Assessing Syncope
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VIGAMOX™ solution is indicated for the treatment of bacterial conjunctivitis. 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. In vitro data are not always indicative of clinical success or microbiological eradication in a clinical setting. The dosing of VIGAMOX™ solution is one drop in the affected eye(s) 3 times daily for 7 days.

Please see brief summary of prescribing information on adjacent page.
**Vigamox**

(moxifloxacin hydrochloride ophthalmic solution) 0.5% as base

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

**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 66% 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-inflammatory trials.

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

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- *Moraxella catarrhalis*
- *Staphylococcus aureus*
- *Staphylococcus epidermidis*
- *Staphylococcus hominis*
- *Staphylococcus warneri*
- *Streptococcus pneumoniae*
- *Streptococcus viridans group*

**Adverse Gram-negative microorganisms:**

- *Acinetobacter baumannii*
- *Haemophilus influenzae*
- *Haemophilus parainfluenzae*

**Other microorganisms:**

- *Clamydia trachomatis*

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

**CONTRAINDICATIONS:** VIGAMOX® (moxifloxacin HCI ophthalmic solution) is contraindicated in patients with a history of sensitivity 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 acidosis or 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. In some allergic reactions 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. When multiple 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.

Systematically 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 CYP1A2, CYP2C9, CYP2C19, or CYP3A4, CYP2D6, or CYP2B6, an inhibitor of CYP2C9, CYP3A4, CYP2D6, or CYP2B6, respectively. The presence of moxifloxacin in strain 102 using the same assay may be due to the inhibition of DNA gyrase. Moxifloxacin was not mutagenic in the CHO/HGPRT mammalian cell gene mutation assay. An equivocal result was obtained in the same assay when V79 cells were used. Moxifloxacin was clastogenic in the V79 chromosome aberration assay, but it did not induce unscheduled DNA synthesis in cultured rat hepatocytes. There was no evidence of genotoxicity in vivo in a micronucleus test or a dominant lethal test in mice.

Moxifloxacin had no effect on fertility in male and female rats at oral doses as high as 500 mg/kg/day, approximately 1-4% were of patients. Nonocular adverse events reported at a rate of 1-3% were fever, increased cough, infection, otitis media, pharyngitis, rash, and rhinitis.

**Reference:**


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LETTER FROM THE EDITOR-IN-CHIEF

The Evolution of a Specialty

Evolution, by definition, is a process in which something passes by degrees to a more advanced stage. This inaugural issue of The Journal of Urgent Care Medicine (JUCM) represents an important milestone in the evolution of urgent care medicine as a discipline.

Our intent, and one of my key objectives as Editor-in-Chief, is to make JUCM a forum for the sharing of ideas, trends, clinical content, original research, and industry news unique to the practice of urgent care medicine. This journal speaks in an urgent care voice as it expands on the core competencies of our field with practical, clinically relevant content that reflects our unique medical decision-making. It explores the challenges and opportunities revealed in our novel healthcare delivery model.

In my role as Chair of Academics for the Urgent Care Association of America (UCAOA), I am charged with the task of creating an academic vision that is expansive, as well as legitimate and substantive, tackling such issues as credentialing, training, continuing education, and research. JUCM is part of that effort.

I believe strongly that a specialty evolves; it does not simply declare itself. We have embarked on a process that must encourage reflection, flexibility, collaboration, and discussion. We are navigating our course through a tempestuous sea; the best way through will take careful study, planning, and managed risk-taking. We have begun by asking ourselves: Who are we? What do we do that is unique? What special skills are required? What training is necessary to master those skills? What is our model of healthcare delivery, and how do we accredit facilities that provide it?

We’re still in our formative stage, yet we’ve accomplished a great deal already:

- The establishment of a reproducible training program based on a set of core competencies and learning objectives that reflect the unique skills and decision-making required of an urgent care practitioner
- The birth of an accreditation process that identifies urgent care facilities uniquely qualified to meet recognized standards of operation and oversight
- The development of a committee of UCAOA members dedicated to exploring, debating, and building on the academic mission
- Not least of all, the introduction of this journal

Refining the core competencies and growing the training program will provide the necessary foundation to further the academic agenda. With this essential groundwork in place, we can more effectively explore ways to test competency and recognize those who have achieved a higher level learning through experience, training, and continuing education.

“This journal represents a critical step toward a more evolved discipline, capable of redefining healthcare delivery while providing the highest standard of care for our patients.”

This journal represents a critical step toward a more evolved discipline, capable of redefining healthcare delivery while providing the highest standard of care for our patients. I encourage you to make it your own by submitting an article for publication. More than that, however, I hope you will use it as a tool to aid in your own evolution as a clinician.

Sincerely,

Lee A. Resnick, MD
Editor-in-Chief
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CLINICAL

13 SYNCOPE: Evaluation and Management in an Urgent Care Setting

Your patient tells you things got hazy and next thing he knew, he was on the ground. You need to determine if the cause is something benign, or whether a trip to the ER is warranted.

PRACTICE MANAGEMENT

27 Healthcare in the Express Lane: The Emergence of Retail Clinics

Patients are going to their friendly neighborhood retailer for more than a box of tissues when they get sick these days. Are retail-based health clinics a threat to urgent care’s growth?
Mission Statement
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.

Any procedures, medications, or other courses of diagnosis or treatment discussed or suggested by authors should not be used by clinicians without evaluation of their patients’ conditions and possible contraindications or dangers in use, review of any applicable manufacturer’s product information, and comparison with the recommendations of other authorities.
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The Journal of Urgent Care Medicine (JUCM) wants to ensure that the content we offer reflects state-of-the-art—but real-world—approaches to practicing medicine in the urgent care environment. Our objective in every issue will be to provide information that is of high value to you and, by extension, that will benefit the entire urgent care community.

The following practitioners are devoting their time and expertise to that mission, and to helping us maintain the highest standards of clinical relevance. JUCM is very pleased and proud to introduce them as members of the Editorial Board and Advisory Board.

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JUCM is very pleased and proud to introduce them as members of the Editorial Board and Advisory Board.
This is an Exciting Time to be in Urgent Care!

LOU ELLEN HORWITZ

As you will see in this inaugural issue of The Journal of Urgent Care Medicine, whether you’re trying to get to the root of one of the more common—but potentially foreboding—symptoms that bring patients to your center (see Syncope: Evaluation and Management in an Urgent Care Setting, by Kenneth V. Iserson, MD, MBA, FACEP, FAAEM, starting on page 13) or tracking the myriad business models that are vying for their piece of our industry (see Healthcare in the Express Lane: The Emergence of Retail Clinics, starting on page 27), there is plenty of activity and intrigue to keep us all busy for a long time.

And that’s primarily why UCAOA is here: to help you stay connected to the best experts, information, and networking opportunities so you can be successful in this ever-growing and ever-changing business of providing urgent care.

Highlights
If you are already on our e-mail lists, then you know it has been a busy year at UCAOA. Some of the highlights include:

- Record-breaking attendance at our Annual Convention, for participants and exhibitors alike
- Launch of The Journal of Urgent Care Medicine, the newest peer-reviewed medical journal in the country
- Addition of new online forums to accommodate increasing discussion traffic
- Our first-ever Fall Conference (October 6 and 7 in Phoenix)
- First fellows beginning in the only urgent care fellowship in the nation

We also recently elected new board members, and would like to recognize the entire 2006/2007 UCAOA Board of Directors and thank them for their ongoing contributions:

UCAOA Board of Directors
President: William Meadows, MD
Vice President: Dan Konow, PA-C, MBA
Secretary: Margaret Simat
Treasurer: Kevin Ralofsky, MBA
Directors: Jim Gore, MD; Ken Palestrant, MD; Lee Resnick, MD; David Stern, MD, CPC; John Koehler, MD; Cindi Lang, RN, MS; Amy Tecosky

Still to Come
We’re not stopping there, however. Here’s what UCAOA is going to bring you in the months to come:

- Launch of a new website that will include an exclusive members-only area
- New toll-free number: 1-877-MYUCAOA (877-698-2262)
- Increase in accredited urgent care centers (see the listing of recently accredited sites in this issue!)
- New national benchmarking survey, covering staffing levels and physician salaries
- Details about the next Annual Convention, May 9-12, 2007 in Daytona Beach, FL, featuring a new advanced business track
- New opportunities for member involvement

We hope you enjoy this issue of JUCM. If you would like to become a member of UCAOA, refer a colleague, or just join our mailing list, visit us at www.ucaoa.org or call us at 877-MYUCAOA.

We look forward to hearing from you, and I look forward to meeting you in person at an upcoming conference.

For more information about the UCAOA 2007 National Conference in Daytona Beach, FL, log on to www.ucaoa.org.

Lou Ellen Horwitz is executive director of the Urgent Care Association of America. She may be contacted at lhorwitz@ucaoa.org.
It’s been two years since the Board officially approved the bylaws of the Urgent Care Association of America (UCAOA). In reflecting on that, my first thoughts are how much we owe to all of you members who have supported this still-new organization in our infancy. Over 200 of you traveled to Orlando for our first conference in the spring of 2005, and attendance at the 2006 conference in Lake Tahoe was twice that.

We are a member-driven, democratic organization and exist to help make your practice more successful and to bring together members involved in all aspects of urgent care. As the first issue of our journal comes to publication, I’m struck by what we’ve accomplished in a relatively short period of time.

As noted above, our annual conferences are increasingly well attended. Each gave members who attended a chance to attend excellent lectures. The opportunity to meet colleagues and network between meetings was every bit as valuable as the conference itself. It was gratifying to see that most members were willing to share experiences with others. This demonstrates the true value of an association like ours.

Encouraged by the attendance and feedback we received in regard to the first two annual conferences, we held our first two-day “mini-conference” this month, geared specifically to new clinic owners and operators.

Our next annual spring conference, May 9-12 in Daytona Beach, FL, will be even larger and more useful than the first two, and will feature both a business track and clinical track.

We’ve also made great strides internally at UCAOA. Guided by our executive director, Lou Ellen Horwitz, we have a continually improving website that keeps all of us connected in between conferences. It is being updated and will be our link to obtaining information about the changes in urgent care while also providing a forum through which we can share ideas.

Perhaps most important to the acceptance of urgent care medicine as a discipline in its own right, we’ve also progressed on the accreditation and training fronts.

Accreditation
We began discussions about accreditation for clinics during our first board meeting in the fall of 2004. Our criteria was ready by the early summer of 2005 and at the 2006 conference, Awards of Distinction were given to 19 newly accredited clinic sites, with others coming on board soon. Our goal is to make UCAOA’s accreditation the gold standard for quality assurance for the delivery of urgent care.

Urgent Care Fellowship
The summer of 2006 saw the acceptance of three physicians into the first fellowship in urgent care at the University Hospitals Case Medical Center in Cleveland, OH. Spearheaded by Dr. Lee Resnick, who is also editor-in-chief of JUCM, this program is partially sponsored by a $30,000 grant from UCAOA and is a result of collaboration among the Department of Family Medicine, UCAOA, and the University Hospitals Medical Practices. This one-year fellowship is currently open to graduates of accredited Family Medicine and Med/Peds residencies.

Training and future certification in the urgent care specialty are linked in a methodical process that we have turned over to our Academic Committee for review and discussion. The fellowship and our commitment to publish The Journal of Urgent Care Medicine represent a big step toward the future training of urgent care physicians.

As we look forward to 2007, we will continue to raise the bar for our organization, and discuss our aspirations in detail whenever we have the opportunity at UCAOA conferences. And as I finish my term as president, I again thank all of you for your support of UCAOA. I have never worked with a better group of people, all of whom care deeply about the direction of our specialty.

I can honestly say there has never been a dull moment and I look forward to seeing you at our spring conference.

William Meadows is president of the Urgent Care Association of America, and is sole owner and medical director of Physicians Care, operating six urgent care centers in and around Chattanooga, TN.
Ken Iserson, MD, MBA, FACEP, FAAEM is professor of emergency medicine and director of the Arizona Bioethics Program at the University of Arizona in Tucson. In addition to emergency medicine, his interest in bioethics and disaster medicine is evident in the books he has authored (Demon Doctors: Physicians as Serial Killers and Death to Dust: What Happens to Dead Bodies? to name just two) and by his presence on the State of Arizona’s Disaster Medical Assistance Team. Somehow, and fortunately for us, he also found time to accept our invitation to sit on the JUCM Advisory Board and author the core clinical article for our inaugural issue, Syncope: Evaluation and Management in an Urgent Care Setting (page 13).

We’re also very pleased to introduce you to a few experts who will be regular contributors to JUCM. Each of them will bring unique insights gleaned from years of experience in his particular field, presented as practical advice relevant to your day-to-day practice.

Nahum Kovalski, BSc, MDCM is an urgent care practitioner and assistant medical director/CIO at Terem Immediate Medical Care in Jerusalem, Israel. He is a member of the Editorial Board of The Journal of Urgent Care Medicine. See Abstracts in Urgent Care (page 22).

John Shufeldt, MD, JD, MBA, FACEP is chief executive officer of NextCare, Inc. and sits on the Editorial Board of The Journal of Urgent Care Medicine. See Health Law (page 34).

Frank Leone, MBA, MPH is president and CEO of RYAN Associates and executive director of the National Association of Occupational Health Professionals, as well as author of numerous sales and marketing texts and periodicals. See Occupational Medicine (page 36).

David Stern, MD, CPC, is a partner in Physicians Immediate Care, with nine urgent care centers in Illinois and Oklahoma, and chief executive officer of Practice Velocity, which provides charting, coding and billing software for urgent care. See Coding Q&A (page 37).

In addition, we are indebted to Drs. Michael Talkar and Ohad Sheffy for sharing a couple of interesting cases they came across. You’ll find those cases in Insights and Images (page 24), under Case Report and Clinical Challenge, respectively.

To Submit an Article to 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 The Journal of Urgent Care Medicine 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 or authors 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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Introduction

Syncope is a sudden, transient loss of consciousness with a loss of postural tone (typically, falling). It results from an abrupt, transient, and diffuse cerebral malfunction and is quickly followed by spontaneous recovery. The term *syncope* excludes seizures, coma, shock, or other states of altered consciousness. Many patients will ascribe their syncopal episode to a situationally mediated vasovagal episode.

Despite this, the goals in the urgent care setting include the following:

- Determining whether the patient’s episode was actually a syncopal or presyncopal event, and if it could have a life-threatening etiology
- Stabilizing the patient
- Transferring those patients who need further diagnostic studies or therapeutic interventions

Epidemiology

Syncope accounts for up to 3% of emergency department (ED) visits and up to 6% of hospital admissions each year in the United States. At some time in their lives, up to about half the population (12% to 48%) of people may experience syncope.

Syncope occurs in all age groups, but it is most common in adults. Non-cardiac causes tend to be more common in young adults, while cardiac syncope becomes increasingly more frequent with advancing age. The chance of having at least one syncopal episode in childhood is between 15% and 50%. Though a benign cause is usually found, syncope in children warrants prompt detailed evaluation.

With advancing age comes an increased frequency of
SYNCOPE: EVALUATION AND MANAGEMENT IN AN URGENT CARE SETTING

coronary artery and myocardial disease, arrhythmia, vasomotor instability, autonomic failure, polyneuropathy, and the use of polypharmacy—all of which can contribute to syncope. Therefore, advanced age is an independent risk factor for both syncope and death.7

Pathophysiology
Regardless of specific cause, on the most basic level syncope results from the sudden reduction in the delivery of a vital substrate (usually oxygen) to both cerebral hemispheres or to the brainstem's reticular activating system. Most often, this is due to a localized or systemic reduction (35% or more) in blood flow to these areas. Since brain tissue cannot store energy, cessation of cerebral perfusion lasting only three to five seconds will result in syncope. This is most frequently caused by a transiently diminished vagal tone or autonomic nervous system disorders (such as in patients with diabetes). Patients who experience vasovagal reactions have subnormal vagal baroreflex responses with a disappearance of muscle sympathetic nerve activity.8

Syncope can, however, also be due to transient hypoglycemia, toxins, metabolic abnormalities, failure of autoregulation, and primary neurological derangements. The causes of syncope may be categorized into three broad groups: cardiovascular, non-cardiovascular, and unknown. This categorization stratifies the patient’s future risk for serious associated illnesses and death; generally, cardiovascular syncope is associated with higher mortality than syncope due to non-cardiovascular or unknown causes.

Cardiovascular Syncope
Cardiovascular syncope may be due to autonomic dysfunction, orthostatic hypotension, obstructive lesions, and dysrhythmias. Each of these has its own etiology.

At all ages, the most common cause of syncope is autonomic dysfunction, which results from a slowing of the heart and decreased cardiac output due to increased vagal tone. This is often described as “fainting.” Any number of factors, such as the bradycardia often seen in athletes, may cause increased vagal tone, and some individuals seem more prone to these episodes than others. Emotional stress, hot or crowded conditions, the sight of blood, and pain may often precipitate these events. Diabetics and the elderly often have disruption of their autonomic systems leading to syncope. In all these cases, a good history may help determine whether a syncopal event was vasovagal or due to a more serious cause. (While tilt-testing may eventually suggest that a syncopal event from unknown cause was vasovagal, no real “gold standard” for vasovagal syncope exists.)9

Orthostatic hypotension is a clinical syndrome indicating diminished intravascular volume. A commonly encountered cause of syncope that often requires treatment, it is often caused by dehydration (often secondary to acute gastroenteritis), and is also seen with excess intake of medication and acute anemia from hemorrhage.

Dysrhythmias may have multiple causes but, if they cause syncope, are usually of acute onset. Such dysrhythmias may arise from any focus (supraventricular, nodal, or ventricular) and be bradycardic, tachycardic, or unorganized (e.g., ventricular fibrillation). Pacemaker failure results in syncope when the underlying rhythm cannot sustain a sufficient cardiac output. Severe bradycardia, caused by minimal pressure on the carotid, causes carotid sinus syncope. It can be exacerbated by carotid lesions or digitalis toxicity.

Obstructive lesions result from a diminished effective cardiac output due to structural abnormalities. Most commonly, these are in or around the heart—either acquired or congenital lesion—but can also occur with outflow obstruction due to a pulmonary embolus or aortic dissection.

Non-Cardiovascular Syncope
Non-cardiovascular syncope may be due to metabolic derangements, neurologic abnormalities, or psychiatric disease. Again, establishing the root of the suspected cause of the syncope may help clarify management options.

Metabolic derangements can develop slowly (e.g., alcoholism, hypothyroidism) or rapidly (e.g., hypoglycemia, hypoxia). Syncope is the sudden, final common pathway for these disorders. On occasion, they may lead to seizures or coma, rather than syncope.

Neurologic abnormalities are a relatively rare cause of
When cough shows up in your urgent care center...

Reach for Tussionex®

Among prescription antitussives,

Only Tussionex® provides proven 12-hour cough relief*

TUSSIONEX® is indicated for relief of cough and upper respiratory symptoms associated with allergy or a cold. Each teaspoonful (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 the presence of known allergy 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.

As with other drugs in this class, the possibility of tolerance and/or dependence, particularly in patients with a history of drug dependence, should be considered.

*Based on pharmacokinetic data.
Reference 1. Data on file, UCB, Inc.
Please see adjacent page for full Prescribing Information.
Please visit www.tussionex.com

Marketed by UCB, Inc.
Manufactured by UCB Manufacturing, Inc.
TUSSIONEX, PENNKINETIC, and COUGH RELIEVED. REST ASSURED. are trademarks of UCB, Inc., or its subsidiaries.
©2006 UCB, Inc. All rights reserved.  T1136-0906
Chlorpheniramine Polistirex: sulfonated styrene-divinylbenzene copolymer complex with 2-[(2-(dimethylamino)ethyl)-benzyl]pyridine.

CLINICAL PHARMACOLOGY: Hydrocodone is a semisynthetic narcotic antitusive 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. This effect has been observed in therapeutic doses on the cardiovascular system is insignificant. Hydrocodone carboxylate causes miosis, euphoria, psychological and physical 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.

Indications and Usage: TUSSIONEX Pennkinetic Extended-Release Suspension is indicated for relief of cough and upper respiratory symptoms associated with allergy or a cold.

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, which may be labored or superficial. Circumstances may occur when a patient is receiving other respiratory depressant drugs (e.g., CNS depressants or sedatives), and the respiratory depression of any cause is inadvisable. Therefore, an immediate cessation of doses may result in a life-threatening situation. If respiratory depression becomes apparent, the patient should be immediately assisted or ventilated. Primary attention should be given to the reestablishment of adequate respiratory function. The respiratory depressant effects of narcotics including hydrocodone may produce apnea, circulatory collapse, cardiac arrest and death. The respiratory depressant effects of narcotics will vary with the individual patient. In the event of respiratory depression, the respiratory rates should be monitored intermittently. The respiratory rate and effort should be monitored in all patients treated with TUSSIONEX Pennkinetic Extended-Release Suspension, but especially in the elderly and debilitated patients.

Drug Interactions: Patients receiving narcotics, anticholinergics, and antihistamines are at risk for developing respiratory depression. The concurrent use of other anticholinergics with hydrocodone may produce paralytic ileus.

Carcinogenesis, Mutagenesis, Impairment of Fertility: Carcinogenicity, mutagenicity and reproductive toxicity studies have been conducted with TUSSIONEX® Pennkinetic® (hydrocode polistirex and chlorpheniramine polistirex) Extended-Release Suspension.

Pregnancy: Teratogenic Effects – Pregnancy Category C. Hydrocodone has been shown to be teratogenic in rats and rabbits when given in doses approaching toxicological levels. In rats and rabbits, hydrocodone produced abnormalities in the offspring resulting from pre- and postnatal exposure. In a study involving pregnant rabbits, an increase in fetal resorptions and an increase in fetal malformations were observed. In fetal studies, hydrocodone has been shown to cause decreased fetal body weight. Hydrocodone should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus. The concurrent use of other anticholinergics with hydrocodone may produce paralytic ileus.

Neonatal Abstinence Syndrome: The use of MAO inhibitors or tricyclic antidepressants with hydrocodone preparations may increase the risk of neonatal abstinence syndrome. The concurrent use of other anticholinergics with hydrocodone may produce paralytic ileus.

Drug Interactions: Patients receiving narcotics, anticholinergics, and antihistamines are at risk for developing respiratory depression. The concurrent use of other anticholinergics with hydrocodone may produce paralytic ileus.

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Nerontagoretic 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 secreted in human milk. Because many drugs are excreted in human milk, this drug should be given to a nursing mother only if the potential benefit justifies the potential risk to the child.

Pediatric Use: Safety and effectiveness of TUSSIONEX Pennkinetic Extended-Release Suspension in pediatric patients under six have not been established (see WARNINGS). The concurrent use of other anticholinergics with hydrocodone may produce paralytic ileus. The concurrent use of other anticholinergics with hydrocodone may produce paralytic ileus.

Gastrointestinal System: 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.

Unlabeled Use: In addition to its intended uses, TUSSIONEX Pennkinetic Extended-Release Suspension may be used in the management of the symptoms of alcoholism (see WARNINGS). The concurrent use of other anticholinergics with hydrocodone may produce paralytic ileus.
syncope. Instead, atypical seizures may initially be described as syncope. Without extensive testing, the two may be difficult to differentiate.

Psychiatric disease or medications may cause syncope due to a vagal effect, hyperventilation, or a drug effect. However, it is dangerous to ascribe a syncopal episode to a psychiatric cause without some investigation, including a good history and physical examination.

**Diagnostic Evaluation**

History and physical examination are the most specific and sensitive ways to evaluate syncope. Cursory review of the literature shows that diagnosis can be made with a thorough history and physical examination in 50% to 85% of patients. No single laboratory test has greater diagnostic efficacy.

**History**

Proper diagnosis, or at least correct patient disposition, requires combining patient and bystander history with risk factors (age, cardiac history, and significant other medical history—including medication/drug/alcohol use) and the limited information that can be gained from the physical examination and diagnostic tests.

Witnesses to the syncopal event can often describe its character and time course far better than the patient (who, by definition, was unconscious). Key historical clues include:

- **Setting** (activities preceding syncope)
- **Prodrome** (aura, chest pain, dyspnea, vertigo, diaphoresis, graying of vision)
- **Abruptness of onset** (gradual or sudden)
- **Position** when it occurred (standing, sitting, supine)
- **Movement during/after syncope** (tonic-clonic or myoclonic movements)
- **Duration** (seconds, few minutes, longer)
- **Rate of recovery** (rapid, slow, incomplete/prolonged)

Presyncope, where there is no loss of consciousness, requires the same evaluation as syncope. While patients with syncope do not remember actually hitting the ground, those experiencing presyncope have the same symptoms, but the event terminates prior to loss of consciousness. Presyncope can still cause the patient to lose postural tone, however.

Prior faintness, dizziness, or light-headedness occurs in 70% of patients experiencing syncope; other presyncopal signs and symptoms may also occur, alone or in combination (Table 1), whether syncope actually follows or not. In dysrhythmia-related syncope, presyncopal symptoms last only seconds, though in vasovagal events they can last about 2½ minutes.

A group at the University of Calgary, Canada, developed a set of historical questions that can help determine if the patient’s syncope was due to a vasovagal episode or something more sinister (Table 2).

If the patient experiences typical pre-seizure aura, this suggests a seizure rather than syncope.

**Red Flags**

Some specific symptoms or activities associated with the syncopal event should raise concern about life-threatening causes.

- Chest pain, with or without palpitations or dyspnea, may accompany myocardial ischemia or infarctions, aortic dissections, or dysrhythmias. These symptoms may be present as a presyncopal prodrome, following syncope, or both. Ventricular and supraventricular dysrhythmias may not be present on an initial ECG; prolonged monitoring may be necessary. Bradyarrhythmias and pacemaker malfunctions can usually be seen immediately.

- Dyspnea may accompany cardiovascular-related syncope, or may be a symptom of pulmonary embolus or congestive heart failure, both of which may cause syncope.

- Severe headache or new neurological deficits may indicate a neurological cause for the syncope or a serious consequence of the syncopal event. Neurological syncope may have prodromal symptoms such as vertigo, dysarthria, diplopia, and ataxia. These may suggest a stroke or transient ischemic attack. If symptoms appeared following a fall associated with syncope, trauma should be considered.

- Abdominal or back pain may suggest a source of acute bleeding, such as from a ruptured abdominal aortic aneurism, or in the pregnant patient, an ectopic pregnancy or placental abruption.

- Strenuous exertion just before syncope, especially in young athletes with a cardiac murmur, suggests syncope due to cardiac outflow obstruction. In any group, syncope can be very worrisome if it is due to aortic stenosis, hypertrophic obstructive cardiomyopathy, mitral stenosis, pulmonary stenosis, pulmonary embolus, left atrial myxoma, or pericardial tamponade.

Certain predisposing events may suggest more benign causes of syncope. Even here, however, care should be taken to avoid missing serious underlying disease. A variety of events can increase vagal tone and cause syncope. In these cases, syncope occurs from decreased
peripheral vascular resistance due to stimulation of efferent vasodepressor reflexes. Asking about the patient’s activity prior to syncope may suggest the etiology. These often self-limiting problems are the most common cause of syncope in young adults; behavioral changes may help to avoid a recurrence.

In elderly patients, 45% of orthostatic syncope cases are related to medications. Medications may increase vagal tone and incite these events. In those cases, the dosage may need to be adjusted or the medication changed. Dehydration and decreased intravascular volume can also lead to syncope, but consideration should be given to underlying heat illness, blood loss, or other more serious causes for this condition.

**Syncope or Seizure?**

A common challenge for the clinician is distinguishing syncope from seizures. While this may require extensive testing in some patients, there are some historical clues that can help. If witnesses note convulsive activity or, especially, postictal confusion, this probably indicates a seizure. Post-syncope confusion occurs, but rarely lasts more than 30 seconds; confusion following a seizure usually lasts much longer. In addition, patients should be asked if they remember being confused about their surroundings after the event and whether they have oral trauma, incontinence, or myalgias. Witnesses may also be confused by the myoclonic jerks that sometimes accompany syncope, although these usually last only a very short time.

Medication, drug, and alcohol use are relatively common precipitants of syncope, so this history should be taken in detail. Medications that reduce blood pressure (e.g., antihypertensive drugs, diuretics, nitrates), affect cardiac output (e.g., beta-blockers, digitalis, antiarrhythmics), prolong the Q-T interval (e.g., tricyclic antidepressants, phenothiazines, quinidine, amiodarone), or alter the sensorium (e.g., sedating analgesics, hypnotics, anxiolytics) may all cause syncope, for example.

Clinicians should ask about any recent changes in medication dosage, new medications, and anything that may have changed the body’s level of the medication, such as food, illness, or dieting. Illicit drug and alcohol use may also cause syncope and, on occasion, may presage serious events (e.g., cocaine-induced myocardial infarction, delirium tremens).

Finally, the clinicians must also inquire about other serious personal and family medical conditions, especially cardiovascular disease. Patients with a history of myocardial infarction, arrhythmia, structural cardiac defects, cardiomyopathy, or congestive heart failure fall into a high-risk group for death and disability. Those with a family history of sudden death or serious cardiac disease should also be considered in this category.

**Physical Examination**

The physical examination supplements clinical opinions formed from the patient and bystander history. While it may confirm suspicions or add new information, it should only be considered a supplement to the clinical history. During the physical exam, it is important to recognize signs of trauma, since syncope from any cause

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**Table 2. Questions to Determine if Syncope is Vasovagal in Nature**

<table>
<thead>
<tr>
<th>Question</th>
<th>Points (if answer to question is yes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is there a history of at least one of bifascicular block, asystole,</td>
<td>-5</td>
</tr>
<tr>
<td>supraventricular tachycardia, or diabetes?</td>
<td></td>
</tr>
<tr>
<td>At times, have bystanders noted you to be blue during a faint?</td>
<td>-4</td>
</tr>
<tr>
<td>Did your syncope start when you were ≤35 years old?</td>
<td>-3</td>
</tr>
<tr>
<td>Do you remember anything about being unconscious?</td>
<td>-2</td>
</tr>
<tr>
<td>Do you have lightheaded spells, or faint with prolonged sitting or standing?</td>
<td>1</td>
</tr>
<tr>
<td>Do you sweat or feel warm before a faint?</td>
<td>2</td>
</tr>
<tr>
<td>Do you have lightheaded spells or faint with pain or in medical settings?</td>
<td>3</td>
</tr>
</tbody>
</table>

**The patient has vasovagal syncope if the point score is ≥-2.**
can result in injury with significant morbidity and mortality, especially in the elderly (Table 3).

Laboratory/Imaging
Ancillary testing rarely provides additional useful information. The exception is the ECG, which can be diagnostic for acute myocardial ischemia or infarction, dysrhythmias, prolonged Q-T intervals, bundle branch blocks, pacemaker malfunction, and other cardiac disease. Most patients presenting with syncope or presyncope should have an ECG. Patients should be referred if they require prolonged cardiac monitoring to identify intermittent dysrhythmias.

Although diagnostic in less than 2% of syncopal patients, the rapid and inexpensive fingerstick blood glucose always should be checked. In those patients with hypoglycemia, rapid therapy may immediately be instituted. If hyperglycemia is found, a diabetic complication may be considered (ketoacidosis, neuropathy, and autonomic dysfunction). For similar reasons, a dipstick urinalysis should be performed, especially on all elderly patients, since a urinary tract infection may precipitate syncope and can be easily treated.7

Likewise, a chest radiograph should be considered in all patients, especially the elderly. It may demonstrate evidence of infectious or aspiration pneumonia, congestive heart failure, a pleural effusion, a lung mass or a widened mediastinum.7

Except in unique circumstances, serum electrolyte levels with renal function tests and the complete blood count are of scant utility in making a diagnosis or determining disposition, although one predictive model, the San Francisco Syncope Rule, does use the hematocrit as one factor.11 Fecal occult blood testing and testing for significant abdominal pain during the physical exam is a far better way of identifying occult blood loss. Electrolyte testing may be needed only if seizure is being seriously considered. If the patient is on antiepileptic medications, those levels may also need to be drawn after consulting with the patient’s neurologist.

If the patient warrants having cardiac enzymes or creatine kinase (for a prolonged seizure or period of unconsciousness) drawn, he or she should be sent to the emergency department, and probably admitted to the hospital.

Those patients requiring more intensive imaging (e.g., head CT scan, chest-abdomen scan, pelvic ultrasound, MRI, echocardiography, EEG, or tilt testing) should be referred to an ED or their personal physician, depending upon the urgency of the situation.

Criteria to Transfer/Refer Patients
Two decision rules have been published that help to identify those at most risk after syncope. However, patients not meeting these criteria still were at significant risk for untoward events in the subsequent year.

One model demonstrated that between 58% and 80% of patients with at least three of the following risk factors...
### Table 4. Differential Diagnosis*

<table>
<thead>
<tr>
<th>Cardiovascular Causes</th>
<th>Non-Cardiovascular Causes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Autonomic (most common cause in children)</strong></td>
<td><strong>Metabolic</strong></td>
</tr>
<tr>
<td>Carotid sinus syncope</td>
<td>Alchoholism</td>
</tr>
<tr>
<td>Cough</td>
<td>Carbon monoxide poisoning</td>
</tr>
<tr>
<td>Defecation</td>
<td>Drug-induced (insulin, oral hypoglycemics)</td>
</tr>
<tr>
<td>Excessive vagal tone (athletes, adolescents)</td>
<td>Hyperventilation</td>
</tr>
<tr>
<td>Micturition</td>
<td>Hypoglycemia</td>
</tr>
<tr>
<td>Postprandial</td>
<td>Hypothyroid</td>
</tr>
<tr>
<td>Sneeze</td>
<td>Hypoxia/asphyxiation</td>
</tr>
<tr>
<td>Swallow</td>
<td>Pheochromocytoma</td>
</tr>
<tr>
<td>Valsalva</td>
<td></td>
</tr>
<tr>
<td><strong>Orthostatic hypotension</strong></td>
<td><strong>Neurologic</strong></td>
</tr>
<tr>
<td>Adrenal insufficiency</td>
<td>Basilar artery migraine</td>
</tr>
<tr>
<td>Autonomic insufficiency/dysfunction: alcoholic, degenerative CNS diseases, diabetic</td>
<td>Cerebrovascular insufficiency/Transient Ischemic Attack (TIA)</td>
</tr>
<tr>
<td>Dehydration</td>
<td>Narcolepsy</td>
</tr>
<tr>
<td>Drug-induced (beta blockers, central antihypertensives, diuretics, drugs/chemicals of abuse, narcotics, sympathetic nervous system blockers, vasodilators)</td>
<td>Normal pressure hydrocephalus</td>
</tr>
<tr>
<td>Hemorrhage, acute</td>
<td>Peripheral polyneuropathy</td>
</tr>
<tr>
<td>Idiopathic</td>
<td>Seizure</td>
</tr>
<tr>
<td><strong>Obstructive lesions</strong></td>
<td>Subarachnoid hemorrhage</td>
</tr>
<tr>
<td>Aortic dissection</td>
<td>Subclavian steal syndrome</td>
</tr>
<tr>
<td>Aortic, mitral or pulmonary stenosis</td>
<td>Vertebrobasilar insufficiency</td>
</tr>
<tr>
<td>Atrial myxoma</td>
<td>Increased intracranial pressure</td>
</tr>
<tr>
<td>Cardiac tamponade</td>
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<tr>
<td>Congenital heart disease</td>
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<tr>
<td>Hypertrophic cardiomyopathy</td>
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<tr>
<td>Left ventricular dysfunction</td>
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<tr>
<td>Pulmonary embolism</td>
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<tr>
<td>Pulmonary hypertension</td>
<td></td>
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<tr>
<td>Pulmonary stenosis</td>
<td></td>
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<tr>
<td><strong>Psychiatric</strong></td>
<td></td>
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<tr>
<td>Anxiety disorder</td>
<td></td>
</tr>
<tr>
<td>Breath-holding spells</td>
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<tr>
<td>Conversion reaction</td>
<td></td>
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<tr>
<td>Drug-induced (anticonvulsants, antihistamines, beta blockers, digitalis, diuretics, drugs/chemicals of abuse, tricyclic antidepressants, Q-T prolonging)</td>
<td>Drug-induced (anticonvulsants, antihistamines, antiparkinsonians, bromocriptine, cholinesterase inhibitors, CNS depressants, MAO inhibitors, tricyclic antidepressants)</td>
</tr>
<tr>
<td>Implanted defibrillator malfunction</td>
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<tr>
<td>Myocardial infarction</td>
<td></td>
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<tr>
<td>Sick sinus syndrome</td>
<td></td>
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<tr>
<td>Long Q-T syndrome</td>
<td></td>
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<tr>
<td>Pacemaker failure</td>
<td></td>
</tr>
<tr>
<td>2nd &amp; 3rd blocks</td>
<td></td>
</tr>
<tr>
<td>Supraventricular and ventricular tachyarrhythmias</td>
<td></td>
</tr>
<tr>
<td>Torsades de pointes</td>
<td></td>
</tr>
</tbody>
</table>

*The cause of syncope cannot be determined in 38% to 47% of cases.*
factors suffered identifiable dysrhythmias or death within one year:

- Abnormal ECG findings
- History of ventricular arrhythmia
- History of congestive heart failure
- Age >45 years

Incidence of dysrhythmias or death was 4%-7% among patients with no risk factors, and was 58%-80% for patients with three or four risk factors.

Another model identified patients who are at immediate risk for serious outcomes within seven days, with a 96% sensitivity. Its criteria was the presence of abnormal ECG findings, a history of congestive heart failure, dyspnea, a hematocrit less than 30%, and a blood pressure less than 90 mm Hg.

The question is, will a 4% short-term serious outcome rate be acceptable?

Prognosis

The differential diagnosis (Table 4) includes many life-threatening conditions. The clinician’s primary goal is to distinguish life-threatening etiologies—mainly due to cardiovascular causes—from those that are more benign. The most common serious causes of syncope are dysrhythmias and myocardial ischemia. Less common serious causes include cerebrovascular events, toxic-metabolic abnormalities, and critical aortic stenosis. Rarely seen, but life-threatening, causes are thoracic aortic dissections, massive pulmonary emboli, and subarachnoid hemorrhages.

Young, healthy patients with a clearly benign cause of the syncopal episode are the only ones that can be discharged safely without a more intense evaluation or additional treatment. Even so, it should be noted that 30% of athletes dying during exercise had syncope as a sentinel event.

Most causes of syncope are benign. Hence, persons with non-cardiovascular causes or syncope of unknown origin have a relatively benign prognosis, with a one-year mortality rate of 12% and 6%, respectively.

Vasovagal and orthostatic syncope do not increase mortality, though orthostatic syncope often recurs.

Typically, syncope of unknown etiology has a favorable prognosis, with one-year follow-up data showing a low incidence of sudden death (2%), a 20% chance of recurrent syncope, and a 78% remission rate.

However, patients with preexisting cardiovascular disease have a greater risk of short- and long-term mortality after a syncopal episode from any cause. Syncope caused by a cardiac disorder carries a one-year mortality rate of 20% to 30% and a 33% incidence of sudden death over five years. Risk is higher in older patients and those with serious comorbidities, with mortality rates significantly increased within both four weeks and one year after presentation. Elderly patients have a 30% incidence of a recurrent syncopal episode.

Syncope of any etiology in a cardiac patient (to be differentiated from cardiac syncope) has also been shown to imply a poor prognosis. Patients with NYHA functional class III or IV who have any type of syncope have a mortality rate as high as 25% within one year.

Summary

Syncope has a long differential diagnosis that includes many life-threatening conditions. History, from the patient and bystanders, is the key diagnostic tool in urgent care to determine whether a patient needs further evaluation and treatment. Physical examination plays an important, but lesser, role. Except for the ECG, finger-stick glucose, dipstick urinalysis, and chest radiograph, laboratory and imaging do not play an important role in urgent care decisions about patient disposition or treatment after syncope. Any abnormal cardiac findings or potentially serious suspected cause of the syncopal event warrants transfer to an ED. If a life-threatening condition is suspected, patients should be transported immediately via the EMS system.

REFERENCES

On Croup, Wet Sutures, Fast Tracking the ED, Acetaminophen and ALT, and Stone Formation

NAHUM KOVALSKI, BSc, MDCM

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

**Dexamethasone Has Advantage Over Prednisolone in Children with Croup**

Citation: Sparrow A, Geelhoed G. Arch Dis Child. 2006;91:580-583.

Children with croup who are treated with prednisolone are more likely than those treated with dexamethasone to return for additional medical care, researchers in Australia reported in the July issue of the Archives of Diseases in Childhood.

A single treatment of oral dexamethasone improves patient outcomes. Prednisolone has pharmacokinetic properties similar to dexamethasone, but has the advantage of being commercially available in liquid form.

The researchers compared the relative efficacy of prednisolone matched for potency to dexamethasone in 133 children between 3 and 142 months old with mild-to-moderate croup. In a double-blinded, controlled trial, the children were randomized to a single oral dose of dexamethasone 0.15 mg/kg or a single oral dose of prednisolone 1 mg/kg.

The main outcome measure was unscheduled re-presentation to medical care, determined by telephone follow-up seven to 10 days after discharge. Secondary outcome measures included croup score, adrenaline use, time in the emergency department, and duration of croup and viral symptoms.

Nineteen of 65 (29%) prednisolone-treated patients represented to medical care, compared with five of 68 (7%) dexamethasone-treated children. No significant differences in secondary outcomes were observed.

“Dexamethasone and prednisolone seem equally effective when first given but relapse and re-attendance to medical care is more common with prednisolone which may reflect its shorter half life,” the researchers concluded.

**Can Sutures Get Wet? Prospective Randomised Controlled Trial of Wound Management in General Practice**


The purpose of this study was to compare standard management of keeping sutured wounds dry and covered versus allowing sutured wounds to be uncovered and wet within the first 48 hours after minor skin excision.

This was a prospective, randomised, controlled, multicenter trial testing for equivalence of infection rates. The study was done in a primary care regional center in Queensland, Australia; 857 patients were randomised to either keep their wound dry (n=442) or remove the dressing and wet the wound (n=415).

The incidence of infection in the intervention group (8.4%) was not inferior to the incidence in the control group (8.9%) (P>0.05).

The incidence of infection in the intervention group (8.4%) was not inferior to the incidence in the control group (8.9%) (P>0.05).

These results indicate that sutured wounds can be uncovered and allowed to get wet in the first 48 hours after minor skin excision without increasing the incidence of infection.
Effects of a Fast-track Area on Emergency Department Performance


To determine if a fast-track area (FTA) would improve emergency department (ED) performance, a historical cohort study was performed in the ED of a tertiary care adult hospital in the United States.

Two consecutive one-year periods, pre-FTA opening from February 1, 2001 to January 31, 2002 and after FTA opening—from February 1, 2002 to January 31, 2003 were studied. Daily values of the following variables were obtained from the ED patient tracking system:

- To assess ED effectiveness: waiting time to be seen (WT), length of stay (LOS).
- To assess ED care quality: rate of patients left without being seen (LWBS) mortality, and revisits.
- To assess determinants of patient homogeneity between periods: daily census, age, acuity index, admission rate and emergent patient rate.

Results showed that despite an increase in the daily census (difference [diff] 8.71, 95% confidence interval [CI] 6 to 11.41), FTA was associated with a decrease in:

- WT (diff -51 min, 95% CI [-56 to -46])
- LOS (diff -28 min, 95% CI [-31 to -23])
- LWBS (diff -4.06, 95% CI [-4.48 to -3.66])

There was no change in the rates of mortality or revisits.

In conclusion, the opening of an FTA improved ED effectiveness, measured by decreased WT and LOS, without deterioration in the quality of care provided, measured by rates of mortality and revisits.

Impact of Dietary Habits on Stone Incidence

Citation: Siener R. Urol Res. 2006;34:131-133.

Changes in dietary habits and lifestyle are suggested to contribute markedly to the rise in the prevalence and incidence of urolithiasis during the past decades.

Insufficient fluid intake and diets rich in animal protein are considered to be important determinants of stone formation. Overweight and associated dietary pattern additionally contribute to the increasing incidence and prevalence of stone disease. Reduction of overweight through extreme fasting or high-protein weight-loss diets (e.g., Atkins diet) also appear to affect stone formation.

Although there is evidence that changes in dietary habits can reduce urinary risk factors and the risk of stone formation, further randomized controlled clinical trials are necessary to evaluate long-term effects of dietary interventions on stone disease.
Mr. J.V. is a 28-year-old white male who presented to urgent care with a six-hour history of chest pain described as pressure in the sternal area radiating to the left shoulder; back pain was a 5/10 at time of visit, and constant with no accompanying nausea, dizziness, vomiting, or diaphoresis.

The patient described an inability to breathe deeply and a sensation of water stuck in the mid esophagus when drinking.

Of note, he had similar episodes which resolved.

Observations and Findings
Well-appearing male in no distress.

Pmhx: childhood asthma
Meds: Allegra prn
Social hx: no drugs, etoh, or tobacco
Rox: no recent illness, no abd pain, no lbp, no extremity pain, no headache, syncope, no confusion, no cocaine use

Physical: t-96.7, p89, rr14, bp110/80, o2 sat 97% ra, peak flow 500

HEENT: nl neck: no jvd, no retractions
Resp: ctab no wheezes, no crackles
Cor: rrr no m/r/g
Gl: +bv ntnd, no rbnd or grng, no pulsatile masses

Musculoskeletal: pain on palp along chest wall parasternal but no crepitations

Diagnostic testing: EKG which revealed sinus arrhythmia and incomplete rbbb

Diagnosis
The x-ray reveals extensive pneumomediastinum with air surrounding the heart and anterior aorta and extending into the superior mediastinum and lower neck (Figure 1).

Discussion
Pneumomediastinum or mediastinal emphysema is a condition in which air is present in the mediastinum. This can be caused by trauma or disease. It is uncommon and occurs when air leaks from the lung or airways into the mediastinum.

Causes: Excessive coughing, sneezing, vomiting, or repeat-ed valsalva maneuvers such as during childbirth or defeca-tion. It may also occur during rapid ascents in altitude or scuba diving. It can also be associated with pneumothorax or other diseases (e.g., COPD or asthma).

Symptoms: Usually, chest pain below sternum that may radiate to neck and arms. Pain may be worse with breathing or swallowing.

Signs and tests: On physical, crepitations may be felt. Chest x-ray confirms presence of the abnormality.

Treatment
Often, no treatment is required as air is absorbed from the mediastinum. If pneumothorax is present, a chest tube is required. In rare cases, large amounts of air may compress veins affecting blood pressures.

Course of illness: In our patient, further investigation revealed no precipitating cause for the abnormality.

Follow up x-rays revealed reabsorption; the patient returned to normal activity without complaints.

Acknowledgment: Case submitted by Michael Talkar, MD, family/urgent care physician, locum tenens currently on assignment in Arizona.

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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.**

A 36-year-old obese woman presents with upper right back pain 10 days after a normal child birth. Pain is worse on coughing. Otherwise, she is fit and well.

Upon examination, you find:
- No shortness of breath
- Normal oxygen saturation
- Patient is afebrile
- Auscultation: Reduced breathing sounds in right base, fine crackles on right

View Figure 1, take these findings into account, and consider what your next steps would be. Resolution of the case is described on the next page.
Initially, the radio-opacity seen in the right base was interpreted as pleural effusion. The official read of the chest x-ray led to suspicion of Hampton’s hump in the right lower lobe.

Though the patient never had any shortness of breath, in view of her unusual pain, pathological x-ray, recent childbirth, and obesity, she was referred to hospital, where chest computed tomography showed a massive pulmonary embolus (PE).

**Conclusion**

It was imperative to rule out PE in this case. Factors that might have led the physician to discount that possibility—no shortness of breath or signs of deep-vein thrombosis and an x-ray that failed to inspire suspicion—should be overshadowed by the patient’s risk factors and recognition that plain film may show little evidence of PE (Figure 2).

*Acknowledgment: Case presented by Ohad Sheffy, MD, who treated and referred the patient described.*
The Emergence of Retail Clinics

**Urgent message:** Retail-based healthcare clinics are a growing phenomenon. A report from the California HealthCare Foundation, excerpted here, says public perception is split, and their economic viability remains to be seen. How do their services stack up against those offered by urgent care?

The first in-store clinics appeared in 2000 in the Minneapolis-St. Paul (MN) metropolitan area and were operated by QuickMedx, which later became MinuteClinic. The company’s founder, Rick Krieger, says the business idea came to him when he tried to get his son in to see a doctor for a strep throat test. He recalls, “We started talking about why there was not a way to just get a simple question answered or a simple test, like strep throat, done. Why was there not some way to just slip in and be seen quickly? Wasn’t there some way to get care in a timely manner for a relatively simple illness? A quick, convenient way to diagnose without waiting in the ER or clinic for two hours? We are not talking about diabetes, cancer or heart disease. We are talking about colds and throat and ear infections.”

Krieger and two business partners (one of whom was a family doctor) set up pilot clinics in cooperation with Cub Foods, a local grocery chain. The first clinics charged a $35 flat fee for rapid testing, diagnosis, and prescriptions for 11 common medical conditions, including strep throat, influenza, ear infection, pink eye, and seasonal allergies. They did not accept insurance, which Krieger explains as a deliberate, strategic choice “to compete on a purely retail level and be able to profit on a copayment-type basis.”

The pilot program, though limited, was considered successful, and the founders began to formulate an aggressive growth strategy. In 2005, MinuteClinic appointed a new CEO: Michael Howe, the former CEO of Arby’s. Meanwhile, other clinic companies and retailers entered the game, and there are now a dozen clinic operators running about 90 clinics across the country, a dozen more planning to open clinics in the near future, and hundreds of store openings planned for 2007. As the trend has gathered momentum, the medical and busi-
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EMR Practice Management Total Solution
Business models have shifted. Most now accept insurance and have expanded their range of services.

**Description**
In-store clinics measure between 200 and 500 square feet and are quite spare with a simple setup of a reception desk and one or two exam rooms. Retailers often use space that is generating less income per square foot than the clinics are anticipated to provide, so some clinics occupy former video game arcades, vending machine areas, or waiting areas near pharmacies. The retailer has a one-time cost of about $20,000–$100,000 to make the space “broom-ready” (upgrading as deemed necessary by the clinic concept and the contract between retailer and clinic company), and the clinic companies pay for the physical retrofitting. This ranges from $25,000 for a basic clinic with one basic room to $145,000 for a multi-exam room clinic offering broader services; the average setup cost is about $50,000.

Most clinics are staffed with nurse practitioners (NPs) supervised by an off-site physician who is available by phone for consultation, but some clinics employ full-time physicians. Salaries for NPs are typically much lower than those of physicians. The average salary for an NP in 2005 was $74,812 nationally and $86,674 in California.3

The clinics use proprietary software systems that claim to provide evidence-based treatment guidelines. These serve as a diagnostic tool as well as a checklist to constrain the types of conditions that can be treated at the clinic. There are referral relationships with local physicians or hospitals for more serious or unusual conditions. Clinics are open extended hours and weekends. Most visits take about 15 minutes and don’t require an appointment. Prices are clearly posted and range from $40 to $70. Some clinics accept insurance and all provide documentation for consumers to file for reimbursement on their own.

Early usage and cost data, while still quite thin, are beginning to show some patterns. At MinuteClinic, the five most frequently treated conditions are pharyngitis, bronchitis, otitis media, sinusitis, conjunctivitis, and female urinary tract infection. In terms of overhead cost, a preliminary analysis by HealthPartners indicates that on average, MinuteClinic episodes are about 15% less expensive than those initiated at a physician’s office or an urgent care setting, based on one year of claims experience—producing a per-visit savings of $31. (See Figure 1.)

**Retail Approach to Healthcare**
In many ways, in-store health clinics are a retail experiment that has captured the attention of the healthcare industry. Their existence depends on retail leases, while their success depends on the patronage of customers who may think of their visit as a convenient extension of a shopping trip, and not necessarily an extension of healthcare. Instead of a suite in a medical building or the wing of a hospital, one Florida clinic describes its location as a storefront in a local shopping mall along with “Starbucks, Quiznos, and Planet Smoothie, right next to El Pollo Loco.”4

Retailers are naturally consumer-centric and many of the key players in the retail clinic industry come from...
consumer backgrounds, such as packaged goods, fast food, and travel companies. It is important to understand how these companies make decisions. Retailers generally see two ways to gain from in-store clinics. On the revenue side, they hope the clinics will attract new customers and drive sales elsewhere in the store, especially prescription and over-the-counter purchases. On the savings side, some retailers see an opportunity to manage the expense of providing healthcare to their employees. Not only are the clinics a relatively cheap way for employers to provide healthcare compared with other care delivery options, but they could reduce absenteeism for doctor’s visits because employees could be treated for minor conditions within the workplace.

However, it is important to note that such scenarios come with a basic caveat: If retailers and clinic companies don’t achieve the expected results, they will close the clinics. Unlike the healthcare industry, retail product life cycles are very short. Retailers continually try new formats and services and are adept at removing less profitable lines of business. In fact, there have already been closings in areas where the clinics didn’t gain sufficient traction. In Baltimore, MinuteClinic is closing its six Target locations after less than two years in operation and opening seven clinics in nearby CVS drugstores. The companies indicated that the closings were not a retreat from the retail clinic concept, but rather a decision to focus on other markets and create different types of service offerings more appropriate to their individual corporate strategies. Either way, this is typical of the retail mentality: fast turnaround, rapid consumer testing, and constant reinvention of the model.

It is also telling that the rollout of in-store clinics has been limited. To put this in perspective, there are more than 3,800 Wal-Mart stores in the United States. Only 14 now have in-store clinics (0.2% of stores) and official plans call for rolling out just 50 more in 2006-2007 (to 1.5% of stores). Of the 100 million people who walk through Wal-Mart’s doors each week, only 1,000 visit a clinic. However, this picture could change. The company has formally stated that it will expand the use of in-store clinics. Much will depend on how aggressively Wal-Mart pursues this expansion plan.

Other retailers are approaching these clinics with similar caution, testing them in limited markets and relying on shorter-term contracts with outside clinic companies to evaluate the business impact. This phenomenon could either take off overnight or languish, depending upon whether medical clinics fit into retailers’ overall business strategies and relationships with consumers.

Scope of Practice

Scope of practice varies by clinic company, by state, and by retail location, but there are strategic, practical, and regulatory reasons for in-store clinics to maintain a relatively narrow scope of practice.

Strategically, the clinic model relies on low prices, quick throughput of patients, minimal staff, and proprietary software systems that can reliably manage selective medical diagnoses and information. This is only possible with a short list of simple procedures.

Most in-store clinics are housed in small areas with physical limitations. At most, they have one or two exam rooms with a sink and/or toilet close by (and a few do not even have sinks or private rooms). The clinics explicitly aim to treat common ailments that can be diagnosed quickly and accurately, within 15 minutes. This keeps quality control manageable and overhead low. It also effectively constrains for the range of services they are able to provide for patients. Limited medical records are kept (usually electronically, unless paper backups are required by the state), very little medical equipment is needed, there are no patient gowns (hence no laundry service), and no time-consuming examinations. The diagnostic tests typically offered are compact and rapid and offer simple, accurate results, exempting them from the federal regulations that govern more complex lab procedures.

Clinic companies adjust the services they offer in order to maximize profits and respond to local markets, and there are sometimes differences in scope of practice from one location to the next. To date, most clinics have opened in suburban areas, where affluent shoppers might be willing to pay extra for fast, convenient healthcare. They have emphasized convenience in their marketing, with slogans such as, “You’re sick. We’re quick” (MinuteClinic), “Get well. Stay well...Fast!” (RediClinic), and “Great care. Fast and fair” (Solantic). The clinics initially required consumers to pay in cash for this convenience, but now some insurance companies cover part or all of the in-store clinic visit costs, making the clinics more cost-effective for their subscribers. For these consumers, clinics are at cost parity with a similar visit to a primary care physician, but still have a “time cost” for the consumer to submit the claim.

While the early models focused on “get well” care (diagnosing and treating acute or unexpected illness), the newer model places a greater emphasis on “stay well” care. Web Golinkin, CEO of RediClinic (a subsidiary of InterFit), estimates that his clinics now provide about 75% get-well and 25% stay-well services,
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with some seasonal fluctuation due to flu shots and school physicals.7

“We’d like to get to more stay-well,” he says. “We believe that convenience and affordability are just as important to consumers in prevention as they are in treatment, and that consumer interest in preventive services will grow over time.”

In addition, although the clinics started out mainly in suburban enclaves, they are now appearing in less affluent communities where under-insured and uninsured consumers are willing to pay cash for clinic care, not only because it is convenient, but also because they have limited access to healthcare elsewhere.

Regulatory Trends

Regulation of retail clinics varies from state to state. The clinics are typically staffed with NPs who have different degrees of autonomy in each state. In states such as Minnesota (where clinics have the largest presence), NPs can perform a range of functions with no physician on site. In other states, the physician must be physically present for some or all of the time. Each state has different requirements for credentialing and licensing, as well as for physician oversight. These issues may expand, limit—or even prohibit—in-store clinics and the specific services they can provide on a state-by-state basis. Regulatory requirements for the extent of the physician’s involvement make a significant difference in clinics’ labor costs, so that in some states, although it is technically possible to operate licensed retail clinics, legal practice parameters would make it unprofitable.

Regulatory requirements for the extent of the physician’s involvement make a significant difference in clinics’ labor costs, so that in some states, although it is technically possible to operate licensed retail clinics, legal practice parameters would make it unprofitable.

Warns RediClinic CEO Golinkin, “If clinics are going to realize their full potential to provide people with easier access to high-quality, routine healthcare at affordable and transparent prices, some of the regulatory barriers in some states will have to be torn down.”

Primary care physicians, whose practices overlap substantially with retail clinics, have been vocal about the downsides of this new site of care. They have expressed concerns about quality and continuity of care, especially in handling patients with serious or chronic conditions. People with chronic conditions are theoretically attractive to retailers and clinic companies—they are potentially very profitable repeat customers—but critics are quick to point out that clinics are not set up to function as a “medical home” for patients with chronic disease.

In response to these concerns, the clinic operators have been firm about their limited scope of practice. For instance, all three Quick Quality Care locations in Florida Wal-Marts have fully outfitted x-ray rooms with lead-lined walls but are not yet using the equipment because, according to CEO Jack Tawil, “we want to be clear that we’re not an urgent care center.”10

In-store vs. Urgent Care

In-store or retail-based clinics differ from the average urgent care center in several ways:

- A limited service offering
- Co-location with a pharmacy
- Lower cost structure

Most in-store clinics don’t have much space for private rooms, toilets, or sinks. This means that they tend to focus mostly on noninvasive procedures that don’t require fluid samples or disrobing.

Retail Clinics and the Healthcare Delivery System

Given the many choices consumers have to treat acute episodic ailments, how will the retail clinics compete against or integrate with urgent care clinics, hospital emergency rooms, and primary care physician practices?

Retail-based clinic companies are very careful to distinguish their services from emergency care and primary care providers. They train their staff to refer away any unusual or potentially complicated cases and randomly audit their practitioners on a regular basis to be sure that these standards are being followed.9 When there is some potential overlap of services, the clinics proceed with caution, even if it means foregoing revenues. For example, all three Quick Quality Care locations in Florida Wal-Marts have fully outfitted x-ray rooms with lead-lined walls but are not yet using the equipment because, according to CEO Jack Tawil, “we want to be clear that we’re not an urgent care center.”10

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In response to these concerns, the clinic operators have been firm about their limited scope of practice. For instance, all of them offer treatment for seasonal allergies but most do not treat asthma. Most do not treat chronic conditions such as diabetes. The clinics also form strong referral relationships with doctors in their communities before they open. Sometimes the referral process even works the other way. Michael Howe, CEO

Americans to manage their healthcare expenditures most cost efficiently and mitigate out-of-pocket costs.8
of MinuteClinic, says, “In established markets, when physicians understand the model they refer patients to MinuteClinic. For example, on weekends when patients call in, the doctor can say if it’s within the MinuteClinic [scope of practice], so our clinics allow primary care physicians to provide their patients with a better experience…and it frees them up to focus on high-risk or chronic conditions.”

In terms of integrating patient information with other providers, all the clinic companies interviewed indicate that they keep centralized electronic medical records that are accessible from any of their locations. These records include a brief medical history taken at the time of service, prescriptions, and test results. If requested, the clinics will print a copy of the record from each visit for the consumer, but they do not electronically transfer the medical records to the primary care physician or referred physician. Each of the clinic companies indicates that they have invested in software to enable the collection and storage of data for patient records in compliance with state and federal regulations. In terms of electronically sharing records, MinuteClinic medical director Woody Woodburn says, “We’re ready to push out data; we’re just waiting for national standards of interoperability.”

AtlantiCare plans to integrate its electronic medical record system across its retail clinics, hospitals, urgent care, and primary care locations within 12 to 18 months.

For consumers with insurance, retail clinics can cost more out of pocket than typical copayments for care at other sites. Even clinics that accept insurance usually charge $20 to $25 for a visit (insurers simply discount the standard “menu price” of care by some amount), compared with $10 to $25 copayments for physician office visits and $20 to $100 copayments at the emergency room. Clinics that don’t accept insurance cost much more out of pocket and the charges may or may not be reimbursable if submitted to the insurer. Until this payment disincentive is resolved, clinics will continue to appeal mainly to high-income consumers who are willing to pay more for convenience, and uninsured consumers who either have no cheaper alternative or cannot afford the wait time or missed work that a visit to a clinic or ER typically entails.

Early Conclusions

Whether retail clinics are a flash in the pan or become a permanent part of the healthcare landscape, their emergence and the reaction of consumers and providers to them raises a series of interesting issues.

As the cost of healthcare continues to rise, employers and governments will continue to shift some of that burden onto employees and will structure incentives for them to seek cheaper care. In the past few years, employers offered reduced copayments for generic prescriptions along with significantly higher copayments for brand name drugs, and consumers responded by opting for generics more frequently. Insurers have already begun to offer a similar financial incentive to use a retail clinic versus the more expensive family doctor, urgent care, or emergency room options. Given the rising number of employers offering high-deductible health plans, this paradigm of consumer financial incentives and disincentives has already started to change the way Americans select and receive healthcare.

The American Academy of Family Physicians, American Academy of Nurse Practitioners, and American Medical Association have all gone on record with opinions about retail clinics. Physician groups urge close physician oversight of non-physician providers working in the retail clinic setting, and nurse practitioners point to the needs of uninsured and under-insured Americans and the potential of retail clinics to offer access. As the clinics become more widespread and more patients and providers have experiences with them—positive and negative—will providers embrace retail clinics as a cost-effective, appropriate adjunct to a primary care provider? Or will physicians and others in the industry reject the clinics?

Retail clinics are a market phenomenon—people elect to use them and generally pay out of pocket. As more Americans use the clinics, we can expect them to “vote with their feet.” People are frustrated with the current system, and most surveyed to date are open to trying clinics but worried that they might be misdiagnosed.

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6. Congress passed Clinical Laboratory Improvement Amendments (CLIA) in 1988 to establish quality standards for laboratory testing and in 1992 published guidelines for waived tests: simple laboratory examinations and procedures that are cleared by the Food and Drug Administration for home use; employ methodologies that are so simple and accurate as to render the likelihood of erroneous results negligible; or pose no reasonable risk of harm to the patient if the test is performed incorrectly.
7. Interview with Web Golinkin, CEO of RedClinic, March 24, 2006.
10. Interview with Jack Tawil, chairman and CEO of Quick Quality Care, June 8, 2006.
11. Interview with Michael Howe, CEO of Minute Clinic, April 22, 2006.
STATES HAVE ENACTED STATUTES, and courts have prof-
ered an abundance of case law on the treatment of
minors. There have been no reports of physicians being
held liable for rendering emergent or urgent care to
minors prior to obtaining parental consent.
Still, informed consent issues surrounding the care and
treatment of minors are often a source of confusion and are, at
best, problematic.
Essentially, competency to give consent is determined in the
same way for both minors and adults:

- Does the individual understand what he or she is consent-
ting to?
- Can the person paraphrase the information given?
- Can the patient think in the abstract and have an under-
standing of the future consequences of either accepting
or refusing the treatment?
- Is the decision entered into voluntarily, without duress?
- Given the nature of the decision, does the patient under-
stand the risks and benefits and its reversibility?

If a minor is legally capable of giving consent, the patient’s right
of confidentiality also attaches. However, it is prudent to try to per-
suade the minor to allow notification of the guardian so the par-
ent can take part in the decision-making process; this is especial-
ly preferable if the minor is seriously ill. Statutes allowing minors
to consent do not mandate parental notification unless the fail-
ure to do so would place the minor in additional risk.

Historically, issues surrounding parental availability were
uncommon. Today, however, family dynamics have changed and
children may be left unattended for long periods or left in

“Competency to give consent is determined in the same way
for minors and adults.”

the care of siblings, neighbors, grandparents or babysitters. Dur-
ing these times, who can consent for the child’s care? Who can
refuse care and how does an urgent care provider sift through
this web to do what is best for the child?

Low Risk: Emergency Care
The most clear-cut scenario is when an emergency situation
exists. Care should never be delayed while waiting for consent
when evaluating a child with an emergency condition. In an
emergent or urgent situation, any patient young or old can be
**HEALTH LAW**

Treated without consent, since consent is implied. What constitutes an emergency condition is broadly defined and courts are reluctant to second-guess a practitioner's subjective interpretation surrounding the facts of the situation.

Parental consent to treat the minor is also not required in cases of alleged or suspected child abuse; the proper governmental authorities must be contacted in such a situation.

In some states, a caretaker can assume a parental role by acting in loco parentis (in the place of a parent). However, physicians should still attempt to contact the parents as soon as possible and document those attempts in the medical record.

"The definition of an emancipated minor varies from state to state."

Most importantly, again: urgent care physicians should never delay the urgent or emergent care of a minor while waiting for consent. Common sense should prevail; thus, physicians should be guided by the proviso to provide what is in the patient's best interest.

**The Question of Competence**

In some instances, a minor is deemed competent to consent for his own treatment. This competence is closely aligned to cognitive ability, as opposed to being strictly tied to chronological age. All states allow a minor to consent for the diagnosis and treatment of drug- and alcohol-related issues and for the diagnosis and treatment of sexually transmitted disease. Some states also allow for the diagnosis and treatment of issues surrounding pregnancy, HIV, and AIDS.

Many state’s statutes also address consent issues surrounding an emancipated minor. However, the definition of an emancipated minor varies from state to state. Some of the typical conditions which define “emancipation” are marriage, minors in the military, pregnancy, minors emancipated by court order or decree, minor mothers, and minors who are supporting themselves.

When minors present in a non-emergency situation, or with a condition other than the aforementioned exceptions, consent for treatment must be obtained from the parent or guardian.

For routine health matters, consent may be given by any number of persons acting in loco parentis (e.g., foster guardians, adult relatives, officials in child welfare agencies, or the juvenile justice system). If the minor is not legally competent to consent for treatment and presents with a guardian, the provider should still make every effort to inform the minor patient of the treatment to the extent of their cognitive capacity.

**When Minors Refuse Care**

The clinician should be extremely wary of treating a minor patient who declines treatment. If a minor refuses routine care after its explanation and has an intelligent understanding of the treatment and available options, a provider who continues with the treatment over the minor’s reasonable objections runs a considerable legal risk unless a medical emergency makes the treatment time critical.

If the treatment is needed in the immediate future, the provider should obtain a court order before proceeding; this can be obtained directly via the judicial system or indirectly through the state’s child protection agency.

If the treatment is not necessary in the reasonably foreseeable future, the minor should be discharged with an appropriate follow-up referral.

Generally, providers should not order drug or alcohol screens on a minor unless medically justified.

**Summary**

Urgent care physicians should have an understanding of their own state’s statutes surrounding the treatment of minors. To date, courts have not held physicians who acted in good faith liable for initiating the emergent or urgent care of minors. Generally, you should be guided by what is in the patient’s best interest; however, it is important to document your attempts to reach a guardian and why you believed the minor’s condition warranted treatment prior to obtaining parental consent.

In non-emergent situations, physicians should proceed with extreme caution with minors who do not meet the criteria for legal capacity or emancipation and who refuse care despite the ability to make an intelligent decision.

Minors who present without a parent and whose condition does not require treatment in the foreseeable future should be discharged with appropriate follow-up. It is prudent for the urgent care physician to form relationships with local emergency departments, child protective agencies, and the courts to prospectively formulate guidelines surrounding the care and treatment of minors.

**TAKE-HOME POINTS**

- Care should never be delayed to wait for consent in an emergency situation.
- Rules on “patient competency” can be tricky.
- Try to persuade the minor to let the parent take part in decision-making.
- No parental consent is required for STD treatment or if child abuse is alleged or suspected.
- Be guided by what is in the patient’s best interest.
- Treating a minor patient who declines treatment places the clinician in legal risk.
From a business perspective, successful operation of an urgent care clinic is predicated on the owner’s ability to promote services in an aggressive and meaningful, yet cost effective, manner.

This necessity is even more pronounced when occupational health services are included in the mix because such a “blended clinic” deals with two different prospect universes.

The starting point in promoting an urgent care practice is to develop and commit to a forward-thinking marketing mindset. Six basic principles govern this mindset:

**Marketing is all about tomorrow.** Marketing initiatives are often uninspired repeats of what has worked for you in the past, or what is working elsewhere. Yet marketing, by definition, involves getting the attention of your prospects, which implies that you need to be fresh, innovative, and different.

**Try new approaches.** To set your clinic apart from competitors, force yourself to introduce at least two new marketing techniques every year. To reduce risk, experiment with marketing initiatives that are neither too expensive nor time consuming.

**Embrace technology.** Over the past two decades, innovations in communications technology—from cell phones to the Internet—have driven many new marketing ideas. Further advances in technology are anticipated. It behooves the creative marketer to keep an eye on this ball and react quickly when new communication mechanisms become available and trendy.

**Collectively brainstorm.** To generate nouveau marketing tactics, sit down for 30 minutes and list every wild and crazy idea you can think of—and ask your colleagues to do the same. Sure, you may throw away 90% of the ideas (and generate some laughter), but the chance of coming up with a genuine winner will increase dramatically.

**Recognize linkages.** Tie marketing efforts to your business activities. For example, if you are opening a new clinic, don’t just send out open house invitations; the one-shot approach may not be the best way to capitalize on your investment.

Instead, build momentum for a grand opening by publicizing the new location through e-mail and voicemail messages, running ads, placing signs in existing facilities and/or sponsoring a contest with prizes donated by local merchants who will receive publicity in return.

The objective is to make prospective clients and patients think about your new clinic—an essential first step in getting them to come to your scheduled open house.

**Hedge your bets.** Think of your package of marketing techniques as a portfolio, similar to your personal investment portfolio. Balance no-risk and moderate-risk tactics with higher-risk activities. Maintain some tried-and-true techniques each year, consistently divest of tired techniques, and add new tactics in an incremental manner.

In summary, it is essential to think ahead and adopt a marketing plan that is not simply reactive to norms of the day. This takes discipline, creativity, and brainstorming. Make the commitment, and you’ll discover a bonus: innovation is invariably fun, and having fun seems to be inevitably correlated with effective marketing.
The urgent care practitioner may not live by coding alone, but proper reimbursement depends on it. To that end, Dr. David Stern, a certified coder who is in great demand as a speaker and consultant on coding in urgent care, will offer answers to commonly asked questions in every issue of JUCM.

In this, our inaugural issue, he tackles the key issue of evaluation and management (E/M) coding.

**Q.** Why is the (E/M) code important in urgent care?

**A.** Because the majority of urgent care revenue is derived from E/M codes (mostly codes 99210-99215), accurate E/M coding is the most important coding variable in urgent care revenue. Inaccurate E/M coding is, also, the number-one reason that urgent care centers run into compliance issues with payors and regulatory agencies.

**Q.** I see that the Centers for Medicare and Medicaid Services (CMS) lists two sets of guidelines, 1995 and 1997, for coding E/M codes. Which one should I use? May I use either? May I use both?

**A.** You can use either. CMS has instructed its auditors to code the chart using both E/M guidelines and to use whichever set of results is most in the physician’s favor. Thus, you may use either set of E/M guidelines to code a given chart; however, you may not mix and match the aspects of each set of guidelines to code a given chart. In other words, you may not use the level of history from the 1997 Guidelines and the level of physical exam from the 1995 Guidelines to determine the E/M level for a single visit.

**Q.** What are the major differences between the 1995 and 1997 guidelines for E/M coding?

**A.** The major difference between the two guidelines lies in the documentation of the physical exam. The 1995 guidelines are more imprecise. For example, they allow the physician (and the auditor) to choose their own definitions of a “detailed” examination of an organ system. On audit, this vagueness often leads to differences of opinion—even among expert coders—on the appropriate level of exam on any given chart. The 1997 guidelines are much more explicit, listing specific elements and specific counts of these elements that count toward each specific level of physical examination.

**Q.** For E/M coding, can I count the same item in both the History of Present Illness (HPI) section and the Review of System (ROS) section?

**A.** Yes. Although some coders avoid this and call it “double dipping,” CMS actually allows the provider to get credit for the same documented elements in both the HPI and ROS. For example, if you document “fever” in the ROS, you can also count “fever” toward the “related symptoms” in the HPI. A well-documented chart, however, rarely needs to nab elements from other sections to justify a specific coding level.

Note: Auditors for some payors do reject the CMS standard and will not credit the physician for the same information in both the HPI and ROS, so some practices have decided to accept a few lower E/M code levels by adopting a policy of no “double dipping” for all claims. This helps avoid nuisance problems with payor audits.

**Q.** If I do count the same item in both the HPI in the ROS section, do I need to document the item twice?

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

Next month in Coding Q & A: Get the low-down on the newer code Sgo88, “Services provided in an urgent care center.”

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**CODING Q & A**

A. No. It does not matter where the information is located, as long as it is documented somewhere on the chart.

Q. May I count the same item toward two different elements in the HPI?

A. No. For example, if the patient tells you that the cough is produced when “lying down,” this element cannot count toward both “context” and “modifying factors” of the HPI.

Q. What if the item is documented in the section labeled Past Medical History (PMH); can I still count it toward ROS or HPI?

A. Absolutely. Coders should not be bound to any of the labels on your chart template. For example, if the date of last menses is listed in the PMH, this item may be used to count toward the genitourinary section of the ROS; or, if the patient is complaining of amenorrhea, this item could be used as documentation of duration in the HPI. Note: It is still best to try to document the appropriate information needed for each code in the appropriate section, as many auditors for payors may lack the clinical acumen to recognize such fine distinctions.

Q. What is the so-called “bell curve” for E/M codes for urgent care centers?

A. There is no specific bell curve (percentage distributions of 99201-99205 and 99211-99215) published for urgent care centers. CMS has published the bell curves for many other specialties, and these all tend to be quite similar, with peaks on 99203 and 99213 in most specialties.

For two reasons, however, urgent care physicians may be undercoding and losing significant revenue if they emulate these bell curves.

First, urgent care centers see patients with new problems which may increase the complexity of medical decision making. In addition, many studies of physicians find that 30% to 50% of charts are undercoded by at least one level.

Thus, following the bell curve of other practicing physicians may simply be emulating their patterns of undercoding, resulting in reduced revenue for the urgent care practice in 30% to 50% of patient visits.

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**Call for Articles**

The *Journal of Urgent Care Medicine (JUCM)*, the Official Publication of the Urgent Care Association of America, is looking for a few good authors.

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

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

Please e-mail your idea to JUCM Editor-in-Chief Lee Resnick, MD at editor@jucm.com.

He will be happy to discuss it with you.
Career Opportunities

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Marshfield Clinic is directed by 700+ physicians practicing in over 80 specialties at 40 locations in central, northern and western Wisconsin. We are seeking BC/BP Family Practice physicians at the following locations:

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**Space is Now Available…**

The *Journal of Urgent Care Medicine* (*JUCM*). The Journal serves an urgent care market that is experiencing explosive growth. *JUCM* offers a mix of practical, peer-reviewed clinical and practice management articles addressing the unique practice needs of today’s busy urgent care clinician.

**Circulation: 10,000/Published 11 times per year**

This circulation includes physicians, nurse practitioners and physician assistants practicing in urgent care settings nationwide.

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

In this issue, a look at the breadth of services offered by respondents to the survey:

Areas covered in the initial UCAOA industry survey included urgent care structures and organization, services offered, management of facilities and operations, patients and staffing, and financial data. UCAOA members who have ideas for future surveys should e-mail J. Dale Key, UCAOA Survey Committee chair, at dkey@medachealth.com.

Next month in Developing Data:
How patients pay their bills, and what that adds up to for you.
LEVAQUIN (levofloxacin) TABLETS
LEVAQUIN (levofloxacin) ORAL SOLUTION
LEVAQUIN (levofloxacin) INJECTION
LEVAQUIN (levofloxacin) 5% dextrose INJECTION

Pharmacology

Inhibits bacterial DNA gyrase, an enzyme essential to bacterial DNA replication. LEVAQUIN has in vitro activity against many Gram-negative and Gram-positive aerobic bacteria, including:

- Pseudomonas aeruginosa
- Staphylococcus aureus
- Escherichia coli
- Klebsiella pneumoniae
- Neisseria gonorrhoeae
- Haemophilus influenzae
- Enterococcus faecalis
- Proteus mirabilis
- Providencia stuartii

Levofloxacin is not active against Pseudomonas cepacia, Pseudomonas maltophilia, or Mycobacterium avium complex. As with other quinolones, levofloxacin should be used with caution in any patient with a known or suspected CNS disorder that may predispose to seizures or lower the seizure threshold. (See WARNINGS AND ADVERSE REACTIONS.)

Levofloxacin was not mutagenic in the following assays:

- Ames bacterial mutation assay
- Mouse lymphoma assay
- Chinese hamster V79-HGPRT forward mutation assay
- In vivo mouse micronucleus test

Levofloxacin was not an antimutagen in any of the following assays:

- In vitro mammalian cell assays
- In vivo mammalian cell assays
- In vivo mammalian animal assays

Levofloxacin was shown to be non-mutagenic in the in vivo mammalian cell assays at the highest levofloxacin dose level (300 mg/kg/day) used in the photo-carcinogenicity study. Dermal levofloxacin concentrations in the hairless mice ranged from 25 to 42 µg/g levofloxacin dose level and was therefore not photo-carcinogenic under conditions of this study. No evidence of mutagenic activity was observed in this study after a single oral dose of levofloxacin to CD-1 mice at the human dose based upon relative body surface area and intravenous doses as high as 100 mg/kg, corresponding to 10 times the highest human dose, were tested. However, one study in rats showed a weak positive result for the carcinogenic potential of levofloxacin. This weak positive effect was observed when rats were dosed orally at a high 50 mg/kg which corresponds to 2.5 times the highest human dose based upon relative body surface area, or when dosed intravenously as high as 25 mg/kg, corresponding to 0.5 times the highest human dose based upon relative body surface area.

Pharmacokinetics

Levofloxacin is used as a monotherapy for the treatment of bacterial infections. Levofoxacin is well absorbed after oral administration, and peak plasma concentrations are achieved within 1-3 hours of ingestion. The extent of absorption is not altered by food (see DOSAGE AND ADMINISTRATION). Levofoxacin is extensively metabolized in the liver and conjugated in the urine. The plasma half-life in adults is approximately 10 hours. The pharmacokinetic parameters of levofloxacin in elderly adults are similar to those in younger adults. The elimination half-life is not altered by renal or hepatic disease in these conditions. In patients with hepatic severe impairment, the elimination is prolonged, resulting in increased plasma levels.

PEDIATRIC USE

Pediatric use: A study (12-month, 810 mg/kg/day to rats caused a decrease in fetal body weight and increased fetal mortality. No teratogenicity was observed when rabbits were dosed orally as high as 50 mg/kg/day. The results of an 8-week study in rats showed no evidence for a deleterious effect on the fetus. (See WARNINGS.)

There are, however, no adequate and well controlled studies in pregnant women. Levofoxacin should be used only for pregnant women if the possible benefit justifies the potential risk to the fetus. (See WARNINGS.)

Levofoxacin has not been measured in human milk. Based on data from other drugs in this class, it can be assumed that significant levels of levofoxacin could be transferred to a nursing infant. The potential for adverse effects on nursing infants is not known. A decision should be made whether to discontinue breastfeeding or to discontinue the drug, taking into account the importance of the drug to the mother. (See WARNINGS.)

Levofoxacin is mainly eliminated through the hepatic route. Therefore, patients with hepatic impairment may require a dosage adjustment (see DOSAGE AND ADMINISTRATION). Plasma levels may increase in patients with severe renal impairment (creatinine clearance <10 ml/min). (See DOSAGE AND ADMINISTRATION.)

Geriatric Use: In clinical trials using multiple-dose therapy, ophthalmologic abnormalities, including corneal, conjunctival, and retinal changes, were reported in patients aged 65 years or older. These abnormalities were reported more frequently in patients ≥80 years compared to patients <80 years. The frequency of these abnormalities was highest in patients >90 years. The mechanism of ophthalmologic abnormalities is not clearly identified. In general, ophthalmologic abnormalities are not considered to be clinically significant. Therefore, no dosage adjustment is required in elderly patients. (See DOSAGE AND ADMINISTRATION.)

Adverse Reactions

Because clinical trials are conducted under highly controlled conditions, adverse reactions observed in clinical trials may not reflect the rates observed in practice and such data should be used with caution to interpret the adverse reaction rates in clinical trials may not reflect the rates observed in practice and such data should be used with caution to interpret the adverse reaction rates in clinical trials or the drug's potential risk-benefit relationship.

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Theophylline: Elevation of theophylline levels in the setting of concurrent warfarin and levofloxacin has been reported in patients receiving therapy with quinolones, including levofloxacin. Quinolones may also cause increased intracranial pressure and may result in increased intracranial pressure in patients with acute intermittent porphyria. (See WARNINGS AND ADVERSE REACTIONS.)

Pseudoephedrine and other sympathomimetics have been reported to cause predispose to seizures, so use in patients taking levofloxacin with other sympathomimetics, including levofloxacin, should be used with caution. Use of levofloxacin concurrently with a monoamine oxidase inhibitor (MAOI) may result in a potentially fatal drug interaction. (See WARNINGS AND ADVERSE REACTIONS.)

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Indications:
LEVAPLIN is indicated for adults with acute bacterial sinusitis due to *S. pneumoniae, H. influenzae,* or *M. catarrhalis*.
LEVAPLIN is indicated for adults with community-acquired pneumonia due to *S. aureus, S. pneumoniae* (including multidrug-resistant strains [MDRSP]), *H. influenzae, H. parainfluenzae, K. pneumoniae, M. catarrhalis, M. pneumoniae, C. pneumoniae,* or *L. pneumophila.*
MDRSP (multidrug-resistant *S. pneumoniae*) isolates are strains resistant to two or more of the following antibiotics: penicillin (MIC ≥ 2 µg/mL), 2nd generation cephalosporins, eg, cefuroxime, macrolides, tetracyclines, and trimethoprim/sulfamethoxazole.
Efficacy of this alternative regimen has been demonstrated to be effective for infections caused by *S. pneumoniae* (excluding MDRSP), *H. influenzae, H. parainfluenzae, M. pneumoniae,* and *C. pneumoniae.*

Important Safety Information
The most common drug-related adverse events in US clinical trials were nausea (1.5%) and diarrhea (1.2%).
The safety and efficacy of levofloxacin in pediatric patients, adolescents (under 18), pregnant women, and nursing mothers have not been established.
LEVAPLIN is contraindicated in persons with a history of hypersensitivity to levofloxacin, quinolone antimicrobial agents, or any other components of this product.
LEVAPLIN may cause serious and occasionally fatal events, such as hypersensitivity and/or anaphylactic reactions, as well as some of unknown etiology have been reported in patients receiving therapy with quinolones, including levofloxacin. These reactions may occur following the first dose or multiple doses. The drug should be discontinued at the first appearance of a skin rash or any other sign of hypersensitivity.
As with other quinolones, levofloxacin should be used with caution in patients with known or suspected central nervous system disorders, peripheral neuropathy, or in patients who have a predisposition to seizures.
Tendon ruptures that required surgical repair or resulted in prolonged disability have been reported in patients receiving quinolones, including levofloxacin, during and after therapy. This risk may be increased in patients receiving concomitant corticosteroids, especially the elderly. The drug should be discontinued in patients experiencing pain, inflammation, or rupture of a tendon. Some quinolones, including levofloxacin, have been associated with prolongation of the QT interval, infrequent cases of arrhythmia, and rare cases of torsades de pointes. Levofloxacin should be avoided in patients with known risk factors such as prolongation of the QT interval, patients with uncorrected hypokalemia, and patients receiving class IA (quinidine, procainamide), or class III (amiodarone, sotalol) antiarrhythmic agents.
Antacids containing magnesium or aluminum, as well as sucralfate, metal cations such as iron, and multivitamin preparations with zinc, or Videx® (didanosine) chewable/ buffered tablets or the pediatric powder for oral solution, should be taken at least 2 hours before or 2 hours after levofloxacin administration.

For more information, visit us at www.levaquin.com