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Assessment and Management of Scrotal Disorders

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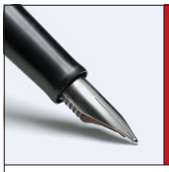

LETTER FROM THE EDITOR-IN-CHIEF

Where Do We Go From Here?

Amidst the many other-worldly contributions made by the Alan Parsons Project, who can forget the rather earthly lyric, "Where do we go from here, now that all of the children have grown up…"?

Many a midlife crisis has pondered the question. Sociologists have followed generations of people, often making the same mistakes when confronting the critical decision-making at this important intersection of life.

Some see the opportunity to celebrate and self-indulge ("It's my party now!"). Others self-deprecate, mourning the loss of purpose in life.

One path leads to reckless decision-making and the inevitable crumbling of all that had been built, and the other to wallowing in self-pity and failure to nurture new personal growth.

We have built the discipline of "urgent care" with a teenager's disregard for tradition. We liked being unconventional, standing out in a house of medicine inhabited by a bunch of old fuddy-duddies. We were the tattooed and body-pierced punks of medicine. We were dismissed as irrelevant, a mere nuisance that would eventually fade away.

Our youthful exuberance and rebellious ways helped us ignore the ridicule and develop strength from within. On a college budget, we scrapped our way to relevance.

We have built many things we can be proud of: A democratic organization with over 3,500 members, the only peer-reviewed journal in our field, three fellowships in urgent care medicine, conferences attended by over 1,000 annually. And, yes, relevance.

But there is no time to celebrate. With relevance, comes responsibility. It is time to grow up—as an industry, and as a discipline.

So, where *do* we go from here? I propose three steps:

1. *Organize.* This is not anarchy. Our legitimacy depends on organized representation. We must speak in a collective voice or we will lose all credibility.

   If you're in the urgent care industry, the Urgent Care Association of America is your representative organization. Whether you are a practitioner, owner, or vendor, UCAOA is your voice. It is time for all us to get on board.

2. *Contribute.* Get involved, contribute, and support our collective efforts. You cannot measure the return on investment; you've simply got to believe in it. Join, advertise, sponsor. Contribute to conferences, committees, and to this journal. We simply cannot represent without your support. We need *everyone* to participate—no hiding. We are *all* "too busy."

   "Appreciation" is not good enough; "participation" is critical.

3. *Nurture.* We are the Founding Fathers (and Mothers) of our discipline. With that distinction comes a responsibility to protect the future.

   Clinical quality is our *only* ticket to longevity. If we do not take the necessary steps to ensure a quality product, our success will be short-lived.

A commitment to quality is not glamorous, but it is critical. Accessibility and customer service will not sustain alone. Take an inventory of steps you have taken to ensure clinical quality. What are you doing for professional development? How are you training your staff? How do you support competency? We all have work to do.

While we certainly deserve to toast our contributions to date, it is sobering to think there is much work yet undone. But, as Dr. Jonas Salk mused after his discovery of the polio vaccine, "The reward for work well done is the opportunity to do more."

Cheers! ■

Lee A. Resnick, MD
Editor-in-Chief
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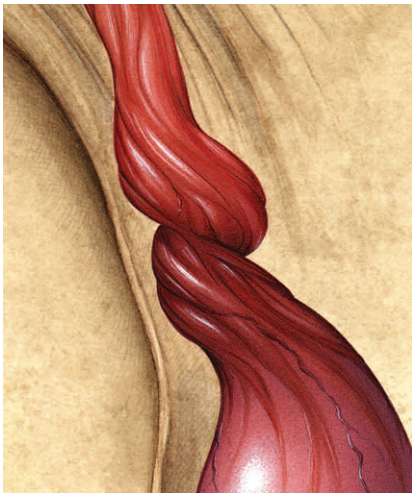

CLINICAL

11 Assessment and Management of Scrotal Disorders

The discomfort and sensitive nature of scrotal disorders often send males seeking prompt attention to urgent care. Quick, accurate assessment to distinguish surgical emergencies from conditions that can be treated on site is essential.

By Jason Chao, MD, MS

CASE REPORT

20 Pediatric Abdominal Pain: Consider Pneumonia in the Differential Diagnosis

"Abdominal pain" can be a vexing complaint for even the most attentive clinician. The origination may be even harder to pinpoint in younger patients.

By Curtis Kommer, MD, Latha Shankar, MD, MBA and Robert Stuart, MD

IN THE NEXT ISSUE OF *JUCM*

Winter months provide ample opportunities for both seasonal recreation and, without proper gear, cold-related injuries that range from minor to life-threatening. Are you prepared for that patient who went skiing even though he left his gloves at home, or the camper who tripped into an icy creek?

WEB EXCLUSIVE

Keys to a Financially Healthy Urgent Care Center: Patient and Payor Mix

With the economy and many other business conditions being beyond your control, it's more important than ever to keep a steady hand on factors over which you do have influence. Patient mix and payor mix might be ideal places to start. Available only at *www.jucm.com*.

By Stacy Calvaruso

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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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There are a handful of situations in which men who are usually loathe to visit a physician will make the time to do so without hesitation. Obvious situations—chest pain, severe bleeding, a clearly broken bone—aside, pain and/or swelling in the scrotum tends to be one of those rare exceptions.

With a broad differential diagnosis that includes torsion of the spermatic cord, appendix testis or appendix epididymitis, inguinal hernia, trauma, tumors and more, the clinician may be hard-pressed to determine the severity of the issue in short order. That is precisely what needs to be done, however, if the patient is to be treated or referred in a timely fashion—especially if the source is a true surgical emergency.

Assessment and Management of Scrotal Disorders (page 11), by **Jason Chao, MD, MS** takes a systematic approach in reviewing the most likely diagnoses and corresponding action for the urgent care clinician.

Dr. Chao is a professor of Family Medicine at Case Western Reserve University School of Medicine in Cleveland, and director of the Family Medicine Clerkship program. His practice is located at University Hospitals Case Medical Center. His recent work with the fmCASES Project Development Group was honored with the President's Award from the Society of Teachers of Family Medicine. In addition to medical student education, he has strong interest in preventive medicine and healthcare quality improvement.



Testicular issues are also among the differentials in boys presenting with abdominal pain. The 6-year-old who is the subject of a new case report we present this month had a more common diagnosis, however. Pediatric Abdominal Pain: Consider Pneumonia in the Differential Diagnosis by **Curtis Kommer MD**, **Latha Shankar MD, MBA**, and **Robert Stuart, MD** starts on page 20.

Dr. Kommer is a staff physician at Walk-In Medical Care in Flagstaff, AZ. Before relocating there, he worked at Columbia–St. Mary's Cathedral Square Urgent Care Center in Milwaukee, where he and Dr. Shankar were colleagues. Dr. Shankar practices at five different Aurora Medical Group urgent care centers in the Milwaukee metropolitan area. Dr. Stuart is a medical director with Aurora, with responsibility for multiple centers, as well.

Finally, in an article available only at *www.jucm.com*, **Stacy Calvaruso** shares the wealth of her experience in an effort to help you increase the monetary wealth of your urgent care center. In Keys to a Financially Healthy Urgent Care Center: Patient and Payor Mix, she offers advice on how to tell if you need to make adjustments in the customers you appeal to or the insurers with whom you do business.

Ms. Calvaruso is currently the director of patient access services with Ochsner Health System in New Orleans. Previously, she spent many years in the urgent care arena. Over 25 years of healthcare-related experience, she has held key financial management positions in national and regional healthcare organizations.

Also in this issue:

Nahum Kovalski, BSc, MDCM reviews new abstracts on the rise in emergency room visits in the U.S., use of corticosteroids in COPD and intranasal steroids in allergic rhinitis, intussusception in children under 5 years of age, and other urgent care-relevant articles.

John Shufeldt, MD, JD, MBA, FACEP completes his analysis of how checklists used commonly in other public safety-oriented professions should be used much more commonly in urgent care.

Frank Leone, MBA, MPH offers some tips on recognizing time-wasting tasks, making the most of your time, and respecting your occupational medicine prospect's time.

David Stern, MD, CPC responds to queries on issues with destruction codes, defining "global periods," deciding whether or not to opt out of payor contracts, and Medicare denials of G0431-QW.

If you have a perspective to share, or an idea for an article, let us know. Send an email to our editor-in-chief, **Lee A. Resnick, MD**, at *editor@jucm.com*.

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LETTERS TO THE EDITOR

Regarding Our September Issue

To the Editor:

The case report in the September 2010 issue of *JUCM* (Promethazine-induced Tissue Necrosis: A Case Presentation, by Shailendra Saxena, MD, PhD, Naureen Rafuq, MD, Liji George, MD, Cara Olsen, PharmD, and Mikayla Spangler, MD) suggests an equally or probably more likely cause of the severe post-injection complication experience presented in the case.

As an emergency physician for 30 years, I am often distressed by the lack of adequate skin cleansing before giving IM injections or when starting IVs. My own observations of the usual pre-injection skin prep is that most nurses wipe the skin once or twice with a single alcohol pad, let it dry very briefly, then give the injection.

My own experience in doing first-step skin prep before various procedures such as LPs, arthrocentesis, trigger point injections, and the like shows me that almost everyone comes in with "grime" on their skin, regardless of how clean the skin may look or whether or not they have recently bathed.

This is proved by my own practice of moderately vigorously wiping the skin site with multiple alcohol pads and looking at each one before repeating with a fresh alcohol pad. In nearly all cases, the first few pads are stained with significant amounts of dark gray grime, but which gradually lighten and disappear after sufficient pads have been used.

Although I have not researched the literature, it seems to me that putting a needle through skin that still has a significant amount of grime on its surface (which it would by using only a single alcohol wipe for skin prep) is a set-up for introducing common skin flora/pathogens by the now-contaminated injection needle.

In the case study, my first impression was that it was much more likely that the promethazine injection needle introduced skin MRSA (already present on the patient's skin from the coexisting abscess and I&D) deep into the muscle where it set up housekeeping rather rapidly, leading to the subsequent described complications.

The importance of meticulous skin prep before an IM injection cannot be overstated when there is a coexisting skin infection anywhere else on the body.

Promethazine, prochlorperazine (Compazine), hydroxyzine (Vistaril), and several other common injections are well known to cause significant pain (usually burning) at the time of the injection. The severe burning going down the right thigh would suggest additionally that the injection was improperly placed (too near the sciatic nerve region). But local temporary burning would be expected.

It is true that promethazine has caused significant morbidity in certain cases, mostly related to extravasated IV routes; one must be careful to sort out other and perhaps more likely causes of significant IV/IM injection complications as suggested above.

Although promethazine may have caused some tissue damage in the deep tissues of the injection site, it is likely introduced MRSA that lead to such a severe complication in the case study above.

Tim Pangborn, MD
Mercy Medical Center, Redding CA

To the Editor:

The article about promethazine in the September *JUCM* had an unusual perspective. Seems like the patient more likely got inoculated with MRSA (he was being treated for a skin abscess) during that injection and developed necrotizing fasciitis from it, rather than direct toxicity from the promethazine itself. There has been some toxicity with that med (after zillions of doses) and the closing recommendations on page 26 are key. Who knows, once as many doses of ondansetron have been given as have been promethazine, there'll be some problems!

Joseph Toscano, MD
San Ramon (CA) Regional Medical Center
Urgent Care Center, Palo Alto (CA) Medical Foundation
(Dr. Toscano is also a member of the *JUCM* Editorial Board)

The authors respond: We sincerely appreciate the readers' comments on the promethazine-induced tissue necrosis article. We agree with the reviewer's comment that MRSA may have been inoculated in the patient's thigh during the time of promethazine injection. However, the clinical picture of the patient and the review of the literature led us to believe that the skin necrosis was secondary to the promethazine.

Measuring and Managing

LOU ELLEN HORWITZ, MA

You may remember that a few short months ago UCAOA sent out the 2010 Benchmarking Survey. It was a whopper of a survey, requiring respondents to dig very deeply into their processes to share information about staffing and visits and services and more. Finishing all of the sections was a big challenge.

Why did we make it so incredibly complex and detailed? Because that's the nature of the information you, suppliers, and all the stakeholders in our industry are looking for. It's impossible for us to answer "How many physicians do people typically staff on the weekend day shift?" without gathering data at that same level of specificity.

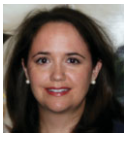
Given that, now that we have all the data collected, it's going to take us some time to compile it all into meaningful, statistically valid information to share back with you. When we do that, I want each and every person who looks at that report to take a moment of silence to thank your fellow urgent care professionals for the time they chose to dedicate to completing the survey.

It was significant, and the entire industry owes them all a debt of gratitude.

However, that doesn't mean that the rest of you who did not respond (or did not receive the survey) are off the hook. Come 2012, we'll be right back at it again, looking for updated, and probably expanded, information.

If you are not currently tracking your visits or staffing or financials—well, you should be. Not just so you can give it to us every two years, but so you are able to benchmark what you are doing versus what your peers are doing.

Without having your own data to measure against the national data, you are selling your practice short. How will you know if you need to consider any adjustment to your practices once you see that data if you don't know exactly what you are doing currently?



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

"UCAOA continues to thrive even in a very challenging economy because of your interest and support."

I'm actually not a big believer in the adage, "You can't manage what you can't measure." I think there are lots of unmeasurable things that can be managed. However, there are far more things that really *need* true measurement to be fully understood, so we all better be paying attention to those. We'll help you with the unmeasurable areas too, but that's a column for a different day.

Things to Come

Looking ahead, we are deep in the design and development of the 2011 Urgent Care Convention that will be in UCAOA's backyard, downtown Chicago. We are putting together a compelling, diverse curriculum on measurable and unmeasurable areas of your work, and hope you will be as excited to see that as we are in putting it together.

Chicago's a great town too, and we will be right in the thick of things, so be sure those dates (May 10–13) are already on your calendar for next year.

As Thanksgiving approaches in the U.S., I just want to say how thankful we are for all of you. UCAOA continues to thrive even in a very challenging economy because of your interest in and support of all that we are doing.

There are some new things coming, too (perhaps even before the end of the year), that we are very excited to tell you about. But not quite yet. Almost.

Stay tuned, and happy Thanksgiving. ■

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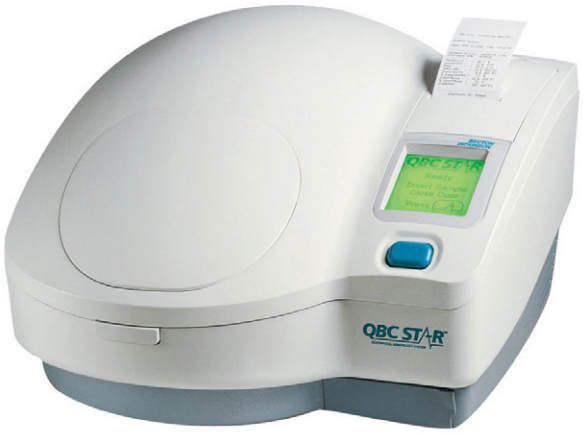

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Assessment and Management of Scrotal Disorders

Urgent message: Males with a scrotal disorder often present to urgent care with pain, swelling, or both. Especially in boys and young men, it is important to quickly assess the acute scrotum, which can be a surgical emergency.

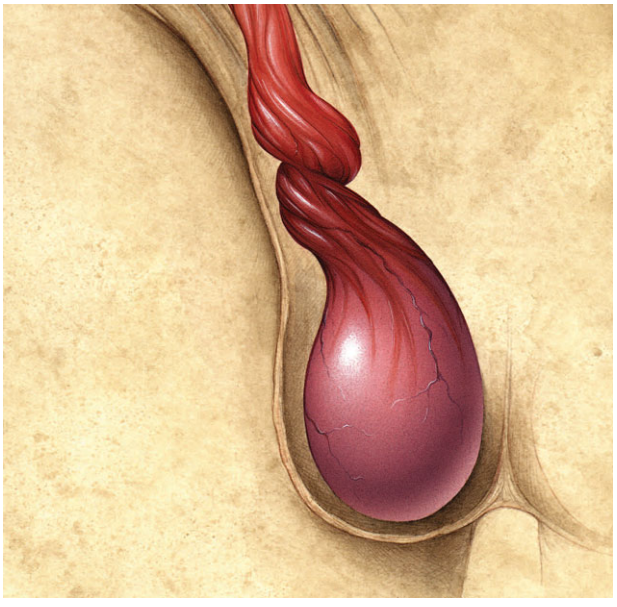
Jason Chao, MD, MS

Introduction

Males with a scrotal disorder often present with pain, swelling—or both. Because of the location of the problem, patients often choose to seek urgent medical attention. Especially in boys and young men, it is important to assess the acute scrotum quickly, as it can be a surgical emergency.

The differential diagnosis of the acute scrotum includes:

- torsion of the spermatic cord
- appendix testis or appendix epididymitis
- epididymo-orchitis
- inguinal hernia
- trauma
- tumor
- hydrocele
- inflammatory vasculitis (Henoch-Schonlein purpura)
- dermatologic lesions
- non-urogenital pathology (e.g., adductor tendinitis).



Their characteristics are highlighted in **Table 1**.

After a brief review of the physical examination of the scrotum, the most common causes of scrotal pain and swelling will be reviewed.

Scrotal Examination

As with most other complaints, a brief but thorough history should precede a careful physical examination.

Begin the scrotal exam with careful inspection, noting asymmetry, redness, or swelling. Have the patient identify the location of the pain, specifying whether it is unilateral or bilateral.

Each testis should be examined by grasping it between the index and middle fingers and the thumb. Pay particular attention to any tenderness to palpation, discrepancies in size, loss of landmarks, or discoloration.

The epididymis should be non-tender and soft, and have a noticeable smooth ridge posterolateral to the testis.

Note whether there is pain relief with testicular ele-

Table 1. Differential Diagnosis of Scrotal Pain and Swelling

Disease	Pain	Swelling
Torsion of the spermatic cord, appendix testis, or appendix epididymis	++	+ or ++
Epididymitis / Epididymo-orchitis	++	+
Trauma	++	±
Tumor	Unusual	+
Inguinal hernia	±	+ or ++
Communicating hydrocele	o	+
Hydrocele	Unusual	++
Spermatocele	o	+
Varicocele	Unusual	+
Necrotizing fasciitis of the perineum (Fournier's gangrene)	++	++
Inflammatory vasculitis (Henoch-Schönlein purpura)	+	+
Idiopathic scrotal edema	Unusual	++
Non-urogenital pathology (e.g., adductor tendinitis)	+	o

vation (i.e., Prehn's sign). The normal cremasteric reflex is elicited by stroking or pinching the inner aspect of the thigh and observing a more than 0.5 cm elevation of the ipsilateral testicle.

Transillumination of a scrotal swelling can help distinguish fluid from a solid mass. If a transillumination light is not available, an otoscope may be substituted. The "blue dot sign" is a small bluish discoloration visible through the scrotal skin near the upper pole of the testis, present when torsion of the appendix testis is present.[1]

Torsion

Torsion of the spermatic cord is a true surgical emergency of the highest order. Irreversible ischemic injury to the testicular parenchyma may begin as soon as *four hours* after occlusion of the cord.

One study found that although testes that were operated on less than eight hours after the onset of symptoms of torsion retained normal testis size and showed just slight changes in testicular morphology, only 50% of men whose testes underwent detorsion less than four hours after symptoms began had normal testicular function.[2]

Testicular torsion is estimated to occur in three to four patients per year in a large general hospital. The average salvageability rate remains low in most series, with approximately 50% testicular loss from either atrophy or orchiectomy.

There are two peak periods in which torsion is likely to occur: in the first year of life and at puberty.

Torsion is not limited to boys, however; it has been identified in men through age 40.

Testicular torsion is 10 times more likely in an undescended testis. It should be high in the differential diagnosis when a patient has a painful inguinal mass and an empty scrotum.

Although torsion of the cord does occur in prepubertal males, it appears that the added weight of the testis after puberty adds a physical dimension that may be more likely to allow the testis to twist on its vascular stalk.

Torsion can occur in association with trauma or athletic activity, but in most cases spontaneous torsion of the cord is reported; in many cases, in fact, the adolescent is awakened from sleep.

It is thought that sudden contraction of the cremasteric muscle, which inserts onto the cord in a spiral configuration, is the inciting event in most cases and initiates a rotational effect on the testis as it is pulled upward. The cord may twist as many as several complete (360°) rotations.

The classic manifestation of acute torsion of the spermatic cord is that of an acute onset of scrotal pain, but in some instances the onset appears to be more gradual, and in some boys the degree of pain is minimized.

A large number of boys with acute scrotal pain give a history of previous episodes of severe, self-limited scrotal pain and swelling. It is likely that these incidents represent previous episodes of intermittent torsion of the cord, with spontaneous detorsion.

Nausea and vomiting may accompany acute torsion, and some boys have pain referred to the ipsilateral lower quadrant of the abdomen.

Dysuria and other bladder symptoms are usually absent.

Examination

The history is an important factor in the differential diagnosis of an acute scrotum, but the physical examination may perhaps be even more crucial in determining whether the diagnosis is torsion of the cord or otherwise (i.e., whether the patient does or does not require immediate surgical exploration).

Inspection of the genitalia may prove helpful if the affected testis is riding high in the scrotum, perhaps indicating foreshortening of the spermatic cord as the result of twisting of the cord.

In some cases, the affected testis has an abnormally transverse orientation, but in many cases, in particular when several hours have passed since onset, an acute hydrocele or massive scrotal edema obliterates all landmarks.

The absence of a cremasteric reflex is a good indicator of torsion of the cord. Assessment of this physical finding may be difficult in some patients. When the patient is cooperative enough to allow examination of the affected hemiscrotum, effort should be made to assess anatomic landmarks in order to look for an appreciation of normal structures and identify a swollen and tender epididymis or a twisted appendix of the testis or epididymis.

When the diagnosis of acute torsion of the cord is suspected, prompt surgical exploration is warranted. Although adjunctive tests are commonly used to aid in the differential diagnosis of an acute scrotum, prompt transfer of the patient to a facility with immediate urologic surgical availability should take precedence. These tests are most appropriately performed when their purpose is to confirm the absence of torsion of the cord in cases in which surgical intervention is believed to be unnecessary.

While it may not be readily accessible in the urgent care setting, color Doppler ultrasound examination has become the adjunctive investigation of choice for the evaluation of sub-acute and chronic scrotal conditions in many institutions. Color Doppler studies allow an assessment of anatomy (e.g., presence of a hydrocele or swollen epididymis) while determining the presence or absence of blood flow to the testis. Color Doppler examination can also have a diagnostic sensitivity of 86% to 88% and a specificity of 90% to 99%.[3] However, ultrasound imaging is inherently operator-dependent.

Radionuclide imaging—originally the study of choice for assessment of an acute scrotum—is more limited because it allows evaluation of only testicular blood flow.

Management

The first step in management of suspected testicular torsion is consultation with a urologist. Intravenous access should be obtained, analgesia provided, and nothing-by-mouth status maintained.

Manual detorsion should be attempted in most cases while steps are being taken for definitive surgical exploration. Manual detorsion is not considered curative, but rather a temporizing technique.

Torsion of a testicle may occur in either direction, but usually the anterior portion twists medially.

After appropriate parenteral analgesics, the anterior portion of the testicle should be twisted laterally unless it appears to shorten the cord or worsen the torsion, in which case detorsion in the reverse direction should be attempted.

Epididymitis/Orchitis/Epididymo-orchitis

Acute epididymitis represents sudden occurrence of pain and swelling of the epididymis; this is associated with acute inflammation of the epididymis.

In most cases of acute epididymitis, the testis is also involved in the process; this is referred to as epididymo-orchitis.

Isolated orchitis is a relatively rare condition and is usually viral in origin.

Epididymitis affects one in 350 U.S. men annually.

Chronic epididymitis refers to inflammation and pain in the epididymis, usually without swelling (but with induration in longstanding cases), persisting for over six weeks. Inflammation is not always clinically evident in many cases of localized epididymal pain.

Epididymitis usually results from the spread of infection from the bladder, urethra, or prostate via the ejaculatory ducts and vas deferens into the epididymis. The process starts in the tail of the epididymis, then spreads through the body to the head of the epididymis.

In infants and boys, epididymitis is often related to a urinary tract infection (UTI) and/or an underlying genitourinary congenital anomaly, or even the presence of a foreskin.

In elderly men, benign prostatic hyperplasia and associated stasis, UTI, and catheterization are the most common causes of epididymitis.

Bacterial prostatitis and/or seminal vesiculitis are associated with epididymal infection in post-pubertal males of all ages.

In sexually active men younger than 35 years of age, epididymitis is commonly the result of a sexually transmitted infection (STI).

Chronic epididymitis may result from inadequately treated acute epididymitis, recurrent epididymitis, or some other cause, including associations with other disease processes such as Behçet's disease.

The most common causative microorganisms in the pediatric and elderly age groups are coliform organisms that cause bacteriuria.

In men younger than the age of 35 who are sexually active with women, the most common offending organisms causing epididymitis are the usual bacteria that cause urethritis (*N gonorrhoeae* and *C trachomatis*).

In homosexual men practicing anal intercourse, *E coli* and *H influenzae* are most commonly responsible.[4] Viral, fungal, and parasitic microorganisms all have been implicated in epididymitis.

Examination

Physical examination localizes the tenderness to the epididymis (although in many cases the testis is also involved in the inflammatory process and in subsequent pain—referred to as epididymo-orchitis).

The spermatic cord is usually tender and swollen. Early on in the process, only the tail of the epididymis is tender, but the inflammation spreads quickly to the rest of the epididymis. If it continues to the testis, the swollen epididymis becomes indistinguishable from the testis.

Prehn's sign is often positive with orchitis.

Laboratory testing should include Gram stain of any urethral discharge. If the urethral smear reveals the presence of intracellular gram-negative diplococci, a diagnosis of gonorrhea is established.

If only white blood cells are seen on the urethral smear, a diagnosis of *C trachomatis* will be established two thirds of the time.

Abnormal urinalysis with positive leukocyte esterase and/or nitrates and pyuria on microscopic exam can usually be identified in patients with underlying cystitis.

The type of urine specimen collection for bacterial identification depends upon suspected organism. A midstream urine specimen should be sent for culture and sensitivity testing for organisms causing typical urinary tract infections. However, a first voided urine specimen for DNA amplification testing is best for gonorrhea and chlamydia detection, and can replace the uncomfortable urethral swab when no discharge is present.[5]

When an infant or young boy is diagnosed with epididymitis, he should be referred for further evaluation with abdominopelvic ultrasound, voiding cystourethrography, and, possibly, cystoscopy.

If the diagnosis is uncertain, color Doppler scrotal ultrasonography to look for increased blood flow to the affected epididymis may be performed (also to rule out torsion).

Management

General principles of therapy include bed rest, scrotal support, hydration, antipyretics, anti-inflammatory agents, and analgesics. Antibiotic therapy (specific for

UTI, prostatitis, or STI) should be employed for infectious epididymo-orchitis, and is ideally based on culture and sensitivity testing but may be based on microscopic or Gram stain results.

There are no specific antiviral agents available to treat orchitis caused by mumps, and the previously mentioned supportive measures are important. If early testing is negative, or if results are unavailable, empiric treatment should be initiated, directed at the most likely pathogens based on the available clinical information.

If STI is suspected, treat with parenteral ceftriaxone plus oral doxycycline for chlamydia for 10 days. Azithromycin may be used if the patient has a true penicillin allergy, but there is concern about increasing gonorrhea resistance to azithromycin worldwide.

Fluoroquinolones should not be used if gonorrhea is suspected because of the high incidence of resistance today.[6] Older men at lower risk for STI can be treated with a fluoroquinolone such as ofloxacin or levofloxacin for 10 days, trimethoprim/sulfamethoxazole for 14 days, or amoxicillin/clavulanate for 10 days.

Some clinicians do employ fluoroquinolones when treating boys, though this class should not be used first-line in patients under age 18.

Most patients can be managed readily on an outpatient basis, but toxic-appearing patients may require hospitalization and parenteral antibiotics.

Surgical intervention is rarely indicated, unless testicular torsion is suspected (as discussed previously).

Spermatic cord blocks with injection of a local anesthetic may sometimes be needed to relieve the patient of severe pain.

Patients may be re-examined in three to seven days to confirm improvement and to detect any mass that was masked by pain.

Abscess formation is rare, but if it does occur, percutaneous or open drainage is necessary.

If STI is diagnosed, partner treatment should be discussed. Screening for other STIs should be performed, and counseling on condom use provided to prevent future infections. Early retesting for STI cure is not necessary, but follow-up testing for reinfection is recommended in three months.

Trauma

A direct blow or straddle injury may result in contusion, hematoma, testicular fracture or rupture. Urologic consultation should be obtained for any serious scrotal injury. Severe trauma often requires surgery.

Traumatic hematoceles do not transilluminate well, and may develop quickly. Surgery is recommended if they reach 5 cm or more. Surgical exploration of smaller hematoceles is associated with better pain control and shorter hospital stays.

A history of mild trauma does not rule out non-traumatic diagnoses, including torsion and epididymitis.

Medical management includes: scrotal support, anti-inflammatory medications, and ice packs applied to the groin with a barrier (as direct application can cause burns) at least every three to four hours in the acute phase.

Follow-up should be in one week.

Preventive measures include the use of an athletic supporter or protective cup when playing sports with potential for groin injury. Prevent chafing and neuropathy by limiting repetitive stress on the perineum or using a special bicycle seat.

Testicular Tumors

Tumor of the testis is the most common malignancy in young men; it occurs at an average age of 32 years. Testicular cancer accounts for 1% of all cancer in men.

Typically, on exam there is a palpable hard, painless growth. Although tumors are generally painless (though "heaviness" is commonly reported), the patient may have sudden testicular pain because of acute hemorrhage within the tumor. This acute hemorrhage causes an expanding mass effect on the non-pliable tunica albuginea.

The differential diagnosis among tumor, torsion, and epididymitis can be extremely difficult. In fact, epididymitis is the most common incorrect diagnosis made in cases of testicular tumor (6% to 16% incidence). There is an increased prevalence in patients with cryptorchidism in both the non-descended and descended testis.

The key to diagnosis is identification of a distinct intra-testicular mass. Color Doppler ultrasonography is the appropriate initial diagnostic imaging study.

The vast majority of testicular cancers are seminomas, followed by embryonal cell cancer and teratoma.

The cancer spreads by the lymphatic system.

If a testicular tumor is clinically evident or identified on ultrasound, arrange for urgent referral to a urologist for biopsy and definitive treatment.

Hydrocele/Inguinal Hernia

A persistent processus vaginalis may lead to a hydrocele or an indirect inguinal hernia. A hydrocele (fluid collection around the testis) is fluctuant, ovoid, and generally non-tender.

Communicating hydroceles have a connection with the

abdomen and often have a history of variable size. Very large hydroceles may be uncomfortable or even painful.

Transillumination demonstrates light transmission through the fluid-filled hydrocele, compared with non-transmission or limited transmission through the solid testis or blood.

Although many hydroceles resolve spontaneously, patients may be referred to urology for elective aspiration or hydrocelectomy.

Symptomatic indirect inguinal hernias may develop at any age. Patients may present with scrotal swelling that fluctuates in size, and may note increased swelling with Valsalva-type maneuvers. The indirect inguinal hernia is felt as a swelling extending up the spermatic cord to the inguinal ring. Inguinal hernias can be reduced by the examiner unless the hernias are incarcerated.

In contrast, patients with hydroceles will have a palpably normal spermatic cord and inguinal ring above the swollen area.

Strangulated indirect inguinal hernias present as acute painful masses, often accompanied by abdominal complaints such as pain, nausea, and vomiting. The hernia is typically firm and tender, and is usually not reducible.

Strangulated hernias are a surgical emergency. Non-strangulated hernias may be referred to a general surgeon for elective repair.

Other Scrotal Masses

A *varicocele* consists of dilatation of the pampiniform venous plexus and the internal spermatic vein, primarily on the left side. They are generally painless, so in the urgent care setting, they are primarily an incidental finding of a mass in the scrotum, superior to the testis, with a "bag of worms" consistency. At times, they may cause a heavy feeling or mild pain.

Varicoceles are associated with decreased fertility.

Patients may be referred for varicocele embolization or surgical ligation.

A *spermatocele* is a cystic structure containing sperm in the epididymis. They occasionally become firm and can be confused with a cancer. Similar to varico-

celes, they are generally painless, so they are primarily an incidental finding of a small mass in the scrotum. They are mostly fluid filled and will transilluminate. Most spermatoceles do not require any treatment, but if the diagnosis is not clear, referral to a urologist may be warranted.

Less Common Scrotal Disorders

Necrotizing fasciitis of the perineum (i.e., Fournier's gangrene) is a severe infection involving the soft tissues of the genitalia. It is usually polymicrobial, with staphylococci, streptococci, enterococci, anaerobes, and fungi most frequently isolated.

Risk factors include diabetes mellitus, morbid obesity, cirrhosis, vascular disease of the pelvis, malignancies, alcoholism, high-risk behaviors (e.g., intravenous drug abuse), and immune suppression due to systemic disease or steroid administration.

Typically, affected patients have fever, lethargy, and severe pain in the genital region with progressive erythema. Dusky or frankly gangrenous areas may be apparent, or a frankly purulent wound is present. Untreated patients may develop septic shock.

Prompt surgical consult for biopsy and debridement should be obtained. Begin intravenous fluids and broad-spectrum antibiotics, and manage comorbid conditions such as hyperglycemia, pending culture results and definitive surgical management.

Inflammatory vasculitis (i.e., Henoch-Schönlein purpura) occurs primarily in children with hemorrhagic rash, abdominal pain, and joint pain. Up to one third of male patients have scrotal edema that can mimic testicular torsion. The rash is a characteristic palpable purpura.

Most patients recover in a few weeks, but some patients develop chronic renal insufficiency. More severely ill patients may require consultation and/or hospitalization.

Idiopathic scrotal edema occurs in prepubertal boys. It is characterized by swelling and erythema, without evidence of infection. White count and urinalysis are normal.

Contact allergic reaction, bedbug bites, and angioedema should also be considered. Other causes should be ruled out. Surgical exploration may be required to rule out torsion.

Symptoms usually subside within five days.

Non-urogenital pathology (e.g., adductor tendinitis or tendinopathy) can cause referred pain to the scrotum and groin area. Chronic overload and stress of the adductor tendon may result in degeneration of the tendon. There is point tenderness over the tendon and a normal scrotal exam.

Treatment for this musculoskeletal injury includes RICE (i.e., rest, ice, compression, elevation) and non-steroidal anti-inflammatory medication for pain. Physical therapy may be a useful adjunct to treatment. ■

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Case Report

Pediatric Abdominal Pain: Consider Pneumonia in the Differential Diagnosis

Urgent message: Abdominal pain can be a challenging complaint, especially in younger patients. Consider the full range of differential diagnoses in order to initiate prompt, effective management.

Curtis Kommer MD, Latha Shankar, MD, MBA and Robert Stuart, MD

Introduction

Since the time of Hippocrates, the ability of physicians to unravel the mystery of a patient's abdominal pain has become synonymous with the art and practice of medicine. Pediatric abdominal pain, in particular, with its extensive differential diagnoses and limitations in history-taking and physical exam, can be a challenging presentation to an urgent care provider.

The following case presentation of a 6-year-old boy with abdominal pain offers insight—and, we hope, some useful navigational tools—into the importance of a sound knowledge of the differential diagnosis.

Case Presentation

I.R., a 6-year-old boy, was brought to the Aurora Urgent Care Center by his mother. She related a three-day history of abdominal pain, lack of appetite, and occasional vomiting. No fever had been appreciated, and they had not noticed diarrhea or bloody emesis. An infrequent, dry cough was mentioned, but no other coryzal symptoms.

There was no history of recent trauma, any recent travel or exposures, and the child's past medical and surgical history was negative.

I.R. appeared mildly ill and fatigued, with dry mucus membranes. In addition, we found:

- temp: 100.2
- pulse: 126
- respirations: 24/min
- % O2 sat 99%

Skin and EENT exams were normal.

Auscultation of the chest revealed left basilar rales.

Abdominal exam showed a scaphoid, soft abdomen with no organomegaly or mass, active bowel sounds, and

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Table 1. Potential Causes of Stomach Pain in a Child

Syndrome	Typical cause	Age group	Typical clinical syndromes
Bacterial	Pneumococcus; others	All ages (<6 y more common)	• Abrupt onset • High fever • Ill/toxic appearance, more focal findings on examination • Chest/abdominal pain, focal infiltrate if CXR is obtained
Atypical—infancy	Chlamydia trachomatis	<3 mo	• Tachypnea • Mild hypoxemia • Lack of fever • Wheezing • Interstitial infiltrates on chest x-ray
Atypical—older children	Mycoplasma	>5 y	• Gradual onset • Low-grade fever • Diffuse exam findings—wheezes, diffuse infiltrates on chest x-ray
Viral	Multiple viruses	All ages (3 mo to 5 y more common)	• Prominent upper respiratory symptoms • Low-grade or absent fever • Diffuse exam findings on exam—wheezes possible, diffuse infiltrates on chest x-ray

Table 2. "Abdominal Pain" Spells It Out

A	Appendicitis
B	Blood disorders (sickle cell, HSP, HUS, leukemia)
D	Diabetes (DKA)
O	Ovarian or testicular torsion
M	Malrotation (volvulus, intussusception, hernia)
I	Infection (pharyngitis, pneumonia, gastroenteritis)
N	Nephric (UTI, calculi, renal trauma)
A	Abuse
L	Lymphadenitis, mesenteric
P	Pregnancy/PID
A	Acid-peptic (PUD)
I	Inflammatory bowel disease
N	No stools (constipation)

mild tenderness to palpation in the left upper quadrant.

Rectal exam was deferred. Genitalia was normal.

Focus on the Potential Causes

Although the causes of pediatric abdominal pain can vary by age (**Table 1**), various studies have shown the most common, overall identifiable diagnosis is constipation (48%), followed by gastroenteritis (28%).

Surgical causes were identified in <2% of pediatric abdominal pain presentations.

The most common extra-abdominal causes include pneumonia (up to 5% of abdominal pain visits), pharyngitis, and acute leukemia.

Reviewing the differential diagnosis for each child presenting with abdominal pain can serve as a critical reminder to:

- identify life-threatening or surgical problems (e.g., appendicitis, torsion, ectopic pregnancy)
- consider atypical diagnoses needing treatment (e.g., abuse, diabetes, infection)
- perform a thorough exam, including the chest, groin, and recto-vaginal areas, as necessary
- order timely and appropriate studies, as needed.

A basic mnemonic device for pediatric abdominal pain (such as seen in **Table 2)** can be a helpful tool for the busy clinician; an example of using the history and physical findings to narrow the diagnostic considerations is presented in **Figure 1**.

Pneumonia as a Cause of Abdominal Pain

As the most common extra-abdominal cause of childhood abdominal pain, pneumonia can also be a devastating diagnosis to miss, with significant morbidity and mortality.

Typically, children will present with cough, coryza, or other respiratory symptoms. Fever is the most reproducible sign, occurring in 83% of proven pneumonias.

The abdominal pain is the result of both visceral and somatic innervation of the diaphragm and peritoneum.

Figure 1. Narrowing the possibilities.

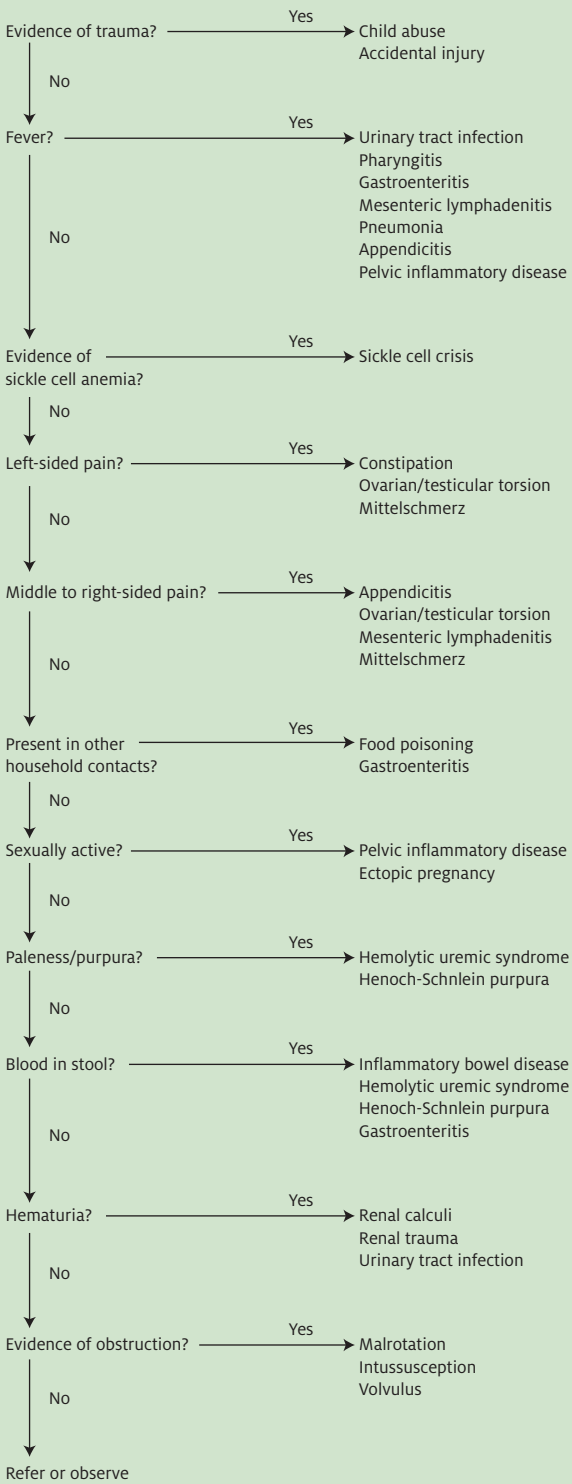


Figure 2.

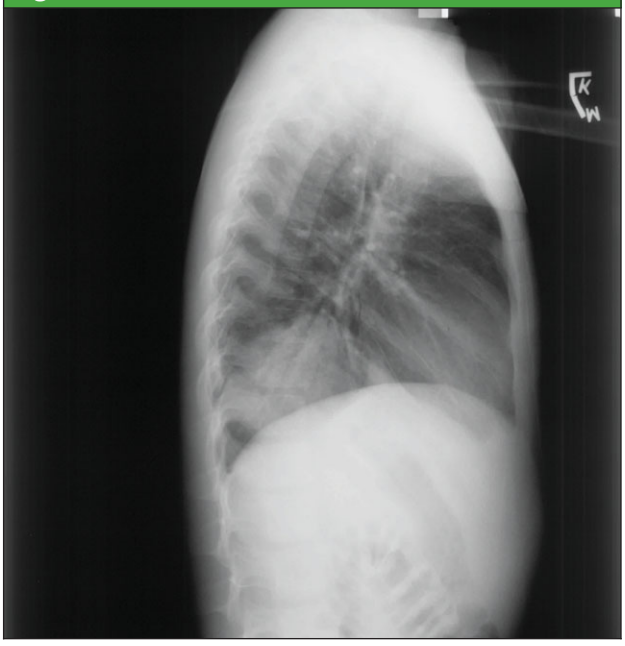
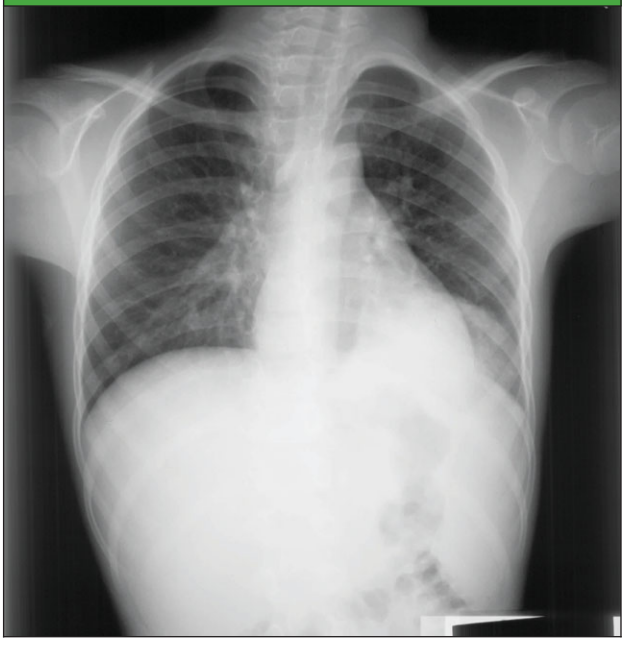


Figure 3.



Irritation of these afferent pathways by a lower-lobe pneumonic infiltrate is usually experienced by the child as left or right upper quadrant abdominal pain, but can occasionally be referred to the lower abdomen, even mimicking appendicitis.

In the setting of abdominal pain, the presence of fever and respiratory symptoms may prompt the consideration of a chest radiograph, and possible admission, especially if any of the following are noted:

- Infant < 3-months-old
- Presence of other chronic medical conditions
- Oxygen saturation <92%
- Respiratory rate >70 (infant), >50 (older children), or respiratory distress
- Signs of dehydration
- Family unable to provide appropriate care or supervision

Case Follow-up

I.R.'s evaluation in the urgent care clinic included:

- normal HGB
- WBC elevated at 34,000
- sodium decreased at 129.

Chest radiograph revealed left lower lobe lung infiltrate (**Figure 2** and **Figure 3**).

He was treated with oral acetaminophen, IV hydration, and a dose of IV ceftriaxone.

After a period of observation, he was felt to be clinically improved, afebrile, and comfortable, and was discharged with PO azithromycin and close primary care follow-up.

The Take-home Message

When faced with this chief complaint, reviewing the differential diagnosis for pediatric abdominal pain minimizes the potential for missing a serious diagnosis, and maximizes the clinician's ability to combine history, physical, and other findings to make the best possible diagnosis.

In this case, it allowed the urgent care clinician to consider an atypical, but well-known, cause of abdominal pain in children: pneumonia.

Keep this in mind when your next patient is a child with "belly pain." ■

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On ED Visits, Corticosteroids and COPD, Intranasal Steroids in Allergic Rhinitis, Intussusception in Children Under 5, Urinary Antigen Testing, and Emergency Contraception

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.

Emergency Department Visits on the Rise

Key point: ED use in the U.S. is up dramatically; these stats are before the recent economic downturn.

Citation: Tang N, Stein J, Hsia RY, et al. Trends and characteristics of U.S. emergency department visits, 1997-2007. *JAMA*. 2010;304(6):664-670.

U.S. emergency departments provide access to care to all persons, regardless of ability to pay. Researchers used data from the National Hospital Ambulatory Medical Care Survey to examine trends in U.S. ED visits for subgroups by insurance status from 1997 through 2007.

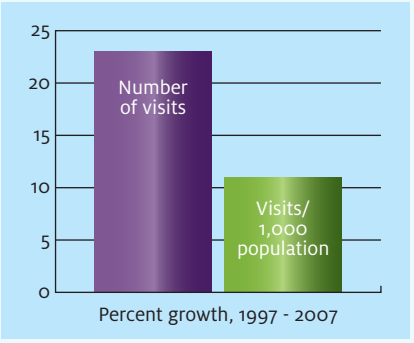
The total annual number of visits increased from 95 million to 117 million; the 23% increase was nearly twice that anticipated from population growth. The ED visit rate increased nearly 11% from 353 to 391 per 1,000 population.

Adults with Medicaid accounted for most of the increase. Adults with private insurance, Medicare, or no insurance had no significant changes in ED visit rates.

The number of EDs that met the CDC definition for safety-net EDs (>30% of total visits by patients with Medicaid, >30% of visits by patients with no insurance, or >40% of visits by patients with Medicaid or no insurance) increased from 1,770 in 2,000 to 2,489 in 2007 (41% increase).

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

The disproportionate increase in visits by patients with Medicaid between 1997 and 2007 might reflect a 35% increase in the number of adult Medicaid enrollees during that period and reduced access to primary and specialist care for Medicaid patients.



The number of EDs decreased by 5% during the study period, and the study ended before the 2008–2009 recession, when an additional 5.8 million Americans became uninsured and an additional 3.9 million enrolled in Medicaid. Finally, the study did not include nursing home residents, prisoners, patients in mental health care facilities, and undocumented or homeless persons—groups that are frequent visitors to EDs.

As such, it is likely that the situation will grow worse. These findings portend substantive tribulations for our EDs in the U.S.

[Published in *J Watch Emerg Med*, June 16, 2010—Cornelius W. Van Niel, MD.] ■

Effect of Dose and Route of Administration on Risk of Treatment Failure with Corticosteroids in Exacerbation of COPD

Key point: In non-critically ill patients with acute COPD exacerbations, there is no difference between low-dose oral steroids and

high-dose intravenous steroids.

Citation: Lindenauer PK, Pekow PS, Lahti MC, et al. Association of corticosteroid dose and route of administration with risk of treatment failure in acute exacerbation of chronic obstructive pulmonary disease. *JAMA*. 2010;303(23):2409-2410.

Systemic corticosteroids are beneficial for patients hospitalized with acute exacerbation of chronic obstructive pulmonary disease (COPD); however, optimal dose and route of administration are uncertain.

A pharmacoepidemiological cohort study was conducted at 414 U.S. hospitals, involving patients admitted with acute exacerbation of COPD in 2006 and 2007 to a non-intensive care setting and who received systemic corticosteroids during the first two hospital days.

Of 79,985 patients, 92% were initially treated with intravenous steroids, whereas 8% received oral treatment; 1.4% of the intravenously and 1.0% of the orally treated patients died during hospitalization, whereas 10.9% of the intravenously and 10.3% of the orally treated patients experienced the composite outcome.

After multivariable adjustment, including the propensity for oral treatment, the risk of treatment failure among patients treated orally was not worse than for those treated intravenously. In a propensity-matched analysis, the risk of treatment failure was significantly lower among orally treated patients, as was length of stay and cost.

Using an adaptation of the instrumental variable approach, increased rate of treatment with oral steroids was not associated with a change in the risk of treatment failure. A total of 1,356 (22%) patients initially treated with oral steroids were switched to intravenous therapy later in the hospitalization. ■

Intranasal Steroids for Ocular Symptoms in Allergic Rhinitis

Key point: In a randomized trial, intranasal steroids relieved both nasal and ocular symptoms.

Citation: Mometasone furoate nasal spray reduces the ocular symptoms of seasonal allergic rhinitis. Prenner BM, Lanier BQ, Benstein DI, et al. *J Allergy Clin Immunol*. 2010;125(6):1247-1253.

Because intranasal steroids are the most effective medications for allergic rhinitis symptoms (especially congestion), guidelines recommend them as first-line agents for moderate-to-severe disease.

As many as 85% of patients with seasonal allergic rhinitis also have ocular symptoms. For these patients, many clinicians prescribe oral antihistamines or ocular products rather than (or in addition to) intranasal steroids.

In an industry-sponsored randomized trial, 429 patients with seasonal allergic rhinitis received once-daily mometasone furoate nasal spray (200 µg) or placebo spray for 15 days. Compared with the placebo group, the mometasone group exhibited statistically and clinically significant improvement in both nasal and ocular symptoms.

Based on this and previous studies, intranasal steroids are superior to oral antihistamines for alleviating nasal symptoms and are equal for relieving ocular symptoms. The mechanism is unclear, but could involve a naso-ocular reflex pathway and appears to be a class effect. Adding an oral antihistamine to an intranasal steroid does not consistently confer greater benefits.

For patients with moderate-to-severe seasonal allergic rhinitis with ocular symptoms, intranasal steroids are appropriate as monotherapy. If ocular symptoms are not controlled, addition of an ocular antihistamine or mast cell stabilizer is warranted.

With respect to cataracts and glaucoma, safety data for intranasal steroids have been consistently reassuring.

[Published in *J Watch General Med*, June 10, 2010—David J. Amrol, MD.] ■

After Bacterial Enteritis: Beware Intussusception

Key point: Risk for intussusception increases after bacterial gastrointestinal infection in children younger than 5 years.

Citation: Nylund CM, Denson LA, Noel JM. Bacterial enteritis as a risk factor for childhood intussusception: A retrospective cohort study. *J Pediatr*. 2010;156(5):761-765.

Some studies suggest an association between intussusception and gastrointestinal infections, and case reports suggest an association between intussusception and various intestinal pathogens. Investigators used a military treatment facility database to retrospectively evaluate the risk for intussusception following bacterial enteritis in more than 387,000 children (age range: birth to 5 years) from 2002 to 2005.

Diagnosis-related group codes were used to identify children who had intussusception and were infected with *Salmonella*, *Shigella*, *Escherichia coli*, *Yersinia enterocolitica*, and *Campylobacter.*

Researchers identified 293 cases of intussusception and 1,412 cases of bacterial enteritis. Intussusception followed bacterial enteritis within six months in 37 cases.

Risks for intussusception following enteritis were also significantly increased when analyses were stratified by age (<1 year and 1 to 5 years) and by type of infecting organisms. Intussusception occurred throughout the six months after enteritis, but risk was highest during the first month.

This large retrospective cohort study confirms that bacterial enteritis is associated with an increased risk for intussusce-

Continued on page 31

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 email the relevant materials and presenting information to *editor@jucm.com*.

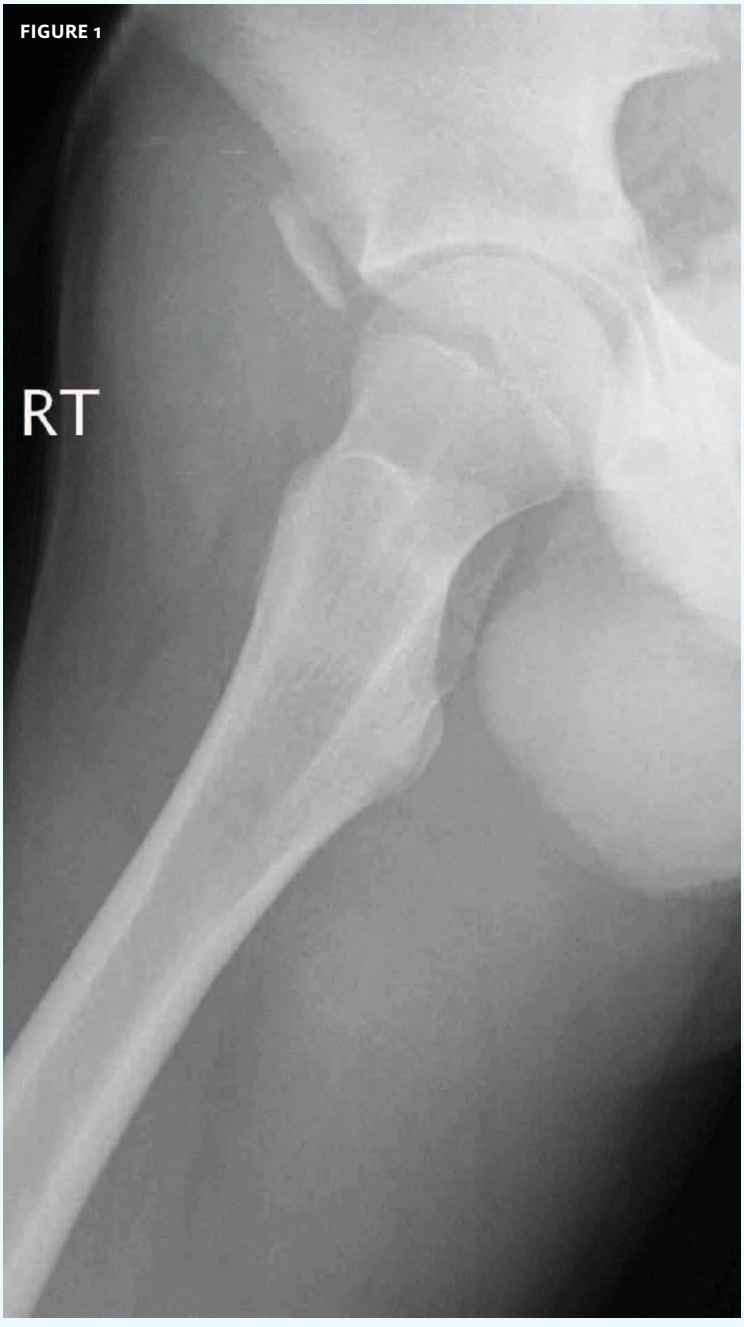


FIGURE 1

The patient is a 15-year-old boy who complains of pain over the right hip after falling while playing soccer.

He is able to bear weight on his right leg, though his pain is evident.

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

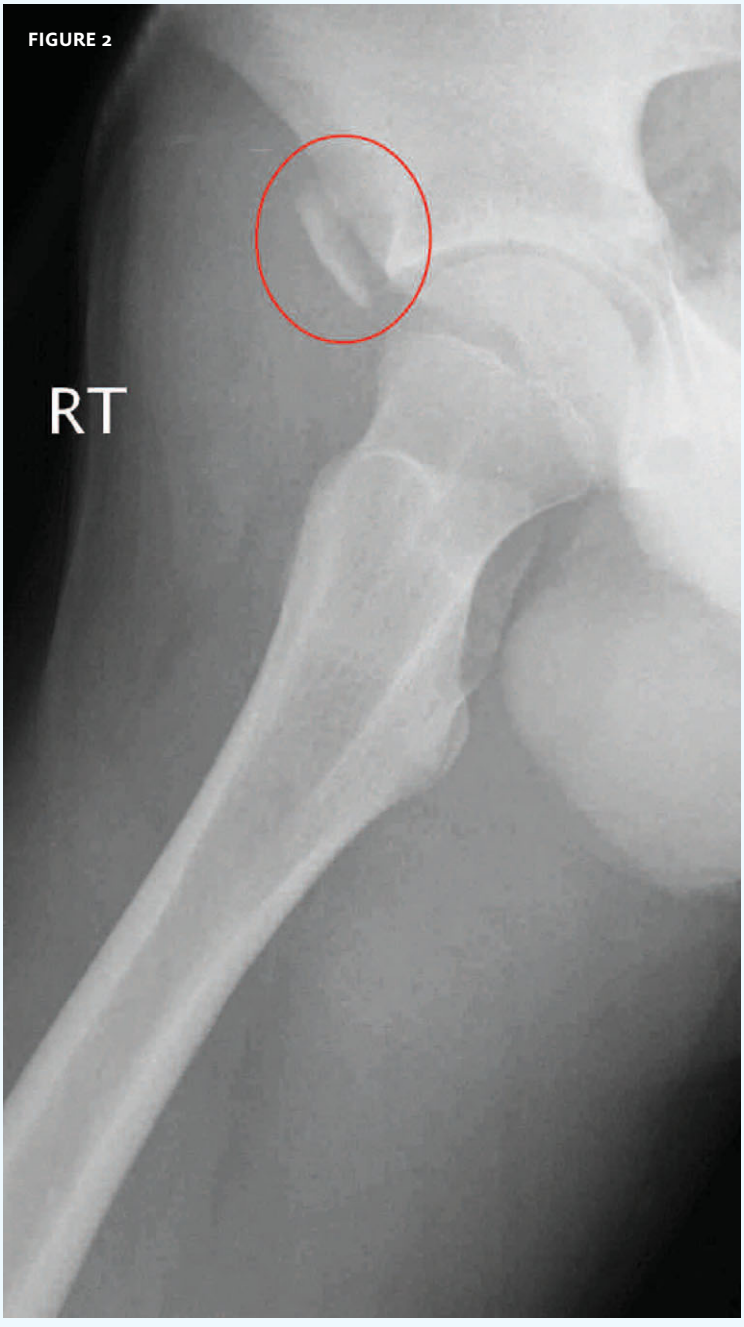


FIGURE 2

This patient suffered an avulsion fracture of the iliac crest. He was advised to rest and follow up with an orthopedist.

Pelvic fractures are uncommon in children, due to the cartilagenous nature of the pelvis in a growing child. Their occurrence implies high-energy trauma. Hence, evaluation for bladder/urethral injury is imperative. Risk for internal bleeding is high.

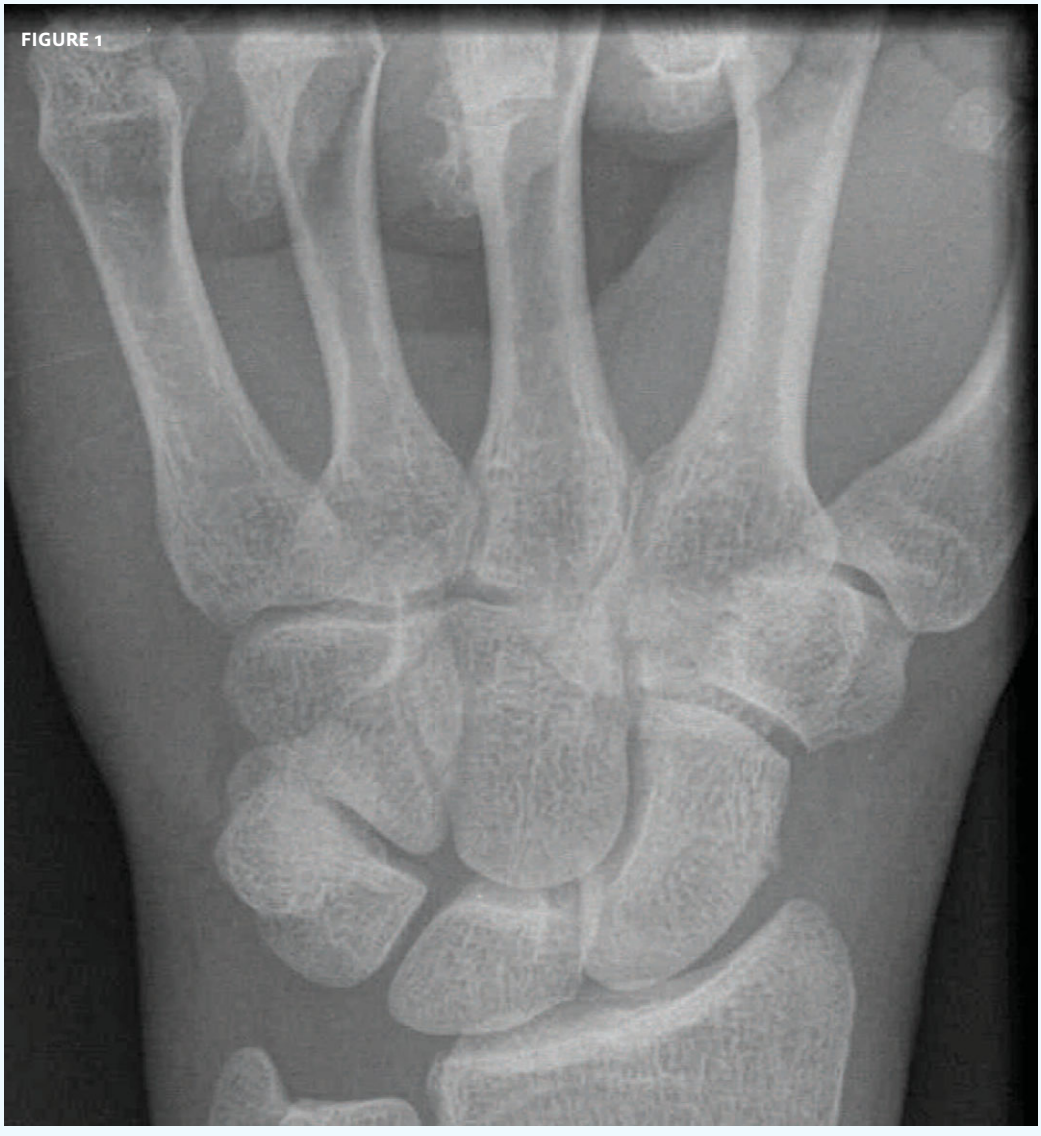
Barring such complicating factors, pelvic fractures heal quite well in children, typically.

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

INSIGHTS IN IMAGES

CLINICAL CHALLENGE CASE 2

FIGURE 1

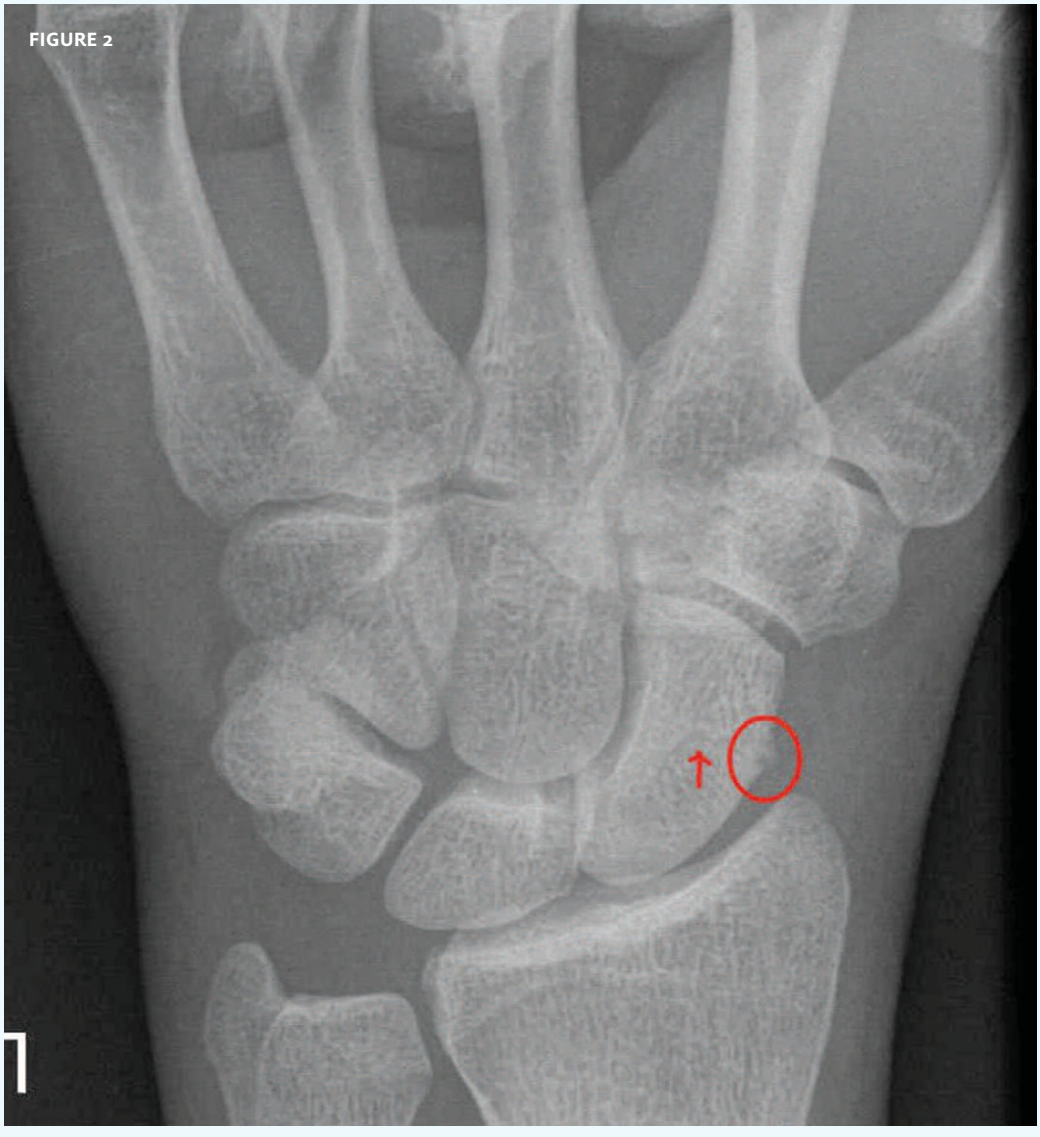


The patient is a 77-year-old who presents with pain in the left wrist. She reports injuring it in a fall.

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



The x-ray shows a fracture of the scaphoid. This patient was placed in a spica splint and instructed to follow up with an orthopedist.

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.*

tion. The presumed mechanism is bacterial enteritis leading to bowel lymphoid hyperplasia as a pathologic lead point for intussusception.

The absolute risk for intussusception after bacterial enteritis in this study (about 3%) is clearly higher than the background annual incidence of <0.1%.

Pediatricians should alert parents of children with bacterial enteritis to be vigilant for signs and symptoms of intussusception—a life-threatening condition—in the weeks and months following infection.

[Published in *J Watch Pediatr Adolesc Med*, June 16, 2010—Cornelius W. Van Niel, MD.] ■

Urinary Antigen Testing for Community-Acquired Pneumonia

Key point: Urinary pneumococcal antigen testing should be incorporated into the standard approaches for guiding treatment in community-acquired pneumonia.

Citation: Sordé R, Falcó V, Lowak M, et al. *Arch Intern Med*. 2010 Sep 27. [Epub ahead of print.]

Researchers studied some 500 cases of community-acquired pneumonia, establishing definite or probable *S pneumoniae* infection by culture or Gram stain in about one third of the subjects. The urinary antigen test was found to have a sensitivity of about 70% in detecting *S pneumoniae*, a specificity of about 95%, and a positive predictive value of about 90%.

The authors conclude that the test "should be incorporated into clinical guidelines at the same level as classic microbiological studies because it can supplement, but not replace, their results."

Ulipristal Acetate (ella) Approved for Prescription Emergency Contraception

Key point: The single tablet is intended for use within 120 hours (five days) after failure of standard contraception or after unprotected intercourse.

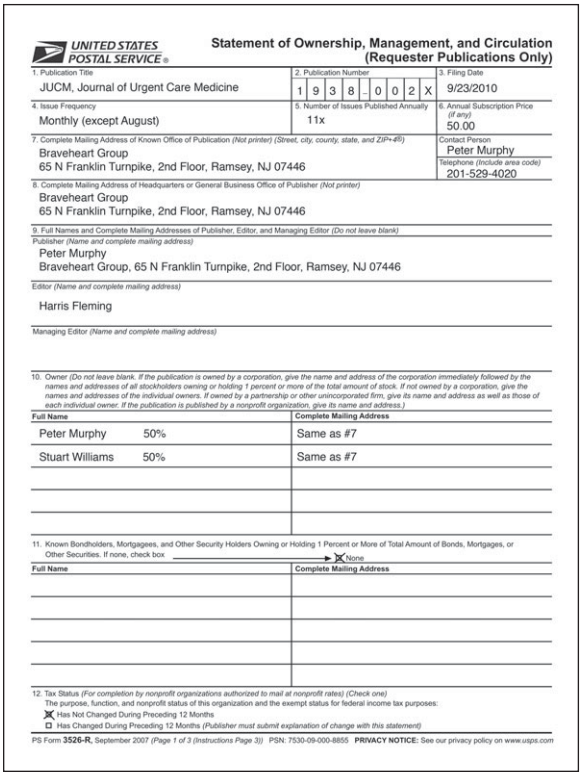
Citation: FDA approves ella tablets for prescription emergency contraception. Available at: *http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm222428.htm*.

The FDA has approved a new emergency contraceptive drug, ulipristal acetate (ella), a progesterone agonist/antagonist that works mainly by inhibiting or delaying ovulation.

The single tablet is intended for use within 120 hours (five days) after failure of standard contraception or after unprotected intercourse. It is available only by prescription.

In two trials leading to the approval, the most common adverse effects were headache, nausea, abdominal pain, dysmenorrhea, fatigue, and dizziness. ■

The Journal of Urgent Care Medicine Statement of Ownership



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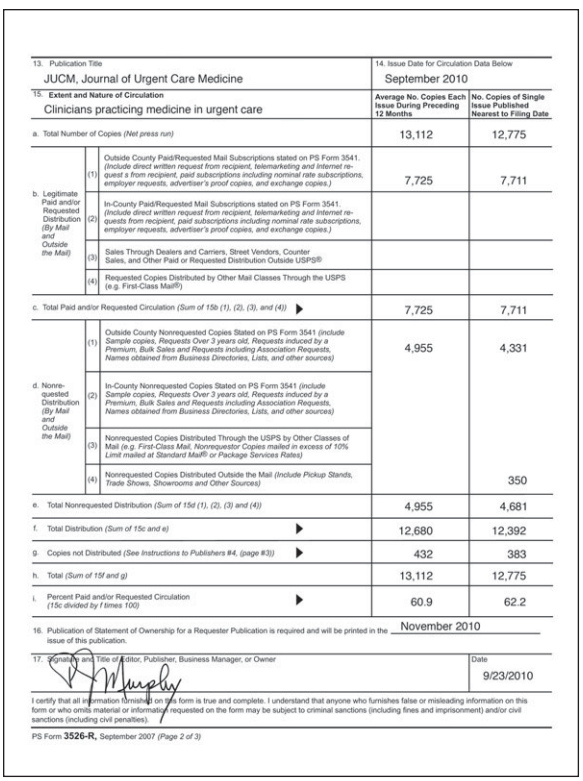

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PS Form **3526-R**, September 2007 (Page 2 of 3)

The Checklist—Part 3

JOHN SHUFELDT, MD, JD, MBA, FACEP

(Dr. Shufeldt began a three-part discussion of the importance of procedural checklists in the September issue of JUCM. *The first two installments are available at* www.jucm.com.)

Billy was a cocky, disingenuous, trying-to-be aviator who had a hangar next to mine until he left in the middle of the night to avoid paying his overdue invoices.

I like pretty much everybody, at least initially. Despite trying, I did not like Billy. Among his other dislikable attributes and accomplishments, Billy was the king of "gear-up" landings in aircraft he was piloting.

This is remarkable for many reasons. When a plane goes below certain airspeed, the gear warning horn automatically starts going off. It is so obnoxious and loud that it is impossible to mistake it for anything else and should cause you to lower the gear if for no other reason than to stop the unbearable noise.

After the first crash, he blamed his copilot for the outcome during the FAA inquiry and got off almost scot-free—save for the wrecked aircraft and momentarily damaged (yet still monumental) ego.

Despite that first accident, Billy, defying Darwinism, did not use a checklist prior to his second gear-up landing while piloting a rare, old military plane.

There is an old saying in aviation: "If you have to use full power to taxi off the runway, you did not put your gear down." Billy's response to that tongue-in-cheek axiom actually was, "Stay with me, at least I was on the center line!"

Unfortunately, some healthcare organizations are a lot like Billy; they do not hear the "gear warnings" going off. Thus, they refuse to embrace a culture of patient safety fostered by checklists and electronically enhanced clinical decision-making tools. Even worse, they collectively allow themselves to get led down previously trodden paths with little regard for the outcome of the patient.

Fortunately, some organizations get it right. Following are just a few of the success stories:

Columbus Children's Hospital: After finding that one third of their appendectomy patients received the wrong antibiotic or no antibiotic prior to incision, they implemented a pre-op checklist which dramatically reduced the incidence of post-op infections.

Barrow Neurological Institute: Reduced door-to-needle time for stroke patients using a standing orders checklist.

University of Toronto: Used a 21-step checklist, of which the staff had to verbally confirm completion prior to incision.

Michigan Hospitals: Intensive care units as part of the Keystone Initiative reduced their central line infection rate by 66% and outperformed 90% of the ICUs nationwide, saving more than $175 million and 1,500 lives.

Johns Hopkins and Kaiser Health Care System: Reduced ICU ventilator pneumonias and catheter-related wound infection using checklists and order sets. The occurrence of pneumonia associated with ventilators decreased 25% and the central line infection rate went from 11% to 0%.

Advocate Hope Children's Hospital Emergency Department: Uses standing order sets for children with a variety of disease states, including diabetic ketoacidosis (DKA).

Christ Hospital and Medical Center: Has standing order sets for congestive heart failure, acute myocardial infarction, chest pain, comfort care, insulin infusion, thrombolytics, adult DKA, heparin infusion, angina, RSI, and abdominal pain patients.

What do these organizations have in common? They are aware of the tools at their disposal to identify problems

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and use a checklist or standing orders to improve patient outcomes. In other words, they hear the "gear horn."

How then, if the use of these checklists is so critical to the safety of patients, does an organization start down the path?

As Daniel Boorman from the Boeing Flight Operation Department explained to Atul Gawande, author of *The Checklist Manifesto: How to Get Things Right*, checklists have to be:

- precise (simple English which gets to the point which does not mean "dumbed down")
- written by and for those in the trenches (i.e., desk jockeys, attorneys, sycophants, and non-clinicians should not be opining on the checklists)
- efficient (hitting the high points)
- able to help people remember a complex set of tasks (or a non-complex set of tasks in an emergency; i.e., lower the landing gear)
- relatively short (five to 10 steps)
- tested in the setting where it will be used.

Checklists can be either DO–CONFIRM (team members perform roles by memory and then stop and run the checklist to ensure they did not miss any steps) or READ–DO (team members carry out the tasks as they check them off).[1]

Here is an example of a checklist or standing order set for an adult patient arriving at an urgent care center with chest and/or shoulder pain radiating to his neck:

1. **CHECK VITALS**: IF PULSE >100 or <60, OR SBP <100 OR RR >16, NOTIFY PROVIDER
2. **EKG**: IF ST ELEVATION, NOTIFY PROVIDER AND CALL 911
3. **LABS**: CBC, TNI, CPK, CHEM-7
4. **IMAGING**: CXR PORTABLE OR BY WHEELCHAIR
5. **MEDS**: ASA 325 CHEWABLE IF NOT ALLERGIC; NITRO PASTE 1" REMOVE IF SBP <100

I am sure that about now, you are saying "DUH!" However, I know of three experiences where had these standing orders been followed, patients would not have died.

This is the rub: The three providers who treated these three patients were all board-certified, competent and caring individuals. Retrospectively, none of them would testify that their care met the standard and all told me (after the case was settled) that they had no idea how they could have missed the proverbial gear horn going off.

Checklists or standing order sets will work in concert with electronic health records (EHRs) and other decision support tools. Some modern, computerized decision-support features built into EHR systems are demonstrating positive results and beginning to generate interest amongst patient safety gurus.[2]

Many observers believe that the systems will take a giant leap forward when more day-to-day clinical work is documented electronically. Once providers no longer have to input data into the system outside the normal course of documenting care, effective decision-support systems will be able to provide them with meaningful guidance.[3]

As Gordon Schiff and David Bates wrote, health information technology has the potential to improve diagnostic precision in ways other than through computerized decision-support systems.[4] Among the features they call for are improved ways to filter and classify clinical information, functions that enhance communication amongst providers, more robust dynamic problem lists, and the incorporation of diagnostic checklists into the electronic record.[5]

As you may have guessed after reading this and my two previous articles, I am passionate about this topic. Although most medical malpractice carriers have not realized it yet, urgent care medicine is much more risky and much more difficult than emergency medicine. In the urgent care world, we operate with little patient history, rare established relationships, potentially high-risk illnesses, high patient volumes, and scant ancillary imaging or testing.

In short, we fly around in the perfect storm for medical malpractice.

Take advice from our brothers and sisters in other high-risk industries: checklists and standing orders save lives by preventing the highly competent, highly trained professional from a momentary lapse of judgment which in most other occupations, save medicine, would not cause any significant issue. There is simply no excuse not to use these simple, yet life saving tools.

In other words, the gear horn is going off, time to pay attention to the warning. ■

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CODING Q&A

‘Destruction’ Codes, Global Periods, Working with Provider Representatives, and Denial of G0431-QW

DAVID STERN, MD, CPC

Q. Our physician did a shave excision and sent it to pathology. It came back as malignant. She now wants to bill using the destruction codes of 17260-17286. We coders are trying to tell her that she needs to bill for the shave excision, because she documented clearly that she performed shave excision. What is the correct way to bill for this procedure?

– *Name withheld*

A. Per CPT Assistant 2009: These codes, i.e., destruction of benign or premalignant lesions (codes 17000-17250) and the destruction of malignant lesions (codes 17260-17286), do not apply to “removal by excision or shaving of skin lesions using surgical instruments such as a knife, scalpel or other similar tools.” ■

Q. I was at the (UCAOA) conference in Orlando this year and enjoyed your sessions on coding. I have a question for you about billing during a surgical global period.

We are on a flat rate for a lot of our insurances, and these contracts will pay us for one visit per day. For other insurances, we are paid as fee for service. We are billing all claims, even for suture removals and checks for I&Ds at either the assigned flat rate code (S9083) or a low-level E/M.

Is it appropriate to bill these flat-rate payors for the follow-up visits to surgical procedures because they do not seem to deny as global? Some coders have written that it is inappropriate to code and bill for these services. I would, also, like your feedback as to whether it is appropriate to bill a low-level E/M to the Medicare-based fee schedule payers.

– *Anonymous*

A. If you are coding the procedure code for a specific payor, then 10 days of routine care is included in the procedure. You should not bill an E/M for routine follow-up care during the global period.

If you code visits with a flat-rate code (same code no matter what the visit), then the global period rules do not apply. You would code the same flat-rate code for follow-ups. Some payors, however, may require you to refer the patient back to the primary care physician for all follow-up visits.

Your best procedure is always to check with each payor to determine their rules for coding procedures and coding during global periods related to procedures. ■

Q. In light of the new [payor name withheld] policy (effective 12/1/10) that will no longer allow S9088: Is there any way to fight this, other than to opt out of our contract?

– *Question submitted by Shirley Robinson, Batesville, IN*

A. It is always a good idea to stay in contact with your provider representative. Let your representative know how this will hurt your bottom line. Explain your additional costs of hiring staff to work weekends and holidays and days when very few patients arrive at the clinic. Maybe they will reverse their decision and compromise by giving you a little more on your fee schedule. It is worth a try.

If you can’t come to a reasonable compromise, however, you may consider cancelling your contract. At that point, they may take your demands more seriously, or you may find that they are willing to live without you. Your question should be (and you want to answer it before cancelling anything): “Are we willing to live without that payor?” ■

Continued on page 36

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. Dr. Stern 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.

Time Management Skills and the Occupational Health Professional

FRANK H. LEONE, MBA, MPH

"Time is money!" So true—and even more so when your raison d'être is to boost gross revenue in the shortest possible amount of time.

Ironically, despite the pressure to produce, time management tends to be a virtually lost art in the world of occupational health sales—whether you are a sales professional or an urgent care clinician or office manager tasked with this crucial responsibility.

Do you often wonder, "Where does my time go?" Step one is to answer that question definitively by maintaining a two-week time allocation chart to see exactly what you are doing with your time. Nothing fancy here, but you need to be honest and impeccable with your entries.

The results of this ad hoc self-assessment are likely to surprise you.

Allocate as much time as possible to face-to-face sales, whether it's you or someone else doing the selling at your facility, with the understanding that other events are likely to get in your way.

Traditional leading time-suckers in the sales arena are:

- *Customer service.* If you are putting out fires, babysitting accounts, or following up on a myriad of operational issues, you are not out there selling. Sales personnel should be doing what they do best: bringing in new business while minimizing involvement in clean-up campaigns.
- *Paperwork.* There is *productive* paperwork and there is *busy* work. If paperwork ultimately results in a sale or saves you time, then it is time well spent. If it is a clerical activity that could be easily handled by another staff member, it should be delegated.

- *Database management.* Many sales professionals surf the net and play with their database more than they should. Learn to pick and choose applications that really make a difference, such as tracking sales calls results and keeping contact information or protocols current.
- *Telephone calls.* I ask registrants at our sales training programs how many phone calls they place or receive daily; usually, it's in the range of 25 to 35 calls per day.

  If the average length per call is four minutes, that is 120 minutes, or two full hours of telephone time a day. Decrease your telephone time by 50%, and you will save one hour a day, or 240 hours every year, that can in turn be re-directed to revenue-generating activities.
- *Travel.* The amount of time that a sales professional is on the road can be substantial. Consolidate auto travel as much as possible by scheduling consecutive meetings with employers within close proximity of each other.

Continued on page 36

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*.

OCCUPATIONAL MEDICINE

A written and deployed time management plan is as important as your sales and marketing plan. Consider the following for a proactive time management plan:

1. Complete a two-week time management audit once a quarter and adjust to the findings of each study. Look for the least productive five hours of your weekly routine and eliminate those activities.
2. Cluster activities. For example, considerable time can be saved by placing all of your outgoing phone calls during a set time period (e.g., first thing in the morning) and making your in-person sales calls between 11 a.m. (assume you have a lunch meeting scheduled with a prospect) and 4 p.m.

   Likewise, and as noted previously, sales calls should be arranged to minimize travel time. Add these clusters to your weekly schedule and stick with it.

   Be selective with the information you routinely collect and maintain. Use software applications that will help you maximize the return on the time you invest.
3. Manage your telephone time. Suggested techniques include:
   - Think before you dial. Review the facts (e.g., history, current proposal) and know your objectives.
   - Script your voicemail message, should you not reach the person directly.
   - If you do not need to speak directly to the person but just want to leave a message, make the call before or after regular business hours.
   - During a call, be considerate of the prospect's time. Ask if it's a convenient time, get right to the point, state your objectives, and minimize small talk
   - Supplement or replace voicemail with email as circumstances dictate.
   - Develop a phone station in which you have key numbers, product descriptions, and competitive advantage statements immediately at hand.
5. At the end of each day, develop an action plan for the following day. Set priorities for the discrete tasks on your to-do list.

Numbers are compelling. Consider: If one hour a day can be shifted from minimally productive tasks to direct sales, you would have an additional 240 hours a year to cultivate sales. This is the equivalent of an additional *six weeks* of full-time sales effort.

Simply focusing on time management can easily make the difference between a break-even situation and an extraordinarily profitable one.■

CODING Q & A

Q. For the code 17110 (Destruction (e.g., laser surgery, electrosurgery, cryosurgery, chemosurgery, surgical curettement), of benign lesions other than skin tags or cutaneous vascular proliferative lesions up to 14 lesions), the description reads "up to 14 lesions." In the units field, do we put the number that were removed, or bill as one unit because the code description states "up to 14?"

– *Question submitted by Tina McCart, Louisiana State University Health Sciences Center, Shreveport, LA*

A. Use CPT code 17110 just once, when the doctor performs (or attempts) destruction of up to 14 lesion. Do not place the number of units in the units field, as this is a single code that is billed identically (i.e., a single code), whether the patient has one lesion destroyed or 14 lesions destroyed. ■

Q. Medicare is denying reimbursement for the G0431-QW (Drug screen, qualitative; single drug class method (e.g., immunoassay, enzyme assay), each drug class). At first we were billing G0431-QW with nine units, but then Medicare started denying the claims for the frequency or units.

Medicare states they don't have the frequency for the code in their system, so what would be the best way to bill these (or have you heard about anyone else having this problem)?

– *Question submitted by Tammy Scott, Physician Practice Resources, Chattanooga, TN*

A. For some codes, Medicare does not publish frequency limits if they suspect that the knowledge of these limits for a specific code might be abused. One would suspect that this code is exactly that type of code, especially since Medicare specifically noted that this new code was implemented in January 2010 because, "it had come to CMS' attention that some companies were using questionable billing practices concerning CPT Code 80100 and CPT Code 80101. Therefore, CMS created two new G codes to operate in place of and alongside existing CPT Code 80100 and existing CPT Code 80101."

Medicare has noted that codes for this procedure have been "abused" in the past, so it would seem likely that Medicare does have a frequency limit for this code. You may be coming up against their unpublished limits. ■

Disclaimer: JUCM and the author provide this information for educational purposes only. The reader should not make any application of this information without consulting with the particular payors in question and/or obtaining appropriate legal advice.

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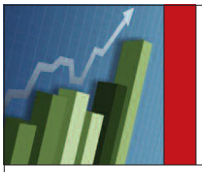
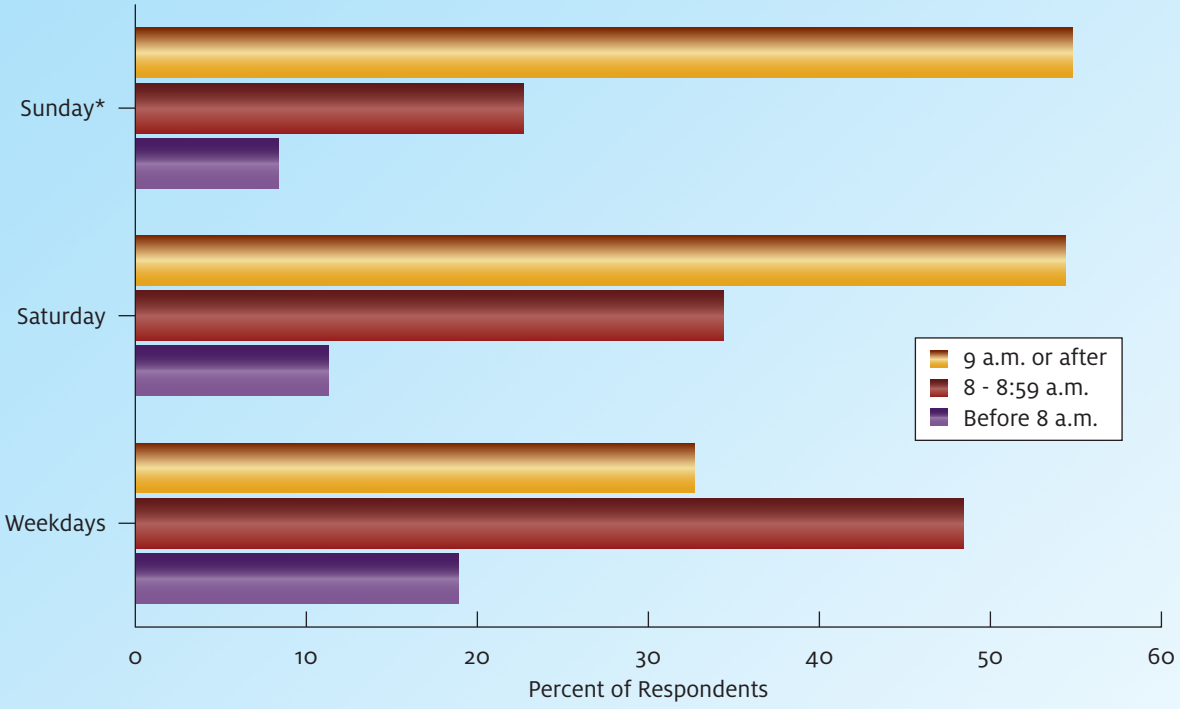


DEVELOPING DATA

In each issue on this page, we report on research from or relevant to the emerging urgent care marketplace. This month, we offer another look at data from the most recent annual survey conducted by UCAOA. (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.)

In this issue: What time do U.S. urgent care centers tend to open for business each day?

OPEN FOR BUSINESS



*Approximately 15% of responding centers reported being closed on Sundays.

Compared with past UCAOA surveys, these data show that more centers are opening their doors before 9 a.m. on weekends (presumably before most other physician offices are open) than in years past, but that weekday opening times are relatively stable.

Where does your facility fall along this spectrum? And how does that compare with your local competitors—are they taking in patients before your lights come on?

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*.

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