-26: professional component**—Use this modifier when coding only for the physician reading; performing the technological procedure of taking the x-ray is not included in the code.
- **-52: reduced services**—Use when performing fewer views than the code stipulates. For example, you use modifier -52 when performing a single-view ankle x-ray and the lowest number of views for an ankle x-ray

CODING Q & A

listed in CPT is for 73600 (radiologic examination, ankle; two views).

- **-76: repeat procedure by same physician**—Use this modifier when you perform the same film series on the same day. Examples include films retaken after fracture reduction, after foreign body removal, etc.

Q. I have a question about a Medicare patient. The patient's daughter came in alone to discuss her mother's care with the physician, and we're not sure how to bill it because the G codes for Medicare don't cover this. Any suggestions?

Question submitted by Tiffany, San Antonio Urgent Care

A. I don't believe that there is any method (reimbursable by Medicare) to code for discussions with the family of a patient, when the patient is not physically present. Medicare recognizes time a physician spends counseling a family member and/or other care decision maker only if the patient is present. The physician cannot count any time for counseling when the patient is not physically present in the room.

Medicare makes only one exception to this requirement, and this exception is rarely applicable to the urgent care situation.

When, and only when, a physician is providing critical care to a patient, the physician time involved in obtaining a history or discussing treatment options with family members or other surrogate decision-makers may be counted toward critical care time, and only when the chart documents all of the following:

1. that the patient is unable or incompetent to participate in giving a history and/or making treatment decisions;
2. that the discussion is absolutely necessary for treatment decisions under consideration that day; and
3. the treatment decisions for which the discussion was needed; and
4. the substance of the discussion as related to the treatment decision.

Sorry that I don't have a better answer on this one, but we continue to wish you great success in your clinic. ■

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OCCUPATIONAL MEDICINE

mentality candidates should be peppered with appropriate testimonials.

- *Create a knockout reference list.* Develop a broad client reference list to share with prospects at just the right time. Typically, occupational health salespeople provide a prospect with three or four references. This does little to inspire confidence or create a sense of differentiation from other programs; who couldn't come up with a list of three or four friendly users?

Venture well beyond the norm by listing as many references as you can. If you have 400 clients dating back to 1985, list them by industry type. The thinking is to let the prospect know that you have an exceptionally broad client history, which in turn suggests a "400-plus programs can't all be wrong" sense of confidence.

Develop this list by formally asking employers if you can use their company name as a reference during an annual client survey. Rotate the order of references so the names at the top are not "bothered" too often.

Remember, the herd mentality kicks in when the defensively minded prospect feels that he cannot afford *not* to use the market leader.

Market Challenger Strategies

Most markets also have numerous market challengers who offer viable services, but do not possess a plurality of market share. If you represent such an urgent care occupational health program, you should embrace herd mentality selling as well—but with a different emphasis.

Whereas the core strategy for the market leader is to mention being number one at every turn, the inherent strategy for the market challenger is to emphasize market share growth and industry-specific expertise. If the market leader's basic recurrent message is, "Come with us, we are the leaders, and the bulk of your fellow employers can't be wrong," then the inherent message from the market challenger should be, "Come with us, for many of your fellow employers have done so recently, so we must be the best choice."

Indeed, you receive bonus points in this instance; not only will the herd mentality prospect view your program favorably because of this momentum, but they are likely to view the (unnamed) market leader *less* favorably because of presumed client attrition.

In sum, a significant number of your prospects buy defensively and are easily swayed to a safe course of working with the market leader. Market leaders must realize this mindset and take full advantage of it. Market challengers can also capitalize on the herd mentality mindset by selectively citing their successes.

In both cases, a far more aggressive approach than is typical is recommended. ■

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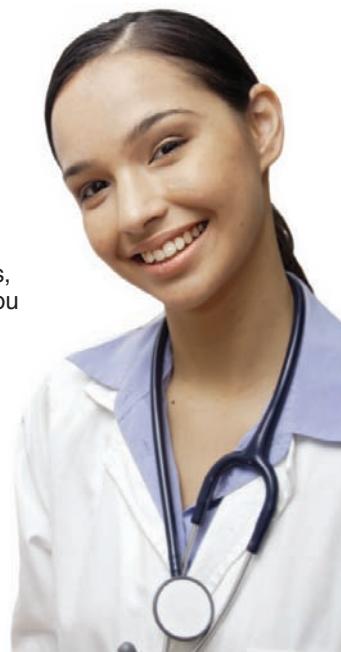
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Submissions on clinical or practice management topics, ranging in length from 2,500 to 3,500 words are welcome. The key requirement is that the article address a topic relevant to the real-world practice of medicine in the urgent care setting.

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He will be happy to discuss it with you.





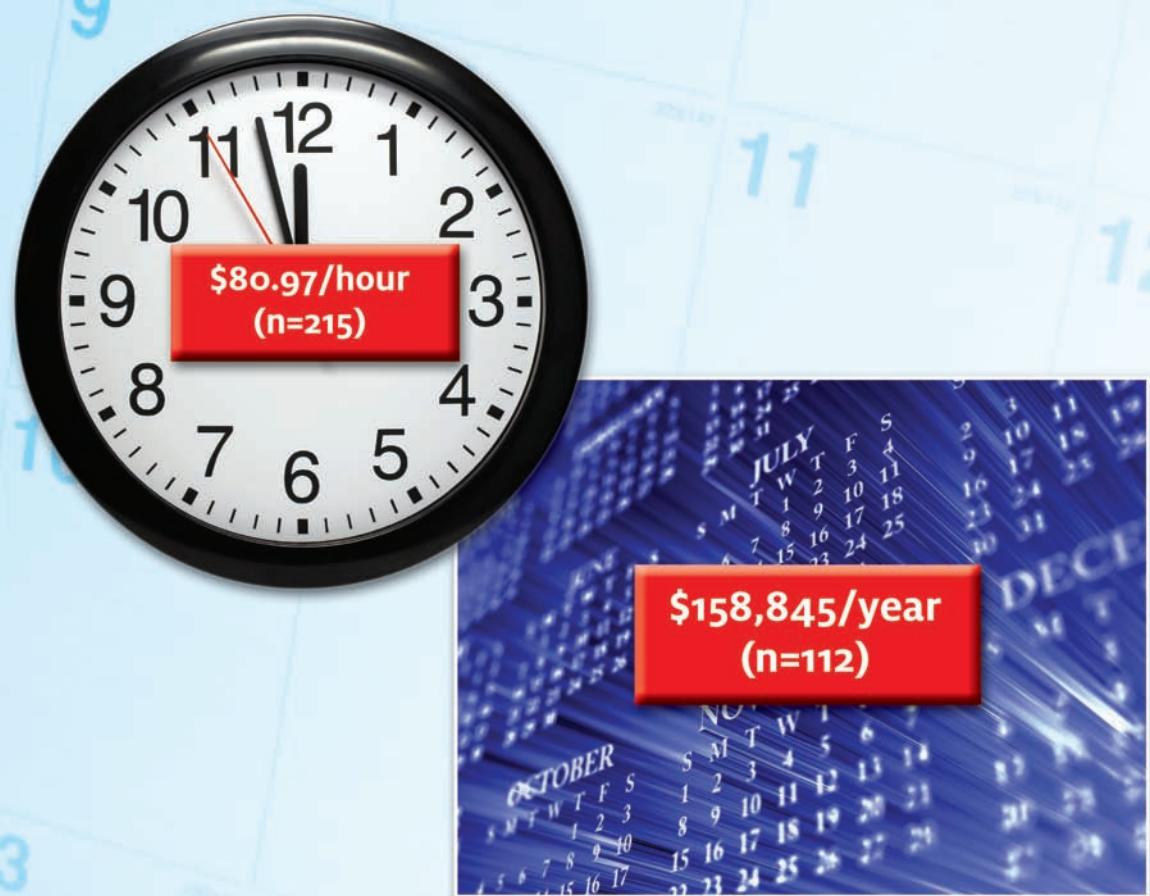
DEVELOPING DATA

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

Over the coming months in Developing Data, *JUCM* will present some of the findings from this landmark survey, to which 436 urgent care centers responded.

In this issue: How much money do physicians who work in urgent care centers make?

URGENT CARE PHYSICIAN AVERAGE HOURLY RATE AND ANNUAL EARNINGS



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

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



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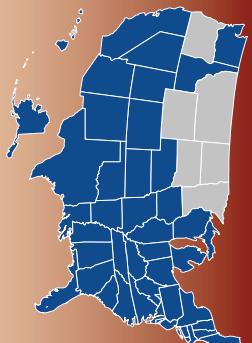
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