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IN THIS ISSUE



# Asthma in the Pediatric Population:

## An Urgent Care Approach

A **BRAVEHEART** PUBLICATION

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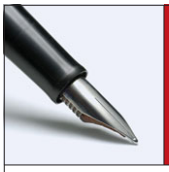

## LETTER FROM THE EDITOR-IN-CHIEF

# Minding Your E's & M's

Nothing hurts a business more than leaving money on the table. It is hard enough to attract business; the last thing you want to do is not get paid once services are rendered. There are a number of steps in the coding and billing process, and errors at any level can lead to bad debt, missed charges, and poor reimbursement.

Let's look at a few I would call the "low-hanging fruit."

### Collection at the Time of Service

Copays and deductibles often make up 25% to 50% of the reimbursement. That means the patient is responsible for nearly half of the fee. Everyone likes to take pride in how well they manage their receivables on the payor side. Very few can tell you the percent of patient responsibility collected at time of service.

Excuses galore for this one. Notably, the staff don't want confrontation, and lack the skills or accountability to make sure it gets done. If you don't train your staff to communicate effectively, if you don't hold them accountable, and if you don't track the trends, you will be left with untenable levels of bad debt, revenue outstanding, and collection expenses.

### Charge Capture

- You must ensure you are getting paid for what you do. Every urine dip, every IV, every fiberglass splint applied.
- Know all the correct codes and documentation requirements for all commonly used procedures, meds, and durable medical equipment.
- Do a *random* audit and identify trends for missed charges; train those responsible.
- Do a *directed* audit for all fractures and make sure you are capturing and properly documenting all splint applications. You will be shocked to see how infrequently this is correctly billed.

### Code Right

This is perhaps the most overlooked, misunderstood, mismanaged, and most important piece of the reimbursement puzzle.

Most practices use primary care benchmarks (if any at all), and these do not apply to urgent care. Consider:

- Most of our patients are presenting with a new undifferentiated problem.
- Most of our patients receive a prescription.
- Many of our patients have diagnostic work-ups that require interpretations by the provider (e.g., x-rays, EKGs).
- Many of our patients present with potentially threatening acute conditions.

While a detailed discussion of E&M coding is beyond the scope of this column, all the above-mentioned contribute to moderately complex or highly complex "medical decision making" (level 4 and level 5).

Since we do not maintain a continuity record on our patients, and many of our patients are new, a complete history and physical is clinically indicated in most circumstances. You will be amazed what you can pick up when you do this regularly. This is just good medicine.

- The review of systems can be filled out by the patient while waiting to be seen, as long as the provider reviews and signs it.
- If monitored and managed, clinically appropriate level 4 and level 5 visits will increase. When appropriately documented, this is entirely consistent with the CPT guidelines and represents the medically indicated care.
- Finally, the practice must make an investment in training, coding audits, and trending the coding bell curve to successfully instill compliant coding habits.

Managing the low-hanging fruit can have a marked impact on revenue, bad debt, and collections expenses. This can account for an infusion of upwards of 20% in additional income. And everyone—not just owners—should feel the obligation to contribute. ■

Lee A. Resnick, MD
Editor-in-Chief
*JUCM, The Journal of Urgent Care Medicine*

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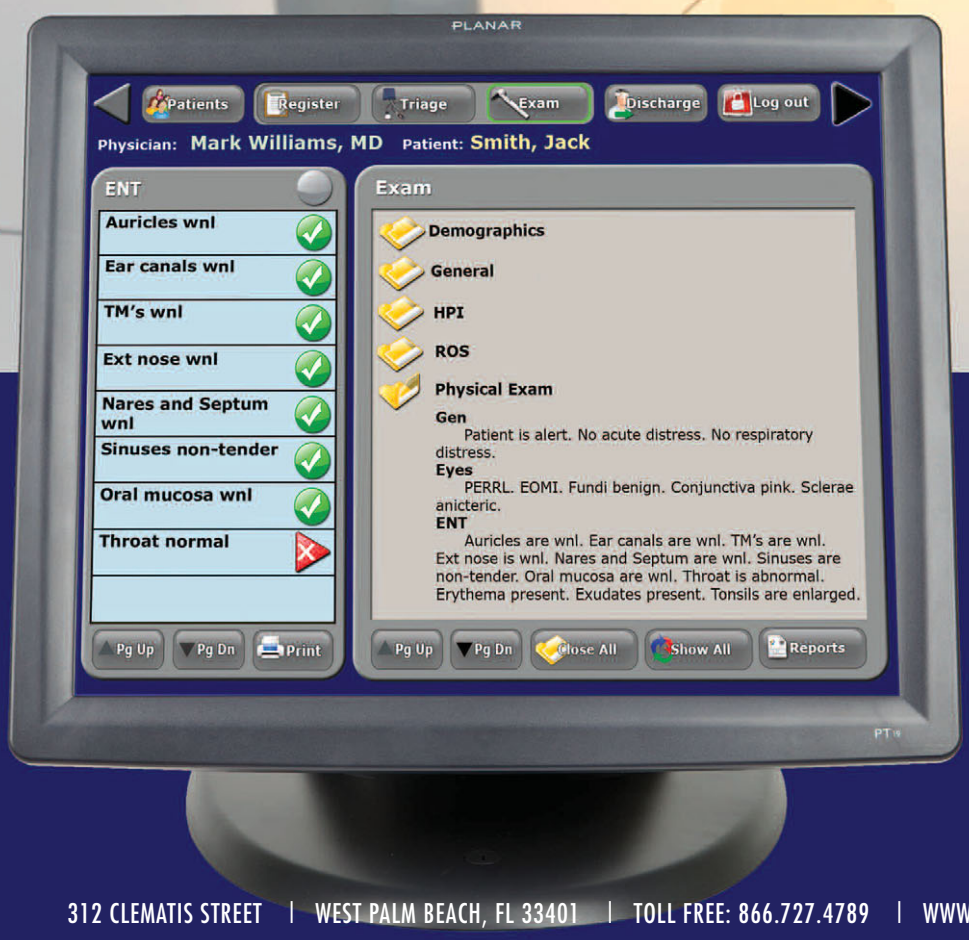


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CLINICAL

## 11 Asthma in the Pediatric Population: An Urgent Care Approach

Summer means more time outside for children—and the threat of exacerbations of asthma. Are you familiar with the red flags for emergent referral and current treatment options for patients to be discharged home?

*By Muhammad Waseem, MD, Nicholas Caputo, MD, Geeta Krishna, MD, Joel Gernsheimer, MD*

BOUNCEBACKS

## 19 The Case of a 21-year-old Woman with Sinus Pain

A patient walks in saying she has a sinus infection and just needs an antibiotic. Would her self-diagnosis induce you to conduct a less-than thorough examination, thereby running the risk of missing a more serious problem?

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

### IN THE NEXT ISSUE OF *JUCM*

*Urgent care practitioners—especially those who offer occupational medicine or pre-employment evaluations—are often called upon to screen for and treat infectious disease. Understanding the screening process for tuberculosis and key elements of the disease are of critical importance.*

### WEB EXCLUSIVE

**Upper Extremity Deep Venous Thrombosis: Paget-Schroetter Syndrome**

Upper extremity deep venous thrombosis accounts for up to 4% of all cases of DVT, though the actual incidence may be higher; many patients are asymptomatic. Awareness of relevant risk factors is essential for timely diagnosis and treatment. Available only at *www.jucm.com*.

*By Darshan Shah, MD, Shikhar Saxena, MD and Shailendra Saxena, MD, PhD*

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**Mission Statement**

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




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*Whether she's a future Olympian or just wants to make a splash, she deserves the #1 choice.*[1]



- The powerful anti-inflammatory dexamethasone[2]
- Effective against key pathogens including *Staphylococcus aureus* and *Pseudomonas aeruginosa*[2]
- Well established safety profile in patients 6 months and older[2]
- Neomycin free[2]

## CIPRODEX®Otic: the #1 otic drop among otolaryngologists and pediatricians[1]

**USAGE AND INDICATION:** CIPRODEX® Otic is indicated in patients 6 months and older for acute otitis externa due to *Staphylococcus aureus* and *Pseudomonas aeruginosa*.

**IMPORTANT SAFETY INFORMATION:**
**Contraindications:** CIPRODEX® Otic is contraindicated in patients with a history of hypersensitivity to ciprofloxacin, to other quinolones, or to any of the components in this medication. Use of this product is contraindicated in viral infections of the external canal including herpes simplex infections.

**Warnings:** CIPRODEX® Otic should be discontinued at the first appearance of a skin rash or any other sign of hypersensitivity. Serious and occasionally fatal hypersensitivity (anaphylactic) reactions, some following the first dose, have been reported in patients receiving systemic quinolones. Serious acute hypersensitivity reactions may require immediate emergency treatment. If the infection is not improved after one week of treatment, cultures should be obtained to guide further treatment.

**Adverse Events:** Most commonly reported adverse reactions in clinical trials in AOE patients: pruritus (1.5%), ear debris (0.6%), superimposed ear infection (0.6%), ear congestion (0.4%), ear pain (0.4%) and erythema (0.4%).

CIPRODEX®
(ciprofloxacin 0.3% and dexamethasone 0.1%)
STERILE OTIC SUSPENSION

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# CIPRODEX®
## (ciprofloxacin 0.3% and dexamethasone 0.1%)
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**DESCRIPTION**

CIPRODEX® (ciprofloxacin 0.3% and dexamethasone 0.1%) Sterile Otic Suspension contains the synthetic broad-spectrum antibacterial agent, ciprofloxacin hydrochloride, combined with the anti-inflammatory corticosteroid, dexamethasone, in a sterile, preserved suspension for otic use. Each mL of CIPRODEX® Otic contains ciprofloxacin hydrochloride (equivalent to 3 mg ciprofloxacin base), 1 mg dexamethasone, and 0.1 mg benzalkonium chloride as a preservative. The inactive ingredients are boric acid, sodium chloride, hydroxyethyl cellulose, tyloxapol, acetic acid, sodium acetate, edetate disodium, and purified water. Sodium hydroxide or hydrochloric acid may be added for adjustment of pH.

Ciprofloxacin, a fluoroquinolone is available as the monohydrochloride monohydrate salt of 1-cyclopropyl-6-fluoro-1,4-dihydro-4-oxo-7-(1-piperazinyl)-3-quinolinecarboxylic acid. The empirical formula is $C_{17}H_{18}FN_3O_3 \cdot HCl \cdot H_2O$. Dexamethasone, 9-fluoro-11(beta),17,21-trihydroxy-16(alpha)-methylpregna-1, 4-diene-3,20-dione, is an anti-inflammatory corticosteroid. The empirical formula is $C_{22}H_{29}FO_5$.

**CLINICAL PHARMACOLOGY**

**Pharmacokinetics:** Following a single bilateral 4-drop (total dose = 0.28 mL, 0.84 mg ciprofloxacin, 0.28 mg dexamethasone) topical otic dose of CIPRODEX® Otic to pediatric patients after tympanostomy tube insertion, measurable plasma concentrations of ciprofloxacin and dexamethasone were observed at 6 hours following administration in 2 of 9 patients and 5 of 9 patients, respectively.

Mean ± SD peak plasma concentrations of ciprofloxacin were 1.39 ± 0.880 ng/mL (n=9). Peak plasma concentrations ranged from 0.543 ng/mL to 3.45 ng/mL and were on average approximately 0.1% of peak plasma concentrations achieved with an oral dose of 250-mg [4]. Peak plasma concentrations of ciprofloxacin were observed within 15 minutes to 2 hours post dose application. Mean ± SD peak plasma concentrations of dexamethasone were 1.14 ± 1.54 ng/mL (n=9). Peak plasma concentrations ranged from 0.135 ng/mL to 5.10 ng/mL and were on average approximately 14% of peak concentrations reported in the literature following an oral 0.5-mg tablet dose[5]. Peak plasma concentrations of dexamethasone were observed within 15 minutes to 2 hours post dose application. Dexamethasone has been added to aid in the resolution of the inflammatory response accompanying bacterial infection (such as otorrhea in pediatric patients with AOM with tympanostomy tubes).

**Microbiology:** Ciprofloxacin has *in vitro* activity against a wide range of gram-positive and gram-negative microorganisms. The bactericidal action of ciprofloxacin results from interference with the enzyme, DNA gyrase, which is needed for the synthesis of bacterial DNA. Cross-resistance has been observed between ciprofloxacin and other fluoroquinolones. There is generally no cross-resistance between ciprofloxacin and other classes of antibacterial agents such as beta-lactams or aminoglycosides.

Ciprofloxacin has been shown to be active against most isolates of the following microorganisms, both *in vitro* and clinically in otic infections as described in the **INDICATIONS AND USAGE** section.

**Aerobic and facultative gram-positive microorganisms:** *Staphylococcus aureus, Streptococcus pneumoniae.* **Aerobic and facultative gram-negative microorganisms:** *Haemophilus influenzae, Moraxella catarrhalis, Pseudomonas aeruginosa.*

**INDICATIONS AND USAGE:** CIPRODEX® Otic is indicated for the treatment of infections caused by susceptible isolates of the designated microorganisms in the specific conditions listed below: **Acute Otitis Media** in pediatric patients (age 6 months and older) with tympanostomy tubes due to *Staphylococcus aureus, Streptococcus pneumoniae, Haemophilus influenzae, Moraxella catarrhalis*, and *Pseudomonas aeruginosa.* **Acute Otitis Externa** in pediatric (age 6 months and older), adult and elderly patients due to *Staphylococcus aureus* and *Pseudomonas aeruginosa.*

**CONTRAINDICATIONS**

CIPRODEX® Otic is contraindicated in patients with a history of hypersensitivity to ciprofloxacin, to other quinolones, or to any of the components in this medication. Use of this product is contraindicated in viral infections of the external canal including herpes simplex infections.

**WARNINGS**

**FOR OTIC USE ONLY** (This product is not approved for ophthalmic use.) **NOT FOR INJECTION**

CIPRODEX® Otic should be discontinued at the first appearance of a skin rash or any other sign of hypersensitivity. Serious and occasionally fatal hypersensitivity (anaphylactic) reactions, some following the first dose, have been reported in patients receiving systemic quinolones. Serious acute hypersensitivity reactions may require immediate emergency treatment.

**PRECAUTIONS**

**General:** As with other antibacterial preparations, use of this product may result in overgrowth of nonsusceptible organisms, including yeast and fungi. If the infection is not improved after one week of treatment, cultures should be obtained to guide further treatment. If otorrhea persists after a full course of therapy, or if two or more episodes of otorrhea occur within six months, further evaluation is recommended to exclude an underlying condition such as cholesteatoma, foreign body, or a tumor. The systemic administration of quinolones, including ciprofloxacin at doses much higher than given or absorbed by the otic route, has led to lesions or erosions of the cartilage in weight-bearing joints and other signs of arthropathy in immature animals of various species. Guinea pigs dosed in the middle ear with CIPRODEX® Otic for one month exhibited no drug-related structural or functional changes of the cochlear hair cells and no lesions in the ossicles. CIPRODEX® Otic was also shown to lack dermal sensitizing potential in the guinea pig when tested according to the method of Buehler. No signs of local irritation were found when CIPRODEX® Otic was applied topically in the rabbit eye. **Information for Patients:** For otic use only. (This product is not approved for use in the eye.) Warm the bottle in your hand for one to two minutes prior to use and shake well immediately before using. Avoid contaminating the tip with material from the ear, fingers, or other sources. Protect from light. If rash or allergic reaction occurs, discontinue use immediately and contact your physician. It is very important to use the ear drops for as long as the doctor has instructed, **even if the symptoms improve**. Discard unused portion after therapy is completed. **Acute Otitis Media in pediatric patients with tympanostomy tubes:** Prior to administration of CIPRODEX® Otic in patients (6 months and older) with acute otitis media through tympanostomy tubes, the solution should be warmed by holding the bottle in the hand for one or two minutes to avoid dizziness which may result from the instillation of a cold solution. The patient should lie with the affected ear upward, and then the drops should be instilled. The tragus should then be pumped 5 times by pushing inward to facilitate penetration of the drops into the middle ear. This position should be maintained for 60 seconds. Repeat, if necessary, for the opposite ear (see **DOSAGE AND ADMINISTRATION**). **Acute Otitis Externa:** Prior to administration of CIPRODEX® Otic in patients with acute otitis externa, the solution should be warmed by holding the bottle in the hand for one or two minutes to avoid dizziness which may result from the instillation of a cold solution. The patient should lie with the affected ear upward, and then the drops should be instilled. This position should be maintained for 60 seconds to facilitate penetration of the drops into the ear canal. Repeat, if necessary, for the opposite ear (see **DOSAGE AND ADMINISTRATION**).

**Drug Interactions:** Specific drug interaction studies have not been conducted with CIPRODEX® Otic. **Carcinogenesis, Mutagenesis, Impairment of Fertility:** Long-term carcinogenicity studies in mice and rats have been completed for ciprofloxacin. After daily oral doses of 750 mg/kg (mice) and 250 mg/kg (rats) were administered for up to 2 years, there was no evidence that ciprofloxacin had any carcinogenic or tumorigenic effects in these species. No long term studies of CIPRODEX® Otic have been performed to evaluate carcinogenic potential. Eight *in vitro* mutagenicity tests have been conducted with ciprofloxacin, and the test results are listed below: *Salmonella*/Microsome Test (Negative), *E. coli* DNA Repair Assay (Negative), Mouse Lymphoma Cell Forward Mutation Assay (Positive), Chinese Hamster V79 Cell HGPRT Test (Negative), Syrian Hamster Embryo Cell Transformation Assay (Negative), *Saccharomyces cerevisiae* Point Mutation Assay (Negative), *Saccharomyces cerevisiae* Mitotic Crossover and Gene Conversion Assay (Negative), Rat Hepatocyte DNA Repair Assay (Positive). Thus, 2 of the 8 tests were positive, but results of the following 3 *in vivo* test systems gave negative results: Rat Hepatocyte DNA Repair Assay, Micronucleus Test (Mice), Dominant Lethal Test (Mice). Fertility studies performed in rats at oral doses of ciprofloxacin up to 100 mg/kg/day revealed no evidence of impairment. This would be over 100 times the maximum recommended clinical dose of ototopical ciprofloxacin based upon body surface area, assuming total absorption of ciprofloxacin from the ear of a patient treated with CIPRODEX® Otic twice per day according to label directions. Long term studies have not been performed to evaluate the carcinogenic potential of topical otic dexamethasone. Dexamethasone has been tested for *in vitro* and *in vivo* genotoxic potential and shown to be positive in the following assays: chromosomal aberrations, sister-chromatid exchange in human lymphocytes and micronuclei and sister-chromatid exchanges in mouse bone marrow. However, the Ames/Salmonella assay, both with and without S9 mix, did not show any increase in His+ revertants. The effect of dexamethasone on fertility has not been investigated following topical otic application. However, the lowest toxic dose of dexamethasone identified following topical dermal application was 1.802 mg/kg in a 26-week study in male rats and resulted in changes to the testes, epididymis, sperm duct, prostate, seminal vessicle, Cowper's gland and accessory glands. The relevance of this study for short term topical otic use is unknown.

**Pregnancy**

**Teratogenic Effects. Pregnancy Category C:** Reproduction studies have been performed in rats and mice using oral doses of up to 100 mg/kg and IV doses up to 30 mg/kg and have revealed no evidence of harm to the fetus as a result of ciprofloxacin. In rabbits, ciprofloxacin (30 and 100 mg/kg orally) produced gastrointestinal disturbances resulting in maternal weight loss and an increased incidence of abortion, but no teratogenicity was observed at either dose. After intravenous administration of doses up to 20 mg/kg, no maternal toxicity was produced in the rabbit, and no embryotoxicity or teratogenicity was observed. Corticosteroids are generally teratogenic in laboratory animals when administered systemically at relatively low dosage levels. The more potent corticosteroids have been shown to be teratogenic after dermal application in laboratory animals. Animal reproduction studies have not been conducted with CIPRODEX® Otic. No adequate and well controlled studies have been performed in pregnant women. Caution should be exercised when CIPRODEX® Otic is used by a pregnant woman.

**Nursing Mothers:** Ciprofloxacin and corticosteroids, as a class, appear in milk following oral administration. Dexamethasone in breast milk could suppress growth, interfere with endogenous corticosteroid production, or cause other untoward effects. It is not known whether topical otic administration of ciprofloxacin or dexamethasone could result in sufficient systemic absorption to produce detectable quantities in human milk. Because of the potential for unwanted effects in nursing infants, a decision should be made whether to discontinue nursing or to discontinue the drug, taking into account the importance of the drug to the mother.

**Pediatric Use:** The safety and efficacy of CIPRODEX® Otic have been established in pediatric patients 6 months and older (937 patients) in adequate and well-controlled clinical trials. Although no data are available on patients less than age 6 months, there are no known safety concerns or differences in the disease process in this population that would preclude use of this product. (See **DOSAGE AND ADMINISTRATION**.) No clinically relevant changes in hearing function were observed in 69 pediatric patients (age 4 to 12 years) treated with CIPRODEX® Otic and tested for audiometric parameters.

**ADVERSE REACTIONS**

In Phases II and III clinical trials, a total of 937 patients were treated with CIPRODEX® Otic. This included 400 patients with acute otitis media with tympanostomy tubes and 537 patients with acute otitis externa. The reported treatment-related adverse events are listed below:

**Acute Otitis Media in pediatric patients with tympanostomy tubes:** The following treatment-related adverse events occurred in 0.5% or more of the patients with non-intact tympanic membranes.

| Adverse Event | Incidence (N=400) |
|---|---|
| Ear discomfort | 3.0% |
| Ear pain | 2.3% |
| Ear precipitate (residue) | 0.5% |
| Irritability | 0.5% |
| Taste perversion | 0.5% |

The following treatment-related adverse events were each reported in a single patient: tympanostomy tube blockage; ear pruritus; tinnitus; oral moniliasis; crying; dizziness; and erythema. **Acute Otitis Externa:** The following treatment-related adverse events occurred in 0.4% or more of the patients with intact tympanic membranes.

| Adverse Event | Incidence (N=537) |
|---|---|
| Ear pruritus | 1.5% |
| Ear debris | 0.6% |
| Superimposed ear infection | 0.6% |
| Ear congestion | 0.4% |
| Ear pain | 0.4% |
| Erythema | 0.4% |

The following treatment-related adverse events were each reported in a single patient: ear discomfort; decreased hearing; and ear disorder (tingling).

**DOSAGE AND ADMINISTRATION**

**CIPRODEX® OTIC SHOULD BE SHAKEN WELL IMMEDIATELY BEFORE USE**

CIPRODEX® Otic contains 3 mg/mL (3000 µg/mL) ciprofloxacin and 1 mg/mL dexamethasone.

**Acute Otitis Media in pediatric patients with tympanostomy tubes:** The recommended dosage regimen for the treatment of acute otitis media in pediatric patients (age 6 months and older) through tympanostomy tubes is: Four drops (0.14 mL, 0.42 mg ciprofloxacin, 0.14 mg dexamethasone) instilled into the affected ear twice daily for seven days. The solution should be warmed by holding the bottle in the hand for one or two minutes to avoid dizziness, which may result from the instillation of a cold solution. The patient should lie with the affected ear upward, and then the drops should be instilled. The tragus should then be pumped 5 times by pushing inward to facilitate penetration of the drops into the middle ear. This position should be maintained for 60 seconds. Repeat, if necessary, for the opposite ear. Discard unused portion after therapy is completed. **Acute Otitis Externa:** The recommended dosage regimen for the treatment of acute otitis externa is: For patients (age 6 months and older): Four drops (0.14 mL, 0.42 mg ciprofloxacin, 0.14 mg dexamethasone) instilled into the affected ear twice daily for seven days. The solution should be warmed by holding the bottle in the hand for one or two minutes to avoid dizziness, which may result from the instillation of a cold solution. The patient should lie with the affected ear upward, and then the drops should be instilled. This position should be maintained for 60 seconds to facilitate penetration of the drops into the ear canal. Repeat, if necessary, for the opposite ear. Discard unused portion after therapy is completed.

**HOW SUPPLIED**

CIPRODEX® (ciprofloxacin 0.3% and dexamethasone 0.1%) Sterile Otic Suspension is supplied as follows: 5 mL fill and 7.5 mL fill in a DROP-TAINER® system. The DROP-TAINER® system consists of a natural polyethylene bottle and natural plug, with a white polypropylene closure. Tamper evidence is provided with a shrink band around the closure and neck area of the package. NDC 0065-8533-01, 5 mL fill; NDC 0065-8533-02, 7.5 mL fill. **Storage:** Store at controlled room temperature, 15°C to 30°C (59°F to 86°F). Avoid freezing. Protect from light.

**Clinical Studies:** In a randomized, multicenter, controlled clinical trial, CIPRODEX® Otic dosed 2 times per day for 7 days demonstrated clinical cures in the per protocol analysis in 86% of AOMT patients compared to 79% for ofloxacin solution, 0.3%, dosed 2 times per day for 10 days. Among culture positive patients, clinical cures were 90% for CIPRODEX® Otic compared to 79% for ofloxacin solution, 0.3%. Microbiological eradication rates for these patients in the same clinical trial were 91% for CIPRODEX® Otic compared to 82% for ofloxacin solution, 0.3%. In 2 randomized multicenter, controlled clinical trials, CIPRODEX® Otic dosed 2 times per day for 7 days demonstrated clinical cures in 87% and 94% of per protocol evaluable AOE patients, respectively, compared to 84% and 89%, respectively, for otic suspension containing neomycin 0.35%, polymyxin B 10,000 IU/mL, and hydrocortisone 1.0% (neo/poly/HC). Among culture positive patients clinical cures were 86% and 92% for CIPRODEX® Otic compared to 84% and 89%, respectively, for neo/poly/HC. Microbiological eradication rates for these patients in the same clinical trials were 86% and 92% for CIPRODEX® Otic compared to 85% and 85%, respectively, for neo/poly/HC.

U.S. Patent Nos. 4,844,902; 6,284,804; 6,359,016
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Manufactured by Alcon Laboratories, Inc.
Rx Only
Revision date: 17 July 2003

**References: 1.** Wolters Kluwer Health, Source® Pharmaceutical Audit Suite, January 2009 – December 2009. **2.** CIPRODEX® Otic package insert.

 5/10 CDX10501JA

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# Fun Facts in Urgent Care

LOU ELLEN HORWITZ, MA

If you are part of the UCAOA extended "family," you probably know that we tend to ask a lot of questions. We ask about what sessions you want to see at conferences, what your organizational structure looks like, what your plans are for the future, how long you've been open...all kinds of things.

Sometimes we do this in a very structured and formal way so we can be certain our results are statistically valid and represent the industry as a whole.

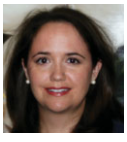
The biennial Benchmarking Survey is like that. We work with survey experts and industry representatives to carefully craft a survey that will produce results that you can count on and use in your centers—and that we can use to represent urgent care to the public.

Occasionally, however, we do smaller surveys of certain groups that, while not research-study quality, nevertheless open an interesting window or two on what's happening in urgent care.

This month, I thought I would share some of the information from those surveys with you.

Did you know:

- that there are now at least 19 organizations with double-digit numbers of urgent care centers
- that 77% of Comprehensive Clinic Start-up attendees go on to open their first urgent care center
- that 76% of them do so within a year of attending the class
- that 50% of the people considering opening an urgent care center but did *not* do so say the reason they did not was that they felt they had insufficient knowledge or skills
- that one year after opening their doors, 89% of those who *did* open a center are already considering or are in the process of adding an additional center—66% of them within the next 18 months.



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

*"UConnect has a way to connect with other members without a lot of effort."*

Anyone who thinks urgent care isn't going to make (is already making!) a tremendous impact on patient access to care is not paying attention.

The most challenging part of writing the June column is knowing that by the time you read this, the National Urgent Care Convention will be over even though this issue of *JUCM* will go to press before it takes place. There are so many wonderful ideas that come out of that meeting that we will want to share with you immediately, so if you are not a member and connected with us please consider attending it in the future.

UConnect
a UCAOA member community

And speaking of connecting: If you *are* a member and have not yet checked out our new online member community (**UConnect),** you should do that immediately! **UConnect** houses all of the Members Only resources now, has multiple interest groups and discussions you can join (or start your own), and a super-simple way to connect with other members like you (or that you already know) to keep in touch all year long without a lot of effort.

Yes, it's like our very own Facebook for urgent care (but even better), and it's just for members.

So, come on down and share your own "fun facts" about yourself and your centers. Ask questions. Give answers. Connect! ■

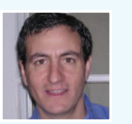
## *JUCM* CONTRIBUTORS

June ushers in what is usually the most carefree time of year for children: out of the classroom and into the outfield, riding bikes, backyard play dates.... For many, though, it's also peak season for acute asthma exacerbations. Urgent care clinicians can expect a corresponding uptick in visits from parents with asthmatic children in tow.

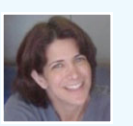
Asthma in the Pediatric Population: An Urgent Care Approach (page 11), by **Muhammad Waseem, MD**, **Nicholas Caputo, MD**, **Geeta Krishna, MD**, and **Joel Gernsheimer, MD** reviews the essentials of managing children who present with symptoms of asthma, including red flags for immediate referral and treatment options for patients who can be treated and discharge home.

Dr. Waseem is an associate professor of emergency medicine (clinical pediatrics) at Weill Medical College of Cornell University and attending physician at Lincoln Medical and Mental Health Center in the Bronx, NY. Dr. Caputo is a resident physician in the Department of Emergency Medicine at Lincoln Medical and Mental Health Center/Weill Cornell College of Medicine, and holds an MS in marine microbiology. Dr. Krishna is a senior resident in the Department of Emergency Medicine at Lincoln Medical and Mental Health Center. Dr. Gernsheimer is attending physician and visiting associate professor, emergency medicine, State University of New York, Downstate Kings County Hospital Medical Center, in Brooklyn NY.

It's likely that most children with asthma are brought to an urgent care center by parents who are already aware of the condition. What about patients who only *think* they know what's wrong with them, though, unaware that their symptoms are caused by something more serious than the simple infection they've self-diagnosed? On a busy day, with a patient who is dismissive of the need for further evaluation, would you have the wherewithal to look deeper and uncover the true diagnosis?



One such challenging patient is the subject of the latest installment of the Bouncebacks series. The Case of a 21-year-old Woman with Sinus Pain, by **Michael B. Weinstock, MD** and **Jill C. Miller, MD** starts on page 19.



Dr. Weinstock is clinical assistant professor of emergency medicine at The Ohio State University School of Medicine, as well as a practitioner in the Mt. Carmel St. Ann's Emergency Department in Columbus, OH. Dr. Miller is senior clinical instructor at Case Western Reserve University School of Medicine and is board certified in internal medicine. She practices urgent care with University Hospitals Medical Practices in Cleveland, OH.

Finally, we offer a new case report on a patient who presented with a two-week history of right-side upper extremity swelling and mild tingling and numbness in the right hand. He had no

## *JUCM* CONTRIBUTORS

history of trauma, but his habit of spending a lot of time in the gym figured significantly in the ultimate diagnosis. Upper Extremity Deep Venous Thrombosis: Paget-Schroetter Syndrome, by Darshan Shah, MD, Shikhar Saxena, MD, and Shailendra Saxena, MD, PhD is available only at *www.jucm.com*.

Dr. Shah is a chief resident in the Department of Family Medicine at Creighton University Medical Center in Omaha, NE; Dr. Shikhar Saxena is a third-year resident in the Department of Internal Medicine at the University of Minnesota, Minneapolis; and Dr. Shailendra Saxena is assistant professor in the Department of Family Medicine at Creighton University Medical Center.

**Also in this issue:**

**Nahum Kovalski, BSc, MDCM** reviews new abstracts on hemorrhage and warfarin, pink eye, crying infants, superficial venous thrombosis, troponin assays, colchicine for gout, topical silver for preventing infection, and evaluation of pulmonary embolism.

**John Shufeldt, MD, JD, MBA, FACEP** sings the praises of the harmonious workplace in which every team member knows and fills their role to perfection.

**Frank Leone, MBA, MPH** offers pointers on turning rejection into opportunity.

**David Stern, MD, CPC** responds to reader queries on coding for "feared complaints," facility E/M codes, and nuances in complexity of medical decision-making.

**On Another Winning Note**

While we're at it, allow us to toot our own horns briefly, starting with Editor-in-Chief **Lee A. Resnick, MD**. His column in the November 2009 issue of *JUCM*, The Hidden Costs of Medical Liability, won a Bronze Award in the American Society of Healthcare Publication Editors (ASHPE) 2010 Awards Competition. You can read it in the Past Issues section of our website (*www.jucm.com*).

In addition, Art Director **Tom DePrenda** was honored for the second and third times in the ASHPE competition; he won a Silver Award for the cover of our October 2009 issue and a Bronze Award in the category of Best Overall Use of Graphics for the June 2009 issue. Mr. DePrenda also took a Bronze Award in that category in 2008.

Add these to the two awards Dr. Shufeldt won in the 2008 and 2009 ASHPE competitions and *JUCM* has been honored with six awards in our nearly four years in existence.

Suffice to say, we're very proud to work with such outstanding contributors (which includes all the other columnists and authors who devote a lot of time to sharing their expertise with our readers).

If you'd like to contribute, as well, drop a note to Dr. Resnick at *editor@jucm.com*. We're eager for new case reports, clinical and practice management articles, and x-rays or other diagnostic imaging for the Insights in Images department. ■

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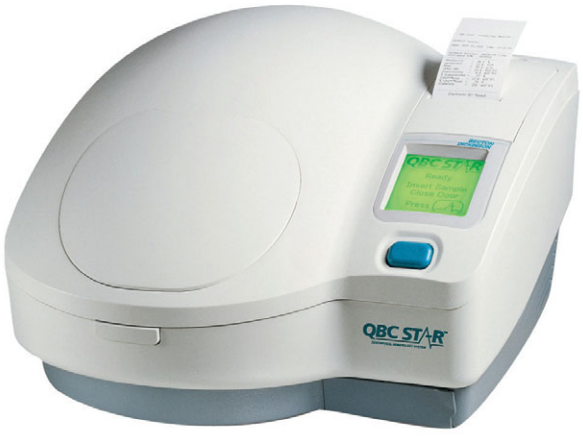


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# Asthma in the Pediatric Population: *An Urgent Care Approach*

**Urgent message:** Though sometimes viewed as an easily controlled disease, asthma can become a medical emergency quickly. It is important for the urgent care clinician to be able to recognize the signs of a potentially life-threatening asthma exacerbation—and know how to treat it accordingly.

Muhammad Waseem, MD, Nicholas Caputo, MD, Geeta Krishna, MD, Joel Gernsheimer, MD

## Introduction

Asthma is an episodic and reversible airflow obstruction. It is the most common chronic disease in children, affecting millions every year; in 2002, up to 9 million children in the United States were affected by asthma.[1] Asthma is also one of the leading causes of mortality and morbidity, including hospitalizations, in pediatric patients.

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The symptoms of acute exacerbation of asthma are some of the most common complaints of children presenting to urgent care centers. It is imperative that practitioners know how to quickly diagnose and treat patients with potentially life-threatening acute exacerbations. This includes recognizing the signs and managing and stabilizing the rapidly deteriorating asthmatic patient. If this is not done expeditiously, the patient may die or suffer considerable morbidity.

*Acute asthma* is defined as an exacerbation of underlying asthma requiring urgent or emergency treatment. It is characterized by an episode of increased breathlessness, cough, wheezing, chest tightness or a combination of these symptoms.

The term *status asthmaticus* relates severity to outcome and has been used to define a severe asthmatic exacerbation that does not respond to standard treatment.[2]

The goals of asthma care are to:

1. treat airway inflammation and bronchoconstriction
2. control symptoms by adequately treating the above
3. prevent acute exacerbations and thereby
4. decrease the incidence of mortality and morbidity.

An exacerbation of asthma necessitating an emergency department or unscheduled visit or hospital admission can be construed as a failure of primary care.[3]

## Pathophysiology

Asthma is an inflammatory airway disease. Decrease in airway flow is related mainly to both airway inflammation and airway constriction.

**Table 1. Red Flags in Asthma Assessment**

The findings below are indicative of severe asthma exacerbation or imminent respiratory arrest.

| Symptoms and Signs | Severe | Imminent respiratory arrest |
|---|---|---|
| Must sit upright | ■ | |
| Talks in words only | ■ | |
| Agitated mood | ■ | |
| Drowsy or confused | | ■ |
| Respiratory rate increased<br>*Age* — *Normal*<br><2 months — <60/minute<br>2-12 months — <50/minute<br>1-5 years — <40/minute<br>6-8 years — <30/minute | ■ | |
| Pulse increased<br>*Age* — *Normal*<br>2-12 months — <160/minute<br>1-2 years — <120/minute<br>2-8 years — <110/minute | ■ | |
| Bradycardia | | ■ |
| PEF <40% | ■ | |
| PEF <25% | | ■ |

Adapted from: *Expert Panel Report 3: Guidelines for the Diagnosis and Management of Asthma*. National Heart, Lung, and Blood Institute National Asthma Education and Prevention Program. U.S. Department of Health and Human Services National Institutes of Health. Available at: *http://www.nhlbi.nih.gov/guidelines/asthma/index.htm*.
Strunk RC. Defining asthma in the preschool-aged child. *Pediatrics*. 2002;109(2 Suppl):357-361.

Evidence shows that various early life exposures, such as high exposure to house dust mites and early antibiotic use, may predispose susceptible individuals to the development of asthma.[4]

Factors reported to be associated with asthma persistence and relapse include:

- sensitization to house dust mites
- airway hyper-responsiveness
- female gender
- smoking
- early age of onset of asthma.[5]

It is important to keep these in mind when evaluating the child with an asthma exacerbation, as avoidance of any of these factors may decrease the likelihood of future episodes. Such awareness also encourages effective patient education that diminishes the risk for future exacerbations.

## Evaluating a Child with Acute Asthma

When a patient presents with symptoms of acute asthma exacerbation, the clinician must perform a rapid—but thorough—clinical evaluation. Performing a physical examination expeditiously is necessary to allow the physician to recognize the severity of the asthma episode and to diagnose other conditions that can be confused with asthma.

In some cases, this must be done concurrently with the initiation of treatment with $\beta_2$-agonists.

This focused examination should also include:

- vital signs
- measurement of oxygen saturation
- assessment of
- level of consciousness
- wheezing
- air entry
- accessory muscle use
- retractions.

Treatment should not be delayed to obtain more history. Further history can be obtained *after* the patient has been stabilized. However, it must be noted that obtaining an appropriate history is an important component of determining the severity of the asthma, which will help to tailor the treatment, as suggested by the National Asthma Education and Prevention Program Expert Panel Report 3.

"Red flags" from the history and physical examination which are warning signs of impending respiratory failure that may lead to death are summarized in **Table 1**.

## Making the Diagnosis

The first step in the management of acute asthma, of course, is to make the correct diagnosis.

Diagnosis of asthma is clinical and can be made essentially by searching for the five key symptoms that indicate asthma. They are:

- cough
- wheeze
- dyspnea
- chest tightness
- increased respiratory secretions.[6]

(It is important to note, however, that cough may

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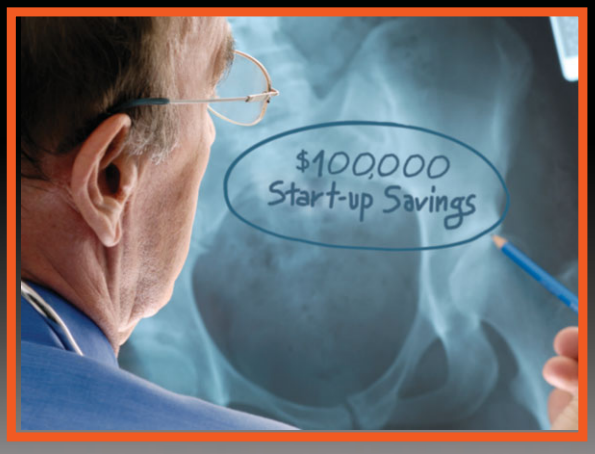


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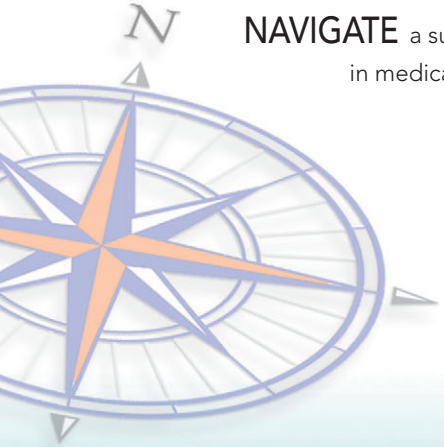

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be the only presenting symptom in patients with asthma.[7])

Typically, the diagnosis of asthma is made if episodic symptoms of airflow obstruction or airway hyper-responsiveness are present, airflow obstruction is at least partially reversible, and alternative diagnoses are excluded.[8]

It is also important to determine the severity of asthma that the child has (**Table 2**). The disease process is dynamic and its severity can change over time. The child may get better or worse. Outpatient medication should be based on the degree of severity in order to adequately control the symptoms and prevent acute exacerbations.[9]

**Table 2. Classifying Asthma in Children Based on Symptom Severity and Lung Lunction[9]**

| Class | Symptoms | Nocturnal symptoms | Lung function |
|---|---|---|---|
| *Mild–intermittent* | ≤2 times per week | ≤2 times/month | $FEV_1$ ≥80% predicted |
| *Mild–persistent* | >2 times per week, <1 per day | >2 times/month | $FEV_1$ ≥80% predicted, variability 20% to 30% |
| *Moderate–persistent* | Daily symptoms, use of SABA | >1 time/week | $FEV_1$ 60% to 80% predicted, variability <30% |
| *Severe–persistent* | Daily symptoms which limit activity | Frequently | $FEV_1$ <60 predicted, variability >30% |

$FEV_1$, forced expiratory volume in 1 second; SABA, short-acting beta agonist.

## Differential Diagnosis

Although most children with recurrent wheezing have asthma, other conditions should be considered in the differential diagnosis.

A thorough patient history is important when excluding other causes. Armed with a proper physical examination and history, the physician can determine whether or not the patient has asthma exacerbation.

However, one must be cautious of other pathologies that may present with similar symptoms. The differential diagnosis of asthma is broad and may include some potentially life-threatening conditions, as well as others that are less severe.

Specifically, allergies, gastroesophageal reflux disease, pneumonia, cystic fibrosis and bronchopulmonary dysplasia, and foreign body aspiration should be considered. If cough occurs after eating, gastroesophageal reflux disease, in particular, should be strongly suspected.[10]

## Management

Management of asthma is now being directed to early recognition and early intervention. Considerations in the treatment of asthma include not only pharmacologic agents but also recognition and modification of potential triggers such as environmental tobacco smoke, air pollution (both indoor and outdoor), and allergens.

The treatment of acute asthma is directed to the underlying pathophysiology, with the intent of reversing bronchoconstriction, controlling airway inflammation, and decreasing mucus production.

Exacerbations of acute asthma call for early recognition and initiation of therapy with bronchodilators and anti-inflammatory corticosteroids. As stated previously, management and use of specific inpatient and outpatient pharmacotherapy depends on the severity of the disease and the exacerbation.

### *Oxygen*

Hypoxemia present during asthma exacerbation is caused by the presence of ventilation-perfusion (V/Q) mismatch. If a child is in acute distress, humidified oxygen should be provided to maintain oxygen saturations ≥92%.[11]

Caution should be exercised when administering 100% oxygen in severe asthma, due to concerns of respiratory depression followed by carbon dioxide retention.

### *Bronchodilator*

Inhaled bronchodilators are a cornerstone of treatment for asthma exacerbations. These agents are the drugs of choice for relief of bronchospasm during an acute exacerbation of bronchial asthma.

All nebulized treatments should be administered with oxygen at a flow rate of 6 L/minute to 8 L/minute.

Usual doses of nebulized albuterol are 2.5 mg (<30 kg) and 5 mg (>30 kg).

Spacer devices for delivering inhaled medications from pressurized metered dose inhalers in acute asthma are equally effective as nebulizers.[12]

### *Corticosteroids*

Corticosteroids are effective in the treatment of inflam-

mation in children with asthma. Early use of systemic corticosteroids may reduce the hospitalization rate.[13]

Oral preparations have been shown to be more effective than inhaled or nebulized steroids.[14] Generally, 1 mg/kg/day to 2 mg/kg/day of prednisone for three to 10 days (to a maximum of 60 mg) is provided.

Contrary to a commonly held perception, no dose tapering is required unless the patient has been on steroid therapy continuously for more than two weeks, in which case adrenal suppression may occur. However, there is no evidence that tapering the dose following improvement in symptom control and pulmonary function prevents relapse.

For long-term treatment of severe persistent asthma, administer a single dose in the morning, either daily or on alternate days (alternate-day therapy may produce less adrenal suppression).[15]

*Inhaled glucocorticoids*

The preferred long-term controller agents for initiating treatment for persistent asthma in children are inhaled glucocorticoids.[16] These agents provide improved asthma control and fewer exacerbations in high-risk children.[17]

Although acute exacerbations of asthma in the urgent care center or ED should be treated with oral steroids or, in special situations, parenteral steroids, patients with significant asthma should usually be discharged on a steroid inhaler, as well as an albuterol inhaler and a short course of prednisone. This aggressive, pro-active approach is recommended to encourage physicians to identify patients at risk for developing persistent asthma and to intervene earlier with long-term control therapy.

As noted above, management with both rescue medications, such as albuterol inhalers, and controller medications, such as steroid inhalers, will decrease mortality and morbidity and allow the asthmatic child to live a better and longer life.

*Montelukast*

Montelukast, a leukotriene receptor antagonist, is

considered an alternative to inhaled corticosteroids (ICS) in mild-persistent asthma, and a supplementary therapy to ICS for moderate persistent asthma. Studies have shown favorable effects with long-term improvement of symptoms and reduction in the number of exacerbations.[18,19] It has not yet been proven to acutely help in the treatment of acute asthma exacerbations.

Leukotriene receptors have the following actions:

- stimulation of bronchoconstriction
- mucus hypersecretion
- microvascular leakage with edema formation

eosinophil chemo-attraction

Montelukast will prevent the above pathophysiology. The dose for adolescents is 10 mg once daily.

*Magnesium sulfate*

Magnesium has potential as a therapeutic agent in asthma because of its bronchodilating effect on smooth muscle cells.[20] Magnesium should be used for patients with severe asthma exacerbations or with moderate asthma exacerbations with clinical deterioration despite standard treatment. It is an adjunctive therapy in very sick asthmatics that may buy precious time for other therapeutic modalities, such as steroid therapy, to work.

Magnesium sulfate is usually administered at a dose of 75 mg/kg (to a maximum of 2 g) intravenously.[21]

*Monitoring*

Peak expiratory flow (PEF) monitoring is a mainstay of asthma management. It is a reproducible, objective measurement of airway obstruction. It is recommended, if possible, to obtain a PEF measurement initially and, subsequently, 15 to 20 minutes after the bronchodilator therapy is initiated to monitor the severity of the disease and the response to treatment.

It has been shown that the physical examination alone is often not adequate for this purpose. For example, decreased wheezing may not always be a sign that the patient is improving; in fact, it occasionally may indicate that the patient has become "tighter" and is not able to move enough air to wheeze.

PEF, when combined with the clinical findings, provides the practitioner with a better understanding as to when therapy needs to be increased or when the acute patient can be safely discharged from the urgent care center or ED.

It should be noted that PEF monitoring is not suitable for use in young children (under the age of 5 years), as it is both effort- and technique-dependent.[22] Oxygen saturation should be monitored with pulse oximetry.

**Table 3. Criteria for Hospital Admission or Discharge of Children with Asthma**

*Admit*

- Incomplete or poor response to treatment
- Signs or symptoms of impending respiratory failure or drowsiness
- PEF or $FEV_1$ <40% and no improvement after initial treatment:
  - oxygen
  - nebulized short-acting beta agonist + ipratropium, hourly or continuous
  - oral systemic corticosteroids
  - consideration of adjunct therapies

*Discharge*

- PEF or FEV1 ≥70% of predicted
- Improvement persists 60 minutes after completion of treatment
- Normal physical examination

Adapted from: *Expert Panel Report 3: Guidelines for the Diagnosis and Management of Asthma*. National Heart, Lung, and Blood Institute National Asthma Education and Prevention Program. U.S. Department of Health and Human Services National Institutes of Health. Available at: *http://www.nhlbi.nih.gov/guidelines/asthma/index.htm*.

PEF, peak expiratory flow; $FEV_1$, forced expiratory volume in 1 second.

## Chest Radiographs

Not every child with an asthma exacerbation requires a chest radiograph. However, children with their first episode of wheezing or an episode of unexplained severe wheezing that is not responding to bronchodilators to therapy should undergo chest radiography.[23]

X-rays should also be obtained if there is a clinical suspicion of pneumonia or pneumothorax, or if congestive heart failure is present. Presence of fever, chest pain, and subcutaneous emphysema are important clinical findings.

Most pediatric patients with acute asthma exacerbations have normal chest radiographs or just show hyperventilation. In most cases, the results of the chest x-rays rarely alter the management of the patient.

Predictors for clinically relevant chest x-ray in asthma exacerbation include:

- rapid respiratory rate
- fever
- low oxygen saturation or hypoxia
- physical findings on examination that suggest collapse, consolidation, CHF, or pneumothorax.

## Hospitalization or Discharge?

The decision to admit or discharge home should be guided by both clinical improvement and evaluation of the child's social situation.

Clinical factors which require hospitalization include worsening bronchospasm, hypoxia, and features of respiratory failure. As noted above, in older children serial measurement of the PEF can assist in making these decisions.

Other factors that require inpatient treatment are non-compliance with an outpatient treatment plan and inadequate access to medical care.

Patients who have shown marked improvement during the first hour can usually be discharged home.

Criteria for hospitalizing or discharging patients with acute asthma exacerbations are summarized in **Table 3**.

## Written Action Plans

Parental education is an essential component of asthma management. A visit to the ED or urgent care facility is an excellent opportunity to discuss the asthma action plan.

Parents must have a thorough understanding of the treatment offered and of the asthma action plan. This will increase the compliance with treatment and reduce unscheduled visits to the urgent care facility.

National and international asthma guidelines universally endorse written self-management plans for every asthmatic patient.

Typically, these represent just one facet of asthma education. Other facets include:

- medical review
- identification and avoidance of triggers
- explanation of medications and delivery systems
- early recognition of signs of deterioration
- instructions for the prevention and management of exacerbations.[24]

## Summary

Early recognition of symptoms facilitates early treatment and is the key to controlling asthma. Urgent care practitioners must know how to rapidly recognize and manage children with acute exacerbations of asthma in order to prevent significant mortality and morbidity.

Attention should also be paid to the maintenance regime of long-term control medications to prevent exacerbations.

Comprehensive asthma management should also include asthma education, with an emphasis on:

- avoidance of triggers
- appropriate and correct use of the inhaler
- reasons to return for care.

Urgent care physicians play an important role in the management of acute asthma in children and, therefore, have a unique opportunity to improve both the short- and long-term outcome and control of this very common, but potentially life-threatening illness. ■

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# The Case of a 21-year-old Woman with Sinus Pain

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

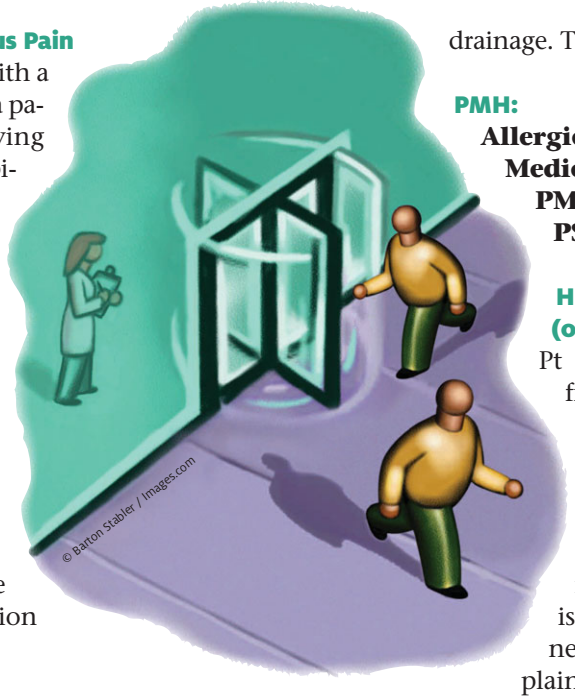
*Cases are adapted from the book* Bouncebacks! Emergency Department Cases: ED Returns *(2006, Anadem Publishing,* www.anadem.com*; also available at* www.amazon.com *and* www.acep.org*) by Michael B. Weinstock and Ryan Longstreth. The book includes 30 case presentations with risk management commentary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

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

## A 21-year-old Woman with Sinus Pain

I would rather have a patient with a stab wound to the chest than a patient with a serious underlying problem who just wants antibiotics and a quick evaluation. Is there a way to tease out benign-appearing patients who are "pre-crump?"

This month's case is that very patient—a raindrop in a torrent of mucus and purulent drainage.




## Initial Visit

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

**Chief complaint (09:14):** Sinus pain and congestion
**Triage/nursing:** Reports sinus congestion and pain for the past 3 days no fevers reports yellow sinus drainage. Took tylenol

**PMH:**
**Allergies:** NKDA
**Medications:** Diabetic pills, BCP
**PMH:** Diabetes, type 1
**PSH:** Negative

**HISTORY OF PRESENT ILLNESS (09:49):**
Pt states maxillary and right frontal sinus pain for the past 2 days. Pt states she has been severely congested. Denies visual problems or pain with movement of eyes. Denies vomiting or chest pain. Resting comfortably on exam. She is type 1 diabetic. Denies shortness of breath. No fever, unexplained weight change or malaise. No cough, n/v/d, abd. pain, urinary Sx, HA, rash.

**EXAM (09:50):**
CONSTITUTIONAL: Alert and oriented X3, well-nour-

| Vital Signs | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Time | Temp (°F) | Rt. | Pulse | Resp | Syst | Diast | Pos | O2 sat | O2% | Pain Scale |
| 06:15 | 97.8 | O | 131 | 18 | 156 | 88 | S | 95 | ra | 10 |

ished, well appearing, in no apparent distress
HEAD: Normocephalic; atraumatic
EYES: PERRL, no scleral icterus
NOSE: The nose is normal in appearance without rhinorrhea. TTP over right maxillary sinus
RESP: Normal chest excursion with respiration; breath sounds clear and equal bilaterally; no wheezes, rhonchi, or rales
CARD: Regular rhythm, without murmurs, rub or gallop
ABD: Non-distended; non-tender, soft, without rigidity, rebound or guarding
SKIN: Normal for age and race; warm and dry; no apparent lesions

**DIAGNOSIS (09:50):**
Maxillary sinusitis, acute

**ORDERS (10:13):**
Check pulse

**DISPOSITION:**
Discharge home ambulatory. Follow up with family practice in 2-3 days. Rx amoxicillin 500mg PO TID #30, ultram 50mg #20. After care instructions for sinusitis. Record released from tracking board at 07:17.

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

### Error 1

**Error:** Tachycardia not appreciated.

**Discussion:** The normal heart rate is 60 to 100 beats per minute, but can be elevated with fever, pain, or even the anxiety of going to see a doctor. A heart rate of 131, however, is a red flag for more serious illness. Previously, we have discussed a study by Sklar, et al published in 2007 in the *Annals of Emergency Medicine* which found the most common theme in avoidable deaths within seven days of an emergency department visit was unrecognized tachycardia (occurring in 71% of the medical error cases).

If an abnormal vital sign such as tachycardia with dehydration or an acute fracture is expected, this can be noted in the chart. If unexplained, further evaluation is necessary.

**Teaching point:** When a vital sign is abnormal, it needs to be rechecked and discussed in a progress note.

### Error 2

**Error:** System breakdown.

**Discussion:** At 10:13 a.m., an order was written to recheck the pulse, but the patient was discharged before this was done. If the recheck had been accomplished and found the pulse to be 88, this would have been reassuring; a pulse of 151 would have prompted re-evaluation before discharge.

**Teaching point:** A mechanism needs to be in place to ensure orders are carried out in a timely and reliable manner.

### Error 3

**Error:** Past history not explored.

**Discussion:** Diabetic patients do not need a finger stick blood sugar at every visit, but their blood sugar needs to be considered. This is easily accomplished in the history with a simple question as to the most recent blood sugar.

If our patient had reported that her blood sugar level that morning was 81 mg/dL, we would have been reassured. If she hadn't checked it in two weeks, we would have been concerned.

Additional historical concerns include complaints of polyuria, polydipsia, weight loss, history of diabetic ketoacidosis (DKA), or recent HbA1c test.

If the patient has never heard of this number, that is also useful information!

**Teaching point:** Patients with significant risk factors need to have them explored with history or further testing.

### Error 4

**Error:** Abnormal oxygen saturation not rechecked.

**Discussion:** Another abnormal finding is the "5$^{th}$ vital sign"—the pulse ox.

Whereas it may be helpful to obtain more and more data on each patient, there is no point in checking if the results will be ignored. The sat of 95% is not grossly abnormal, but is a little surprising in a young, seemingly healthy woman. In a malpractice action, it is a lot more difficult to defend not acting on an abnormal result, than it is to defend not ordering an unnecessary test.

**Teaching point:** Do not obtain data which will be ignored.

## Emergency Department Visit 2 Days Later (19:30)

- Chief Complaint – Hyperglycemia
- Vital signs: Pulse 155, BP 158/98, sat 100%
- Physician evaluation: Decreased LOC, Responds to verbal stim – Not able to obtain any hx from patient. Per mother pt. type 1 DM since age 16. Anorexic for

last 4 days. Meds – Metformin, no insulin. Hx DKA 3 years ago
- 19:40 – 2L Normal saline
- 21:36 – Labs:
  - CBC – WNL
  - Lytes – K+ = 4.6, serum bicarb = 9
  - BUN/creat = 32/1.6
  - Glucose = 663
  - Acetone = Moderate
  - UA – WNL
- ABG
  - pH = 7.11
  - pCO2 = 16
  - pO2 = 152
- 20:37 – Regular insulin 8 units IV
- 20:50 – Potassium 20meq IVPB
- 22:34 – Pulse 166, BP decreased to 106/80, sat 98%
- **Diagnosis:** DKA (Diabetic ketoacidosis), Persistent vomiting, Dehydration (hypovolemia)
- **Hospital course**
  - Encephalopathy worsens
  - MRI brain normal
  - Encephalopathy improves
  - Hospital discharge after 4 days

### Discussion of Sinusitis and Diabetic Ketoacidosis

DKA is the end result of hyperglycemia and insulinopenia, often precipitated by abrupt withdrawal of exogenous insulin or significant systemic stress.

On her initial visit, our patient was likely careening down a steep slope, made more slippery by her concurrent infection (URI or perhaps acute sinusitis).

When the patient's mother arrived at the second visit, she told the physician there was a history of DKA three years previously.

*Would a blood sugar check at the initial visit avoided the bounceback?*

This question is impossible to answer definitively, but likely it would have indicated significant hyperglycemia.

The significant tachycardia reflected at the initial visit was probably from dehydration and a hyperosmolar state. A significantly elevated blood sugar would have prompted lab evaluation and fluid resuscitation. Her lone treatment with metformin (Glucophage) invites further problems, potentially, as patients with renal failure (reflected at the second visit with a creatinine elevation of 1.6, likely from pre-renal causes) puts her at high risk of lactic acidosis. If the sugar was only mildly elevated, she could have been advised to perform frequent blood sugar checks and call her physician or return with significantly elevated blood sugar.

*We become real doctors when we not only get the cases our neighbors can diagnose, but when we go to the next step of anticipating a potentially poor outcome and digging deeper to ensure there are no underlying catastrophes lurking around the bend.*

*Can DKA be treated on an outpatient basis? What are indications for admission?*

Whereas hyperglycemia is treated on an outpatient basis, typically, DKA usually requires inpatient treatment. The trick is to distinguish between the two, especially in patients who are poorly controlled and poorly compliant.

When our patient returned, her blood sugar was >600 mg/dL and her mental status was altered. The initial blood sugar was probably <600 mg/dL, but if it was significantly elevated this could have been further explored historically in the urgent care center by asking about polyuria, polydipsia, weight loss, or history of DKA and per exam by dry mucus membranes, fruity odor of breath (yuck), specific mental status questions, and tachycardia.

*Was treatment for sinusitis indicated?*

There are specific indications stating that one week of symptoms is necessary before treatment is initiated. Still, most cases are viral and the number needed to treat (NNT) with antibiotics to get one person better sooner is anywhere from 8 to 12.

There are patients who seem to push for antibiotics, but studies have repeatedly shown that speaking with patients about their illness results in equal or higher satisfaction compared with writing a script for unnecessary antibiotics. Physicians commonly order medications because they want to please patients, but we are notoriously poor at gauging a patient's expectations.

This seemingly innocuous practice is rampant, estimated by the Center for Disease Control and Prevention at tens of millions of unnecessary prescriptions per year.

There are many known harms of inappropriate use of antibiotics, including allergic reactions, side effects, drug resistance, interaction with other medications, and cost.

Several recent studies have shed light on an additional troubling concern: increased incidence of breast cancer. In 2004, *The Journal of the American Medical Association (JAMA)* published data on 10,000 women who had used multiple courses of antibiotics over a 17-year period. The findings were troubling; women who had taken a little more than one dose of antibiotics per year had twice the incidence of breast cancer. A Finnish study in 2000 showed similar findings with a similar number of women.

Why do doctors continue to use medicines where there is minimal chance they will help, but significant risk they may cause serious harm? Hypotheses include physician knowledge deficit, time considerations, concern about missing a bacterial illness, and fear of displeasing a patient who had expected their Z-pack.

## Summary

We become real doctors when we not only get the cases our neighbors can diagnose (snot=scrip, chest pain=transfer), but when we go to the next step of anticipating a potentially poor outcome and digging deeper to ensure there are no underlying catastrophes lurking around the bend. Identifying a few high-risk patients per day and spending three extra minutes each will go a long way toward avoiding a bounceback. ■

## Resources


- American Diabetes Association. Standards of medical care in diabetes—2007 (position statement). *Diabetes Care*. 2007;30:S4-S41.
- Nathan DM, Buse JB, Davidson MD, et al. Management of hyperglycemia in type 2 diabetes: A consensus algorithm for the initiation and adjustment of therapy: A consensus statement from the American Diabetes Association and the European Association for the study of diabetes. *Diabetes Care*. 2006;29(8):1963-1972.
- Rother KI. Diabetes treatment—bridging the divide. *New Engl J Med*. 2007;356(15):1499-1501.
- Sklar DP, Crandall CS, Loeliger E, et al. Unanticipated death after discharge home from the emergency department. *Ann Emerg Med*. 2007; 49:735-745.
- Snow V, Mottur-Pilson C, Hickner JM, et al. Principles of appropriate antibiotic use for acute sinusitis in adults. *Ann Intern Med*. 2001;134(6): 495-497.

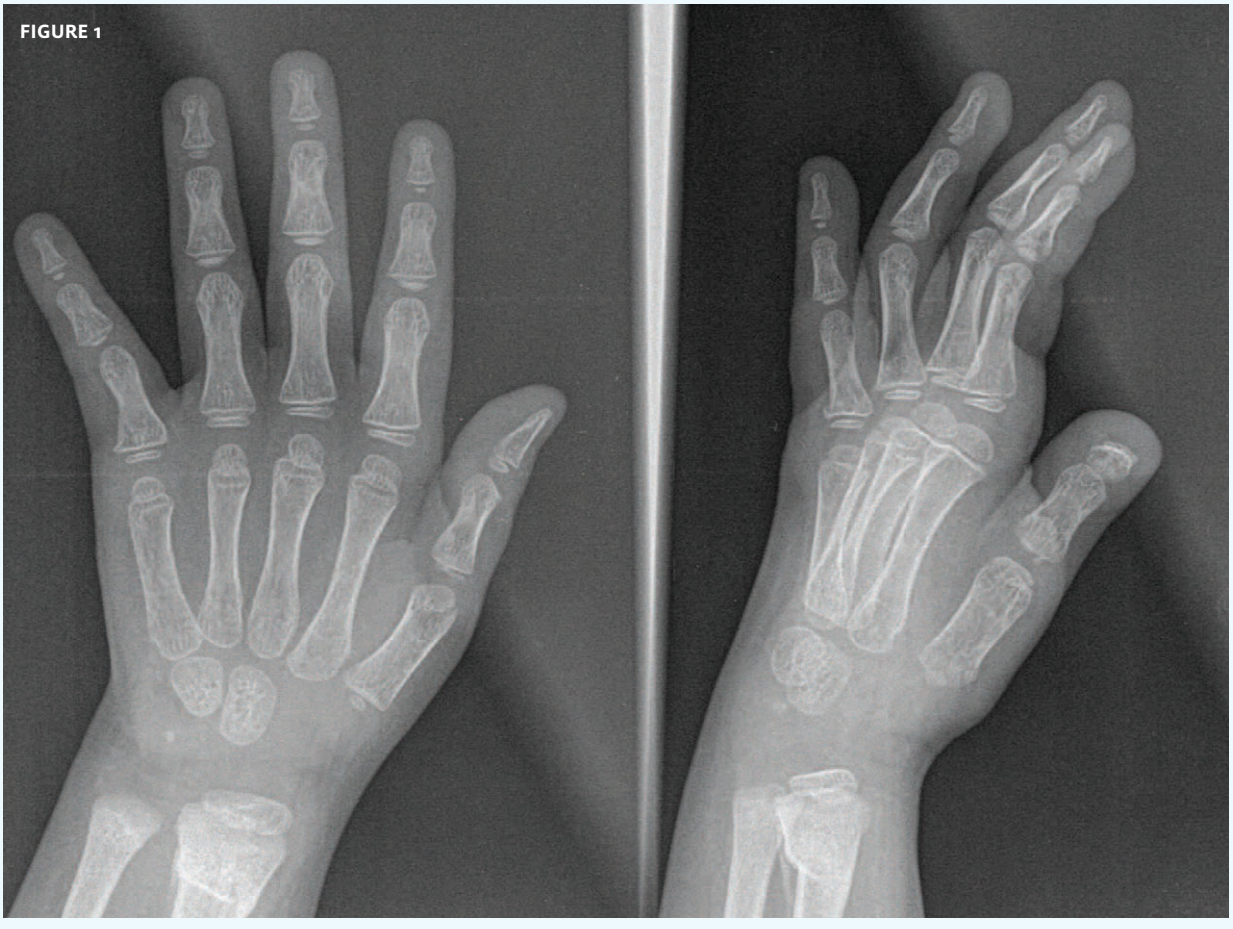
INSIGHTS IN IMAGE

# CLINICAL CHALLENGE CASE 1

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

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

FIGURE 1



The patient is a 4½-year-old girl who presents with local pain and swelling in the fifth digit of her left hand. The parents report that she experienced a fall.

On examination, you note local swelling at the base of the thumb. The patient confirms this is the site of her pain, as well.

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

Resolution of the case is described on the next page.

## THE RESOLUTION

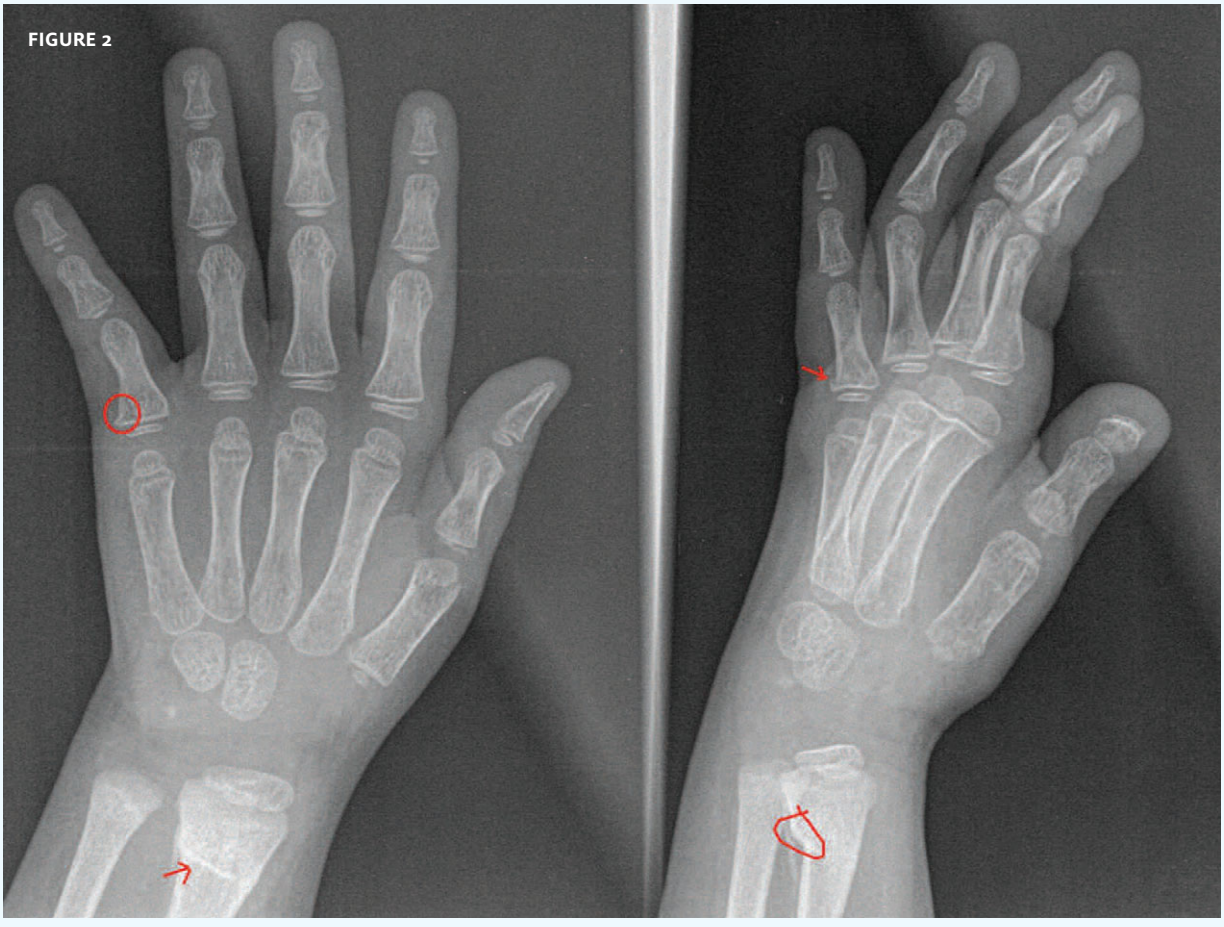


FIGURE 2

The x-ray reveals a fracture at the base of the proximal phalanx and distal radius. The proximal phalanx has some deviation.

One can do a local digital block at the base of the fifth digit and then apply mild traction to reduce the fracture. Given the fracture of the digit *and* distal radius, one would apply a gutter slab that wraps around to the volar aspect of the forearm and advise the parents to follow up with an orthopedist.

This case also presents an opportunity to stress the importance of careful examination and low index of suspicion when evaluating children with injuries.

Often, children do not localize pain well and cannot explain mechanism of action. Inability to use an extremity through the full range of motion should raise suspicion of bony injury to the affected limb segment.

In addition, distraction techniques can often relieve anxiety and allow for a more useful examination. Once anxiety is relieved, any derangement of function should be taken very seriously and imaged as necessary.

*Acknowledgment: Case presented by Nahum Kovalski, BSc, MDCM, Terem Emergency Medical Centers, Jerusalem, Israel.*

INSIGHTS IN IMAGES

# CLINICAL CHALLENGE CASE 2

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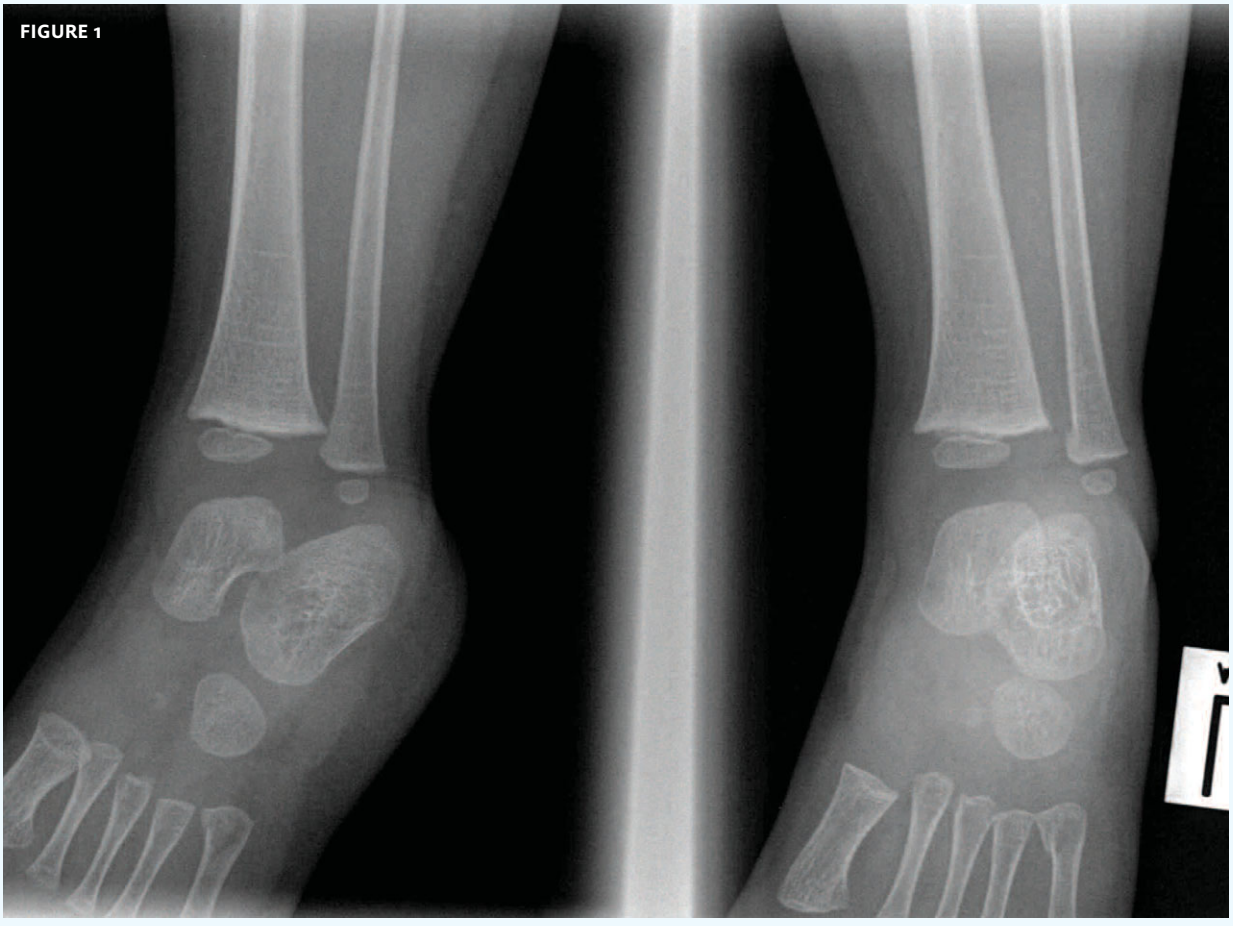
FIGURE 1



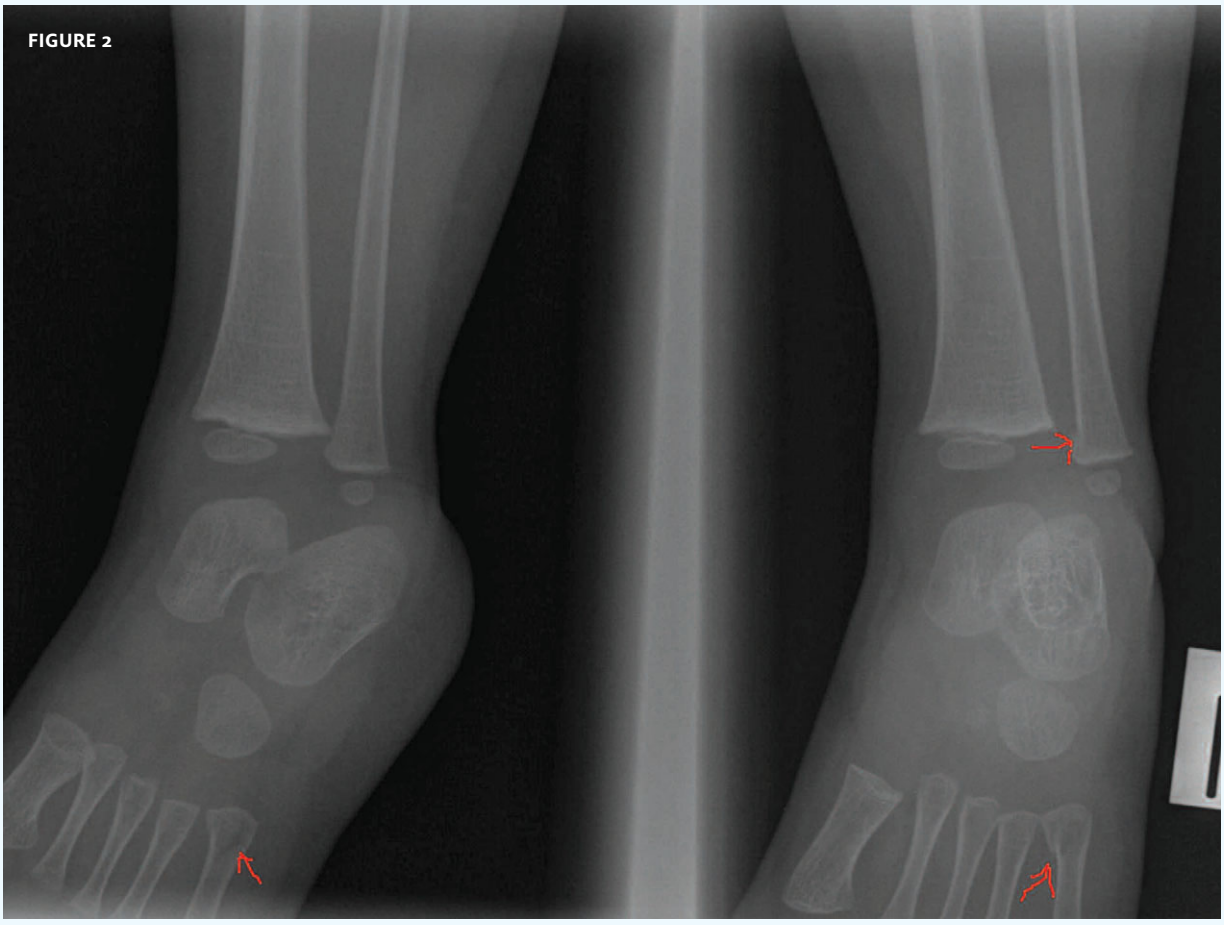
The patient is a 2½-year-old who presents with pain in the left ankle after receiving a blow to the lower leg. You find he is unable to bear weight on that side.

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

Resolution of the case is described on the next page.

## THE RESOLUTION

FIGURE 2



The x-ray shows a fracture of the distal fibula *and* of the proximal fifth metatarsal.

This patient was placed in a cast splint. His parents were advised to follow up with an orthopedist.

As it happens, this was one of two cases on the same day at the same facility in which there were fractures of both of the fibula and metatarsal—a reminder that we always need to check both.

*Acknowledgment: Case presented by Nahum Kovalski, BSc, MDCM, Terem Emergency Medical Centers, Jerusalem, Israel.*

*These cases are among hundreds that can be found in Terem's online X-ray Teaching File, with more being added daily. Free access to the file is available at* https://www2.teremi.com/xrayteach/. *A no-cost, brief registration is required.*

# ABSTRACTS IN URGENT CARE

# On Hemorrhage and Warfarin, Pink Eye, Crying Infants, Superficial Venous Thrombosis, Troponin Assays, Colchicine for Gout, Topical Silver, Evaluation of PE, and Lumbar Puncture for Febrile Seizure in Babies

■ NAHUM KOVALSKI, BSc, MDCM

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

## Upper Gastrointestinal Tract Hemorrhage, Warfarin, and Urinary Tract Antibiotics

***Key point: Ciprofloxacin increased GI hemorrhage while on coumadin by twice as much, and cotrimoxazole by four times.***

**Citation: Fischer HD, Juurlink DN, Mamdani MM, et al. Hemorrhage during warfarin therapy associated with cotrimoxazole and other urinary tract anti-infective agents: A population-based study. *Arch Intern Med*. 2010;170(7):617-621.**

Hemorrhage is a well-known side effect of long-term warfarin use in older patients. Interactions between warfarin and certain other drugs can increase the risk for this complication.

In a recent nested case-control study conducted using healthcare databases from Ontario, Canada, researchers examined the risk for upper gastrointestinal (GI) tract hemorrhage among patients receiving both warfarin and antibiotics commonly used to treat urinary tract infections.

The cohort consisted of 134,637 patients aged ≥66 years who had been continuously treated with warfarin for ≥180 days. Of these patients, 45,972 had received a concomitant prescription for an antibiotic of interest. The 2,151 patients (1.6%) who were hospitalized for upper GI tract hemorrhage during the study period were considered cases.

Cases were nearly four times as likely as controls to have received cotrimoxazole. Ciprofloxacin use was also associated with increased bleeding risk. No significant association was seen among hemorrhage and use of amoxicillin, ampicillin, nitrofurantoin, or norfloxacin.

Although increasing drug resistance among aerobic gram-negative bacilli has limited the use of cotrimoxazole, this agent is still prescribed for urinary tract infections caused by susceptible pathogens.

Among older patients taking warfarin, an antibiotic other than cotrimoxazole or ciprofloxacin should be prescribed. If an alternative is not feasible, both prothrombin time and the international normalized ratio should be monitored closely during and after antibiotic therapy.

[Published in *J Watch Infect Dis*, April 28, 2010—Larry M. Baddour, MD.] ■

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

## Pink Eye: To Treat or Not to Treat?

***Key point: Four clinical factors helped identify children at low risk for bacterial conjunctivitis.***

**Citation: Identifying children at low risk for bacterial conjunctivitis. Meltzer JA, Kunkov S, Crain EF. *Arch Pediatr Adolesc Med*. 2010;164(3):263-267.**

Acute conjunctivitis is a common childhood ailment that many practitioners treat with topical antibiotics, even though only 50% to 80% of cases are bacterial.

To identify clinical factors associated with low risk for bacterial conjunctivitis, investigators in New York City conducted a prospective observational cohort study involving 368 patients between 6 months and 17 years of age who presented with con-

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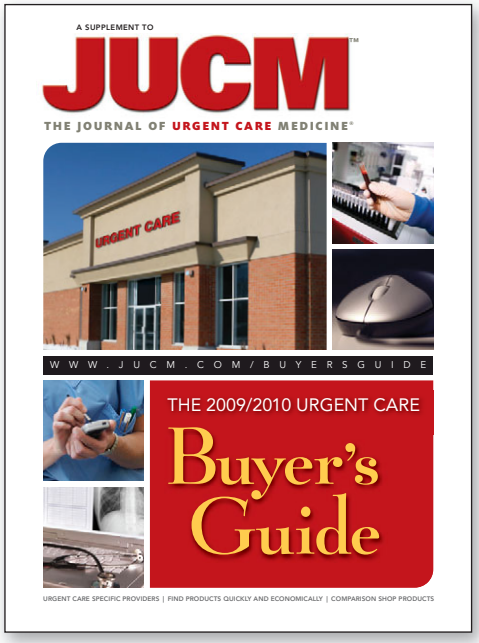


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junctival erythema, eye discharge, or both to a pediatric emergency department between April 2007 and March 2008.

Physicians filled out a checklist of signs and symptoms for each patient and obtained a conjunctival swab for bacterial culture. Cultures were negative (grew normal flora or no bacteria) in 130 patients (35%). Most positive cultures grew *Haemophilus influenzae* (68%) or *Streptococcus pneumoniae* (20%).

In multivariate regression analysis, the following factors were independently associated with negative cultures:

1. age ≥6 years
2. presentation during April through November
3. watery or no discharge
4. no glued eye in the morning

In a prediction model, a child who presented with all four clinical factors would have a negative culture 92% of the time, whereas a child who presented with none of these factors would have a negative culture 12% of the time.

This study identified four easy-to-remember clinical factors that clinicians can use to help identify children at low risk for bacterial conjunctivitis and prevent the use of unnecessary topical antibiotics. However, the seasonal variation in New York City might not be the same as that in other locations, making one of the predictors less reliable.

[Published in *J Watch Pediatr Adolesc Med*, April 7, 2010—Robin Drucker, MD.] ■

## Corneal Abrasions in Crying Infants: A Red Herring?

***Key point: Half of young infants had corneal abrasions at well-child visits.***

**Citation: Shope TR, Rieg TS, Kathiria NN. Corneal abrasions in young infants. *Pediatrics* 2010;125(3):e565-e569.**

The differential diagnosis of unexplained crying in young infants includes life-threatening conditions such as bacterial infection and less serious—but presumably painful—conditions such as hair tourniquet and corneal abrasion.

Investigators examined the prevalence of corneal abrasion in 96 infants (age range: 1 week to 12 weeks) who presented *without* complaints of crying or eye trauma for well-child visits at a single pediatric clinic in Virginia. Examiners applied fluorescein dye drops into the infants' eyes and looked at their corneas with a ring-shaped magnifying glass with a cobalt blue light. After the exam, parents completed a questionnaire about infant behavior during the previous 24 hours, including crying and fussing (defined as not quite crying but not content).

Corneal abrasions were found in 49% of infants and were 1 mm to 3 mm long; infants with abrasions received acetaminophen and erythromycin eye ointment.

No significant associations were found between the presence of corneal abrasion and crying, fussing, age, fingernail length, or fingernail trimming practices.

The authors postulate that small corneal abrasions in young infants are common and might be asymptomatic (causing no change in normal infant behavior) and fast healing.

[Published in *J Watch Pediatr Adolesc Med,* April 7, 2010—Cornelius W. Van Niel, MD.] ■

## Risk for Deep Venous Thrombosis in Patients with Superficial Venous Thrombosis

**Key point: Among 600 patients with isolated superficial venous thrombosis, 10% experienced thromboembolic events within 3 months.**

**Citation: Decousus H, Quéré I, Presles E, et al. Superficial venous thrombosis and venous thromboembolism: A large, prospective epidemiologic study. *Ann Intern Med*. 2010;152 (4):218-224.**

The role of anticoagulation in patients with superficial venous thrombosis is controversial, because their risk for deep venous thrombosis (DVT) or pulmonary embolism (PE), has not been evaluated thoroughly.

Researchers in France studied 844 patients who had been referred for diagnostic confirmation of superficial venous thrombosis and who had noncompressible hypoechoic areas >5 cm in length in lower limb superficial veins (as identified by ultrasonography). Median time between first symptoms and consultation was six days.

In 554 patients, the greater saphenous vein was involved; in 106 of these cases, thrombus extended to within 3 cm of the saphenofemoral junction.

One quarter of patients (210) had DVT or PE at study entry. Of the patients without baseline DVT or PE who were followed for three months, 10% developed DVT or PE, despite the fact that most received at least short-term anticoagulation therapy.

Most thromboembolic events (46 of 58) were symptomatic.

Risk for concurrent and subsequent DVT and PE in patients with superficial venous thrombosis might not be as insignificant as we thought. But, because this study involved a referral population with persistent symptoms, we can't be certain how generalizable the results are.

Uncertainty persists about when and whether patients with superficial venous thrombosis should be evaluated for DVT or receive anticoagulation therapy, although monitoring for symptoms during follow-up seems reasonable.

[Published in *J Watch Gen Medicine*, April 1, 2010—Richard Saitz, MD.] ■

## High-sensitivity Troponin Assays

***Key point: A new troponin assay was 100% sensitive for acute***

*myocardial infarction, when performed within four hours of presentation.*

**Citations: Januzzi JL, Bamberg F, Lee H, et al. High-sensitivity troponin T concentrations in acute chest pain patients evaluated with cardiac computed tomography. *Circulation*. 2010;121(10):1227-1234.**

**Diamond GA, Kaul S. How would the Reverend Bayes interpret high-sensitivity troponin? *Circulation*. 2010;121( 0):1172-1175.**

Investigators evaluated the diagnostic performance of a new high-sensitivity troponin T (hsTnT) assay in 377 patients with chest pain and low-to-intermediate risk for acute coronary syndromes (ACS) who presented to a high-volume emergency department in Boston.

All patients received usual initial care and underwent coronary angiography, at which time blood was drawn for a single hsTnT assay. Patients were followed for six months, and final diagnoses were assigned by two physicians who were blinded to the hsTnT results.

The investigators used a troponin level of 13 pg/mL (the 99th percentile in a normal reference population) as the diagnostic threshold. Overall, 16.4% of patients had hsTnT levels ≥13 pg/mL. Thirty-seven patients (9.8%) were judged to have ACS, including 29 with unstable angina.

Among patients without ACS, those with elevated hsTnT were significantly more likely than those without elevated levels to have complex medical histories, cardiac abnormalities, coronary artery disease, and greater left ventricular mass. The negative predictive value of a single four-hour hsTnT was 100% for myocardial infarction (MI) and 96% for all ACS, including unstable angina. The positive predictive value for MI was 11%.

For serious diseases, tests with 100% negative predictive value allow clinicians to move on to consider alternative diagnoses. As we learn more about high-sensitivity troponin, "rule-out MI" regimens might become shorter.

[Published in *J Watch Emerg Med*, April 16, 2010—J. Stephen Bohan, MD, MS, FACP, FACEP.]

## 25. Revisiting Colchicine for Acute Gout

***Key point: Low-dose colchicine was reasonably effective and nontoxic.***

**Citation: Terkeltaub RA, Furst DE, Bennett K, et al. High versus low dosing of oral colchicine for early acute gout flare: Twenty-four–hour outcome of the first multicenter, randomized, double-blind, placebo-controlled, parallel-group, dose-comparison colchicine study. *Arthritis Rheum*. 201062(4): 1060-1068.**

In years past, patients with acute gout were treated with oral colchicine, given every one to two hours until pain subsided or intolerable gastrointestinal side effects occurred. Although this approach has been abandoned, largely, a well-tolerated colchicine regimen would be a useful alternative for patients with contraindications to nonsteroidal anti-inflammatory drugs (NSAIDs) or corticosteroids.

In an industry-sponsored randomized trial, 184 patients with acute gout flares received high-dose colchicine (1.2 mg initially, followed by 0.6 mg hourly for six hours), low-dose colchicine (1.2 mg initially, followed by 0.6 mg 1 hour later), or placebo. The primary endpoint—a reduction of ≥50% on a pain-score index at 24 hours—occurred in 38% of low-dose colchicine recipients, 33% of high-dose colchicine recipients, and 16% of placebo recipients.

Differences between either colchicine group and the placebo group were significant.

Adverse gastrointestinal events were significantly more common with high-dose colchicine (77%) than with low-dose colchicine (37%) or with placebo (27%).

At first glance, the response rate to low-dose colchicine seems unimpressive. However, one wouldn't expect dramatic resolution at 24 hours. (The authors used a 24-hour endpoint to avoid prolonged use of placebo for this painful condition.) If a longer trial were to identify a low-dose colchicine regimen that compared favorably to NSAIDs or steroids, colchicine for acute gout flares could make a comeback.

[Published in *J Watch Gen Med*, April 16, 2010—Allan S. Brett, MD.] ■

## Topical Silver for Preventing Wound Infection

***Key point: Not only is there no clear evidence that silver-containing creams help improve outcomes from burns and other wounds, but they may actually slow down healing in patients with partial-thickness burns.***

**Citation: Storm-Versloot MN, Vos CG, Ubbink DT, et al. *The Cochrane Library*. Available at: *www2.cochrane.org/reviews/en/ab006478.html*.**

Wound dressings and creams containing silver are used widely. It is thought that silver may help wounds to heal faster and prevent infection, though the authors confessed that they did not know if this was true.

This review identified 26 trials (involving 2,066 participants) comparing silver-containing dressings or creams versus dressings or creams that did not contain silver. Twenty of the trials were on burn wounds, while the other trials were on a mixture of wound types. Most studies were small and of poor quality.

After examining them all, the authors concluded that there is not enough evidence to support the use of silver-containing

dressings or creams, as generally these treatments did not promote wound healing or prevent wound infections.

Some evidence from a number of small, poor-quality studies suggested that one silver-containing compound (silver sulphadiazine) has no effect on infection, and actually slows down healing in patients with partial-thickness burns. ■

## Incidental Findings on CT Angiography for Evaluation of PE

*Key point: In a study of CT angiography in ED patients, incidental findings were more than twice as common as PE.*

**Citations: Hall WB, Truitt SG, Scheunemann LP, et al. The prevalence of clinically relevant incidental findings on chest computed tomographic angiograms ordered to diagnose pulmonary embolism. *Arch Intern Med*. 2009;169(21):1961-1965.**

**Computed tomographic pulmonary angiography to diagnose pulmonary embolism: The good, the bad, and the ugly. Schattner A. *Arch Intern Med*. 2009;169(21):1966-1968.**

Computed tomography angiography is the gold standard for diagnosing pulmonary embolism (PE) in the emergency department because of its simplicity, high sensitivity, and availability. It also, often, identifies alternative explanations for symptoms and signs in patients who do not have PE. However, the test also reveals incidental findings, such as pulmonary nodules and adenopathy, that do not contribute to determining the cause of a patient's symptoms and signs; follow-up of such findings rarely alters patient outcomes but adds cost, radiation exposure, and patient anxiety.

To determine the prevalence of incidental findings, these authors reviewed 589 CT angiograms (CTAs) ordered to evaluate for PE at a single academic medical center ED during 2003 and 2005. Overall, 9% of CTAs were positive for PE. Other findings were present in 81% of CTAs and provided alternative explanations for symptoms in 33% of all patients.

New incidental findings (mostly masses and nodules) that required clinical or radiologic follow-up were present in 24% of CTAs; such findings were 2.5 times more common than PE.

The authors suggest a more structured approach to diagnosing PE that includes appropriate D-dimer testing and high-quality nonportable chest radiography.

An editorialist offers a scheme for reducing use of CTAs that involves D-dimer testing, leg ultrasonography, and V/Q scanning (with clear-cut reporting guidelines) instead of CT, with CTAs reserved for patients with indeterminate V/Q scans.

One would hope that EDs use a more rational approach to PE diagnosis now than in 2003 to 2005, especially given the well-documented downsides of excessive testing.

A rational approach—such as use of Wells or Geneva scores, D-dimer testing, and high-quality chest radiography to identify patients at low risk for PE—would not only avoid irradiating patients when they present but also allay the need for repeat scans to chase incidental findings.

[Published in *J Watch Emerg Med*, January 8, 2010—J. Stephen Bohan, MD, MS, FACP, FACEP.] ■

## Utility of Lumbar Puncture for First Simple Febrile Seizure Among Children 6 to 18 Months of Age

**Key point: LP is not needed for young children with first simple febrile seizure.**

**Citation: Kimia AA, Capraro AJ, Hummel D, et al. Utility of lumbar puncture for first simple febrile seizure among children 6 to 18 months of age. *Pediatrics*. 2009;123(1):6-12.**

Although first simple febrile seizure (FSFS) usually is not the sole manifestation of bacterial meningitis, the American Academy of Pediatrics (AAP) practice parameter for the diagnostic evaluation of FSFS in children recommends that lumbar puncture (LP) be "strongly considered" for patients younger than 12 months and "considered" for those aged 12 to 18 months (*Pediatrics*, 1996;97:769).

Investigators challenged this recommendation in the era of *Haemophilus influenzae* type B and pneumococcal conjugate vaccines. The investigators retrospectively reviewed charts of *well-appearing children* aged 6 to 18 months who presented within 12 hours after FSFS to a single emergency department in Boston between 1995 and 2006.

The primary outcome was the rate of bacterial meningitis. Secondary outcomes were compliance with the AAP practice parameter and temporal trends in the performance of LP.

Of 704 patients, 27% were younger than 12 months. Overall, 8% of patients were hospitalized, and 10% had received at least one dose of antibiotics before their ED visit. LP was attempted in 271 cases (38%), and cerebrospinal fluid (CSF) was obtained in 260. Ten cases (3.8%) had CSF pleocytosis (median white cell count, 1 cell/mm3). No CSF culture was positive for a pathogen, and no patients with CSF pleocytosis had positive blood cultures. None of the 704 patients returned to the hospital with bacterial meningitis. During the study period, LP was performed in 70% of patients younger than 12 months and in 25% of those aged 12 to 18 months, with rates decreasing over time in both age groups.

The authors recommend changing the wording of the AAP practice parameter to simply state that "meningitis should be considered in the differential diagnosis for any febrile child, and LP should be performed if there are clinical signs or symptoms of concern."

[Published in *J Watch Emerg Med*, February 27, 2009—Jill M. Baren, MD, MBE, FACEP, FAAP.] ■



# Turning Rejection Into Opportunity

FRANK H. LEONE, MBA, MPH

A quarter of a century ago, a former colleague of mine who specialized in stress management told me that everyone experiences stress; what matters is how one manages it.

Analogous advice would seem to apply to sales: "Every sales professional experiences rejection. What matters is how they manage that rejection."

This month's column features a plan for learning how to live with rejection, and turning it to your advantage.

**'No' Does Not Always Mean 'No'**

With due respect to the country music classic, *What Don't You Understand About No?*, we deal with transactions, not romance.

When wearing your "sales professional" hat, it is important to retain some wiggle room, even after a prospect seemingly closes their door. For example, a prospect's negativity may be short-lived; unanticipated events may occur (e.g., newfound dissatisfaction with the prospect's current occupational health provider), or they may hear something positive about your program that changes their mind.

Accordingly, your clinic can do several things in the midst of rejection to ease the pain and better position yourself for a future sales encounter:

1. Modify the classic objection response cycle (e.g., pause, empathize, probe, reposition, agree) for use immediately after a failed sales effort:

   *Pause*. Following most rejections, a sales professional is tempted to gloomily move on. In most cases, this is counter-productive.

   Try following a conclusive "no go" with a simple pause. These precious seconds cut the tension that tends to envelop either or both parties at the point of "no" and allows the sales professional time to regroup.

   *Empathize*. The last thing a prospect expects to hear from a sales professional is acknowledgement that the prospect made a reasonable choice in selecting another option. Yet, such a pronouncement tends to endear the sales professional to the prospect and grants greater leverage to renew their sales effort at a later date.

   A fair statement such as, "Your provider offers good services; I'm sure you will be happy with them" tends to enhance your credibility and solidify your relationship with the prospect.

   *Probe*. If the rationale for the prospect's rejection is not perfectly clear, ask why they chose not to work with your clinic. "Please tell me why you prefer not to work with us at this time. Your opinion will help me in future dealings," is a fair request. This information can provide you with a foundation to refine your sales technique and/or call attention to recurring deficits at the program level.

   *Reposition*. Following a "no," you should seek an opening to reinitiate contact with the prospect at a later date. You can do this in several ways:

   - Set a check-in date. Tell your prospect that you would like to stay in touch and ask if they would mind if you called, say, six months later "just to see how things are going." Prospects are usually not averse to making such a commitment six month's out, and you have now established both a purpose and a timeline for maintaining contact.

     Be certain to calendar all such planned contacts.
   - Offer a "freebie." An occupational health sales professional should maintain a bag of "freebies" that can

*Continued on page 34*

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



# Harmony in the Urgent Care

JOHN SHUFELDT, MD, JD, MBA, FACEP

My kids might offer a dissenting opinion, but I think I am pretty hip. And, although I have no idea what these lyrics mean...

*I want your ugly*
*I want your disease*
*I want your everything*
*As long as it's free*
*I want your love*
*Love-love-love*
*I want your love*

...I still have Lady Gaga on in my iTunes. In fact, I kind of like these lyrics; they remind of working in the emergency department or urgent care center.

That said, Lady Gaga—despite the fact she's okay with *ugly disease-ridden individuals "as long as its free"* (spoken like a true UC provider)—has nothing on the Eagles.

I know these guys are older than Moses. (In fact, Timothy B. Schmidt even kind of looks like Moses, or at least like Charlton Heston playing Moses in *The Ten Commandments*.)

The very first concert I attended was an eight-hour music fest featuring Pablo Cruise, the Steve Miller Band, and the Eagles at Comiskey Park on the south side of Chicago during a Super Bowl of Rock Concert tour in 1978.

I bring this up because I had the opportunity recently to see the Eagles during their current tour. They opened with a song called *Seven Bridges Road*. If you haven't heard it, the first part is sung in perfect harmony, a cappella by the four remaining band members. They have been singing this song together since 1980 and it shows. Their harmony sounded unbelievable.

Harmony in music, as in most professions, is vitally important. The word *harmony* has its origins in Greece, where it meant "to fit together, to join." Success in medicine requires harmony amongst the team.

Whether in the operating room, the ED, or the urgent care, patient safety and throughput efficiency depends on the ability of a disparate group of individuals to come together and perform as a team.

Typically, these teams don't have the longevity or shared experiences of the Eagles; however, despite their lack of practice, their performance has to be nearly flawless given what is at risk.

How does a team achieve harmony? The most obvious answer is to simply practice and work together. This is often difficult to achieve with the number of different individuals who make up a typical urgent care team.

It is an overused metaphor, but there truly is no "I" in team. When one of your employees believes that they are the linchpin holding the team together, it may be time to have a blunt discussion about teamwork.

This does not mean that one person is not ultimately responsible for the care of the patient; typically, the provider is that person. However, "care" is provided by the entire team. If the front office does not collect the current information, for example, the patient may be entered incorrectly into the system.

I have seen cases where a person's entire encounter was documented on another patient's chart. This creates all sorts of medical, legal, HIPAA, billing, and collecting issues, as well as probably the most critical issue: the actual patient could receive a medication based upon incorrect past medical history, allergy, and current medication utilization. Talk about, "I want your disease!" Documenting on the wrong chart, effectively, gives another past patient the current patient's disease.

If the back office enters the wrong vitals or lab or x-ray results, the patient suffers.

If callbacks are not performed and significant, health-altering information is not passed on to the provider or patient, the patient suffers.

If the wrong scripts or instructions are given to the patient during the discharge process, they suffer.

If the provider does not see the patient in a timely manner or misses a time-sensitive, high-risk condition, the patient suffers.

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

*"One person who is not in harmony with the rest of the team can destroy a patient interaction and place the patient and the entire operation at risk."*

There are multiple critical actions during every patient encounter which, if not correctly traversed, will lead to potentially significant negative patient outcomes. Multiply all these critical actions by the 40 or more patients treated every day in the center, and you will understand why harmony is so important in an urgent care.

The Eagles could miss a note or be off an occasional octave and no one will notice or care. Missing the fact that the patient's pulse on discharge was 120 because the team was not working well together, however, could lead to a catastrophe.

The critical actions in an urgent care center also encompass the interpersonal communications which take place during the encounter. If the team is not getting along or not working well together, it does not take much to communicate dissension to a patient.

A comment like, "Let me retake your vitals because they never get it right" or "I hope you can understand the doctor, because no one else can" harm the patient because they immediately don't trust the caregivers and may leave thinking "I don't know if I should follow the advice since they can't even get their act together or seem like they trust each other."

One bad actor can completely kill any chance for harmony.

Think of it this way: If I was singing with the Eagles in place of Joe Walsh, the harmony would be completely destroyed. Although I know all the words, I would be off key and sound like a castrated mule.

One person who, for whatever reason, is not in harmony with the rest of the team in the urgent care center can destroy a patient interaction and place the patient and the entire operation at risk.

Here is the take-home point: Screen new team members very well. They have to be more than simply competent. They have to work and play well with others so the entire operation can harmonize.

Although Lady Gaga "*want[s] your psycho*," the urgent care center should stay far away from hiring them. ■



*"The more calls you make, the more prospects you will close."*

be offered at various stages of the sales cycle, including immediately post-rejection. Freebies might include a subscription to a periodical published by your clinic, a complimentary service, or registration to an upcoming seminar.

- Add the individual to your e-mail list. If your clinic sends out periodic e-mail blasts to clients and prospects, you can use the moment of rejection to ensure that you have the prospect's e-mail address as well as those of other significant players at the company. You want to be first in line if a prospect feels it is time for change.
- Strive for agreement. Whatever your approach (a follow-up call, a freebie, a commitment to being on an email distribution list), try to leave the sales encounter on a positive note. Always find a way to end even the most unsuccessful of sales encounters on an emotional up tick.

2. Companies remain, but the faces change. A typical company experiences 15% to 20% employee turnover every year. Chances are that one out of every five or six decision-makers will have left their company within a year of rejecting your proposal. It behooves the sales professional to maintain a list of rejecters and to call that list periodically (e.g., quarterly) to determine who may have moved on.

   With a new decision-maker in place, you have an opportunity to re-initiate the sales process.

3. Change your mindset. Re-orient your mindset regarding rejection. The more readily you view most sales call rejections as opportunities, the more likely you will ultimately turn many rejections around.

Many sales professionals find both the fear of rejection and actual rejection so uncomfortable that it affects their overall performance. Above all, sales is a numbers game; the more calls you make, the more sales prospects you will close, even with a constant "batting average."

Thus, you must learn to persevere, not take rejection personally, and, whenever possible, view rejection as an opportunity for a successful sales effort down the road. ■


CODING Q&A

# Coding for 'Feared Complaint,' Facility E/M Codes, and Nuances in Complexity of Medical Decision-making

DAVID STERN, MD, CPC

**Q. We recently coded a visit for a young woman who thought—although she had no symptoms or foreign-body sensation—that there was a tampon left in her vagina. On pelvic exam, however, no retained tampon was found.**

**What ICD-9 code is appropriate? Should the physician still diagnose this as a foreign body in the vagina?**

*- Question submitted by Japhlet Aranas, Resurrection Healthcare, Illinois*

A. One should not choose a specific diagnosis (ICD-9) code unless that diagnosis is actually confirmed by history, by exam, or by further testing. If the physician is unable to diagnose a specific condition, then you should generally code for the symptom(s) or complaint(s).

Since this patient did not have a vaginal foreign body, it is not correct to code for a vaginal foreign body.

If the patient did complain of a foreign body sensation in the vagina, then the best code for this complaint may be 789.9 (other symptoms involving abdomen and pelvis).

This patient, however, was completely asymptomatic, so the correct code would be V65.5 (person with feared complaint in whom no diagnosis was made).

If the patient had complained of actual symptoms, you could have coded for both codes. ■

**Q. We are coding our physician charts with E/M codes 99281–99285. When we met with the hospital about our coding, they were concerned that the physician E/M codes (99281–99285) are not always the same codes that they are billing for the facility E/M code (99281–99285) for any specific visit.**

**Should the hospitals that we staff always bill the same E/M code for the facility as we are coding for the physician services? Does it make any difference, if our physicians are not employed by the hospital?**

*- Question submitted by Nancy Henry CPC, CEDC, Marshall Emergency Services Associates, PSC, Cincinnati, OH*

A. Yes, this is confusing, as the same codes (with completely different definitions) are used on both the CMS-1500 (physician billing) and the UB-04 (facility billing). Thus, the visit is billed for one E/M code from the hospital and another E/M code (which is frequently a different E/M code) from the physician group.

The specific E/M level appropriate for the professional component of the visit is intended to communicate the level *of physician services* for any specific visit.

The E/M for the professional component is determined by the 1995 or 1997 CMS evaluation and management algorithms.

The specific E/M level appropriate for the facility component of the visit is intended to communicate the level *of facility services* for any specific visit.

The E/M for the facility component is determined by an algorithm that the hospital can determine itself will produce a bell-shaped curve distribution of codes. Because the codes are billed under completely independent algorithms, it is not surprising that these algorithms will often result in different specific codes for the same visit. The method does not change, whether or not the physicians are employed by the hospital.

Note: The same answer applies to urgent care centers that are affiliated with a hospital and have selected to bill visits (using E/M codes 99201-99215) on both the CMS-1500 form and the UB-04 form. ■

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

**Q. I am a certified coder, and I currently work for an urgent care center. The coders code all charts. If the chart is not signed or is missing information, the chart is coded and put on hold. Recently, however, our administrator has begun releasing claims before the chart is signed. I was wondering what would happen if the charts were billed to a payor before they were signed by the provider. If we started doing this, I fear that this might jeopardize my coding certification. I want to do what is right, and I do not want to jeopardize my coding certificate.**

*- Question submitted by certified coder, Maryland*

A. I sense that you are a diligent and compulsive coder. When it comes to coding and billing charts, you are correct that it is most compliant to code and bill charts after they are signed by the provider. It sounds to me, however, as though you are describing the following situation:

- The patient has been seen and treated.
- All documentation is on the chart (except a provider signature).
- Changes to provider documentation and/or to provider coding is extremely unlikely and rare.
- You have no doubt about the identity of the rendering provider.
- There is a system in place to make sure that the rendering provider will sign the chart.
- If the provider makes any changes that will result in a change in appropriate codes, the claim will be re-billed.

Assuming this situation exists, I have never heard of anyone losing coding certification for billing in this manner. This should not be considered specific legal advice, however, so if you wish a legal opinion on this issue, I would encourage you seek legal counsel. ■

**Q. As our medical group opened two urgent care sites within the past six months, I found your UCAOA webinar quite interesting and very helpful. We do have templates in our electronic health record, which the physicians are using. These templates makes it very easy to document a detailed (or comprehensive) history and physical exam.**

**My concerns are with the Complexity of Medical Decision-making (CMDM).**

1. **Level of Diagnoses/Treatment Options: In the number of diagnoses or treatment options section, do you think that the first time any patient is seen in our urgent care center that the diagnosis would fall in one of the following categories?**
   - **New problem (to examiner); no additional work-up planned (worth 3 points)**
   - **New problem (to examiner); additional work-up planned (worth 4 points)**

**Would the choices be limited to just these two choices even when the patient presents with minimal respiratory symptoms, and the physician examines the patient, determines that it is a simple cold, and does not order any antibiotics nor any additional studies? The physician then discharges the patient with instructions encouraging rest, increased fluids, and follow-up with a family physician if symptoms worsen or don't improve within a stated period of time.**

**Technically speaking, it would be a "new problem to the examiner" in the diagnosis section. But in the risk section, it falls in the low level of risk category, so would it really be a self-limited or minor problem?**

2. **Determining established patient E/M code: For an established patient visit, if the history and exam components are both either detailed or comprehensive (because we use templates) and if the level of medical decision making is straightforward or low, then is it really appropriate to code a 99214 or 99215? I know the rules say that you can, but if the level of complexity of decision-making is to be taken into consideration, how would you justify this on an audit?**

*- Question submitted by Romaine T. Suminski, Interventional Coder/Reimbursement Audit Specialist, Saint Vincent Medical Group, Erie, PA 16502*

A. Let's look at the answer to each of your questions about E/M CMDM separately:

1. *Level of Diagnoses/Treatment Options:* In the Marshfield Clinic point-scoring system that you are using to determine the complexity of medical decision-making for a new patient, there are three choices to select from for the level of diagnosis or treatment options for a new patient:
   - New diagnosis, additional workup planned
   - New diagnosis, no additional workup planned
   - Minor diagnosis

   The level of risk should be determined independently from (although may be similar to) the level of diagnosis or treatment options. Minor diagnoses may be defined (my definition) as those diagnoses that need no more than over-the-counter medications and are only seen by the physician to give reassurance or to confirm that the diagnosis is truly a minor illness. Thus, the patient visit that you describe would be scored with a minor diagnosis, which is weighted with just one point in the Marshfield Clinic point-scoring system.
2. *CMDM and determining the established patient E/M code:* There is significant confusion about what is appropriate to document on any given patient visit. The overarching rule for documentation is to document any item that was performed because there was medical necessity for performing that specific item. It is not appropriate to perform or document any specific item simply "because we use

*"On a new patient E/M code, the code can never be higher than the level of CMDM."*

templates;" instead, each item should be performed and documented because it was appropriate to the patient visit.

In the urgent care setting, however, patients are generally unknown to the rendering provider. Even where the patient has been seen previously by the specific provider, the provider has not taken responsibility for the ongoing care of the patient, so much of the history may change from visit to visit in an urgent care center.

Since patients are not truly "established" with an urgent care physician in the same sense that they are "established" in the practice of a primary care physician, there is usually a medical necessity for obtaining a comprehensive history on most urgent care patients—even patients seen in the urgent care center within the past three years.

For so-called "established" patients, if the physician actually performs and documents a detailed or comprehensive level of history and physical exam and if there was a medical necessity for the elements to be documented in the history and physical, then coding these levels of CMDM would be appropriate.

On a new patient E/M code, the code can never be higher than the level of CMDM. Per CPT guidelines on an established patient visit, however, the lowest element of history, physical, and CMDM is not considered in determining the final code.

CMS, however, has encouraged practices to use the CMDM as a general guideline for determining the level of E/M code. In response, some practices have chosen to limit the E/M code level (on codes 99211-99215; or only on 99214 and/or 99215) selected on an established patient visit to the level of complexity of medical decision making. This is a conservative approach, but it is not required by E/M coding guidelines, as published by CMS. ■



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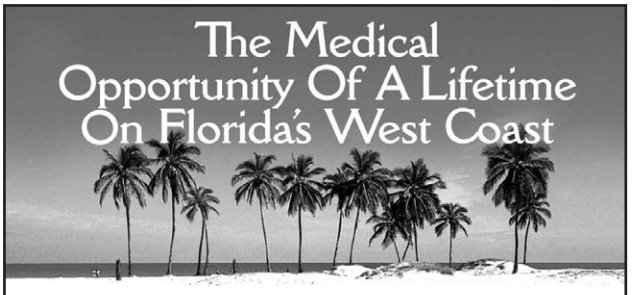


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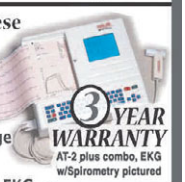


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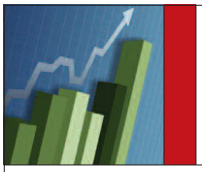


# DEVELOPING DATA

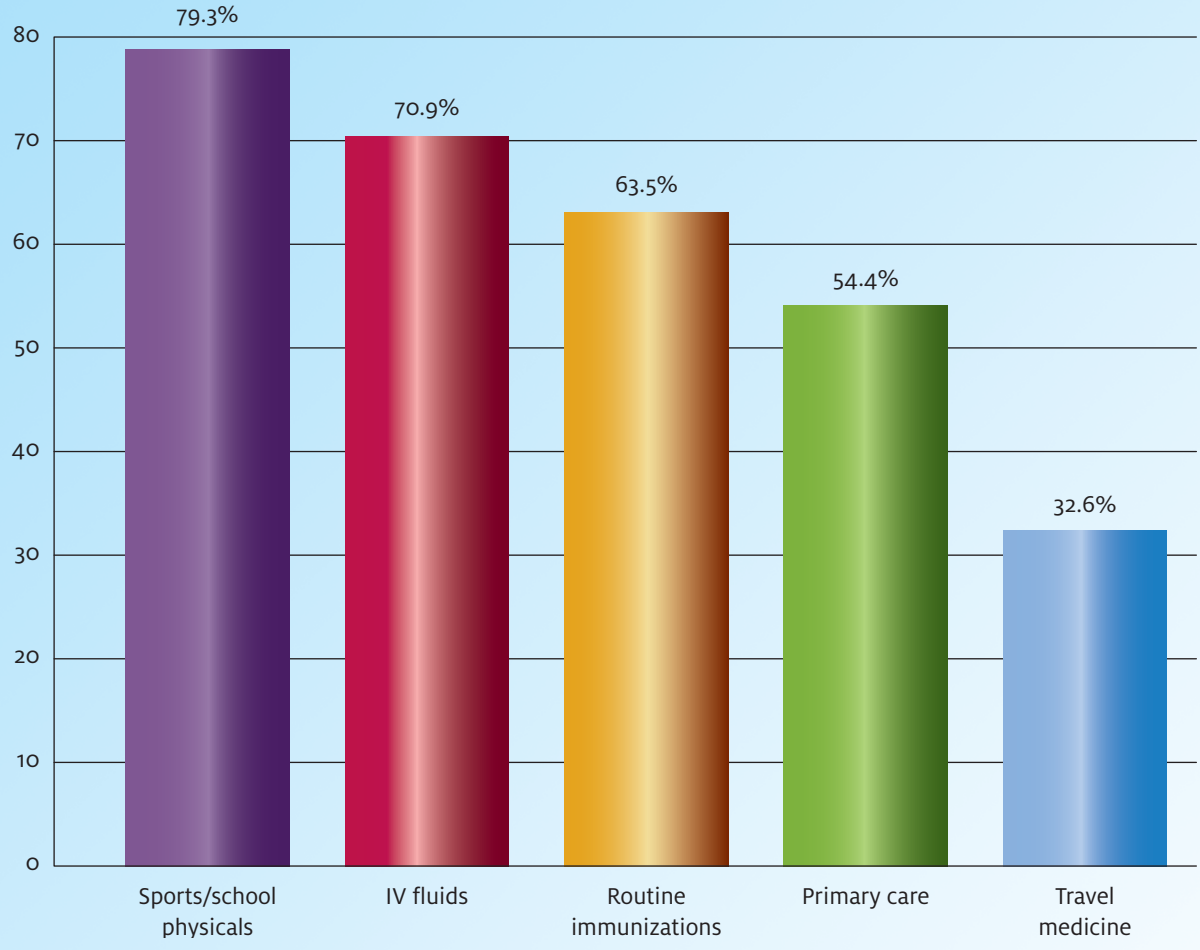
In early 2008, UCAOA revamped its annual survey in conjunction with researchers at Massachusetts General Hospital and Harvard University with the goal of assuring that the UCAOA Benchmarking Committee's efforts produced a scientifically valid report.

Here, we present some of the data from this landmark survey.

As reported in the May installment of Developing Data, 93.3% of urgent care centers offer lab tests of one kind or another on the premises. In March, we told you that 92.6% offer occupational medicine services.

*In this issue:* What "other treatments and services" are most likely to be offered at urgent care centers?

## 'OTHER' TREATMENTS AND SERVICES OFFERED ON SITE




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

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

# UCAOA

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