Urgent Care Emergencies
Avoiding the Pitfalls and Improving the Outcomes

EDITED BY
Deepi G. Goyal MD, Associate Professor, Department of Emergency Medicine, Mayo Clinic, College of Medicine, Rochester, MN, USA
Amal Mattu MD, FAAEM, FACEP, Professor and Vice Chair, Director, Faculty Development Fellowship, Department of Emergency Medicine, University of Maryland School of Medicine, Baltimore, MD, USA

If you see patients in an urgent care center, minor injury unit or other acute care setting, this new clinically-focused guide will help you avoid high-risk pitfalls and achieve optimal outcomes.

This must-have resource covers a wide range of emergencies that may be encountered in an urgent care setting, focusing on those that can occur with the most commonly-encountered complaints and conditions, including:

- Genitourinary complaints
- Common infections
- Orthopedic injuries
- Wounds
- Back pain
- Dermatologic complaints

The book also includes chapters on common pitfalls during the HEENT examination, effective patient communications, urgent care pharmacology pitfalls, special issues in the care of pediatric and geriatric patients, and more. Each chapter is authored by an experienced acute care clinician and includes clinical pearls that you can apply directly to the care of your own patients.

The urgent care center can be a challenging and fast-paced environment, and pitfalls, especially those encountered during emergencies, can have serious consequences for patients’ immediate well-being, their recovery time, and possibly their long-term prognosis. More than ever, you need a resource you can trust that has been tailored specifically to the needs of providers in the low-acuity setting.

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Urgent Care Emergencies
Avoiding the Pitfalls and Improving the Outcomes
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Deepi G. Goyal, MD
Associate Professor
Department of Emergency Medicine
Mayo Clinic, College of Medicine
Rochester, MN
USA

Amal Mattu, MD, FAAEM, FACEP
Professor and Vice Chair
Director, Faculty Development Fellowship
Department of Emergency Medicine
University of Maryland School of Medicine
Baltimore, MD
USA
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List of Contributors

Michael K. Abraham, MD, MS
Clinical Assistant Professor
Department of Emergency Medicine
University of Maryland School of Medicine
Baltimore, MD, USA

Christopher E. Anderson, MD
Resident Physician
Department of Emergency Medicine
Mayo Clinic
Rochester, MN, USA

Jana L. Anderson, MD
Instructor of Emergency Medicine
Division of Emergency Medicine Research
Mayo Clinic
Rochester, MN, USA

Eric T. Boie, MD, FAAEM
Assistant Professor of Emergency Medicine
Department of Emergency Medicine
Mayo Clinic
Rochester, MN, USA

Michael C. Bond, MD
Assistant Professor
Department of Emergency Medicine
University of Maryland School of Medicine
Baltimore, MD, USA

Ronna L. Campbell, MD, PhD
Assistant Professor of Emergency Medicine
Department of Emergency Medicine
Mayo Clinic
Rochester, MN, USA

Nadia Eltaki, MD
Resident Physician
Department of Emergency Medicine
University of Maryland Medical Center
Baltimore, MD, USA

Alisa M. Gibson, MD, DMD
Clinical Assistant Professor
Department of Emergency Medicine
University of Maryland School of Medicine
Baltimore, MD, USA

James L. Homme, MD
Consultant Pediatrics and Emergency Medicine
Mayo Clinic
Rochester, MN, USA

Christopher S. Kiefer, MD
Assistant Professor of Clinical Emergency Medicine
Indiana University School of Medicine
Indianapolis, IN, USA

Hyung T. (Henry) Kim, MD
Assistant Professor of Clinical Emergency Medicine
University of Southern California Los Angeles County Hospital
Los Angeles, CA, USA

Michael J. Laughlin, Jr., MD
Instructor of Emergency Medicine
Mayo Clinic College of Medicine
Rochester, MN, USA

Jennifer A. Lisowe, MD, FAAD
Department of Dermatology
Mayo Clinic Health System
Owatonna, MN, USA

Joseph P. Martinez, MD, FACEP, FAAEM
Assistant Professor of Emergency Medicine
Assistant Dean for Student Affairs
University of Maryland School of Medicine
Baltimore, MD, USA

Siamak Moayedi, MD
Assistant Professor of Emergency Medicine
University of Maryland School of Medicine
Baltimore, MD, USA

David M. Nestler, MD, MS
Assistant Professor of Emergency Medicine
Division of Emergency Medicine Research
Mayo Clinic College of Medicine
Rochester, MN, USA

Stephen M. Schenkel, MD, MPP
Associate Professor
Department of Emergency Medicine
University of Maryland School of Medicine
Baltimore, MD; Chief, Emergency Medicine
Mercy Medical Center
Baltimore, MD, USA

Sarah K. Sommerkamp, MD
Assistant Professor
Department of Emergency Medicine
University of Maryland School of Medicine
Baltimore, MD, USA
Mercedes Torres, MD  
Clinical Assistant Professor  
Department of Emergency Medicine  
University of Maryland School of Medicine  
Baltimore, MD, USA

Reinier van Tonder, MD  
Clinical Instructor in Emergency Medicine  
Department of Emergency Medicine  
Kaiser Permanente  
San Diego Medical Center  
San Diego, CA, USA

Brooks M. Walsh, MD  
Attending Physician  
Bridgeport Hospital, Yale New Haven Health System, Bridgeport, CT, USA

George Willis, MD  
Clinical Assistant Professor  
Department of Emergency Medicine  
University of Maryland School of Medicine;  
Attending Physician  
Mercy Medical Center  
Baltimore, MD, USA
Preface

Healthcare systems are under stress. Many systems lack the capacity to manage the increasing volume of patients requiring care. Simultaneously, health-care costs are under increased scrutiny by both funders and providers, and they must be managed carefully to keep those systems sustainable. Traditional emergency departments and accident wards are becoming increasingly overcrowded and costly; and on the other hand primary care providers are often working at capacity or unavailable after hours. Consequently, patients with acute but minor illnesses are facing increasing challenges regarding where to obtain prompt medical care.

Urgent care centers were borne out of the need for practitioners and facilities that could provide access to individuals with noncritical illness and injuries to receive episodic, unscheduled care. Also known as fast tracks, walk-in centers, or minor injury units, these facilities are in high demand. They have a practitioner (physician, nurse practitioner, or physician assistant) on site during hours of operation and most have on-site x-ray, phlebotomy, and the capability to perform minor procedures.

Urgent care centers serve an important role in improving access to care for patients with noncritical injuries and illnesses. Furthermore, by caring for patients with lower acuity complaints, they allow already overcrowded emergency departments to provide care for higher acuity patients requiring their resources.

Though seemingly minor, some injuries and illnesses can have devastating consequences if not identified early or if managed incorrectly. Patients can be neither assumed nor expected to be able to differentiate a minor from a serious condition. Yet an unidentified orthopedic injury, improperly managed wound, or misidentified rash could have dire and long-lasting consequences. Practitioners must therefore always be on guard to ensure optimal care.

This text was developed to help providers who evaluate low acuity complaints in any setting. The aim is to highlight common pitfalls in the management of these seemingly low-acuity conditions. This text is not meant to be comprehensive in scope; rather it is meant to bring the provider’s attention to high-risk aspects of chief complaints that may be encountered in these low-acuity settings.

The authors for each chapter were carefully chosen for having expertise in their respective topics, and have focused their chapters on high-risk pitfalls in everyday practice. At the end of each chapter, the authors have provided important pearls of wisdom for improving patient outcomes. The text is intended for any practitioner who cares for patients with these complaints – whether in an emergency department, an urgent care center, or any other healthcare setting. The text is designed to be of an appropriate size and practicality to be read cover-to-cover and to be used frequently during daily practice. On behalf of all of the authors, we sincerely hope that the pages that follow help you in helping your patients.

Deepi G. Goyal
Rochester, MN
Amal Mattu
Baltimore, MD
CHAPTER 1
HEENT Pitfalls

Alisa M. Gibson and Sarah K. Sommerkamp
Department of Emergency Medicine, University of Maryland School of Medicine, Baltimore, MD, USA

Introduction

Emergencies affecting the ear, nose, and throat (ENT) constitute a large component of chief complaints seen in urgent care centers. The majority of these patients have benign conditions that can be managed on an outpatient basis. Some seemingly innocuous complaints can be reflective of diseases that pose significant risk of morbidity and possibly mortality. As with most diseases, the key to differentiating between minor and dangerous conditions is the history and physical examination. A huge spectrum of pathology can manifest in the head and neck, and the management of this patient group can be overwhelming for an individual practitioner. In this chapter, we present key facts, highlight the pitfalls inherent in diagnosing these conditions, and offer pearls intended to facilitate their management.

Eye

Pitfall | Failure to ensure that patients with epithelial defects are treated with appropriate antibiotics and seen by an ophthalmologist within 24 hours

A wide variety of eye complaints are encountered by acute care providers. Differentiation between corneal abrasions, corneal ulcers, and corneal foreign bodies can be difficult. The majority of patients with any of these conditions present with eye pain and a gritty or foreign body sensation. Visual acuity may be affected, depending on the location of the defect, so testing and documenting visual acuity are essential, as they are in all patients with eye complaints. Acute monocular visual loss may signify a more dangerous condition, such as central retinal artery occlusion, central retinal vein occlusion, acute angle closure glaucoma, or retinal detachment or a central nervous process (stroke, transient ischemic attack (TIA), or multiple sclerosis (MS)). Patients with any of these signs should be referred to an emergency department.

Patients with suspected corneal epithelial defects should have a full eye examination. A slit lamp is preferred to Wood’s lamp. The instillation of analgesic and/or cycloplegic drops will significantly relieve the patient’s symptoms and increased his/her ability to tolerate the examination, but these drops should not be used if globe rupture is suspected. Fluorescein staining is mandatory for the evaluation of a corneal defect and to rule out herpes keratitis. Defects in the epithelial surface appear as a stain that does not clear with blinking. The size and position of any defect(s) should be documented. Punctate defects, which appear in a circular pattern, are sometimes seen in contact lens wearers, particularly after prolonged wear. Larger defects with a crater formation are ulcers.

Parallel vertical abrasions should raise suspicion for a foreign body under the lid. When this type of injury is detected, the patient’s eyelid should be
Urgent Care Emergencies

Everted to allow further assessment. Without treatment, and over time, the vertical abrasions will coalesce and form an ulcer. Foreign bodies may also be lodged directly on the corneal surface. In many cases, they can be removed with a cotton swab or irrigation, but if that procedure is unsuccessful, removal with a needle or burr may be necessary and should be done only by someone with specific training. Metal foreign bodies may lead to the development of a rust ring, which should only be removed by an ophthalmologist [1].

The immediate treatment of corneal abrasions, ulcers, and foreign bodies is similar (Table 1.1). Simple abrasions that are smaller than 3 mm do not require follow-up as long as no foreign body is present, the patient’s visual acuity is normal, and symptoms resolve within 24 hours [2]. However, if there is any doubt, referral to an ophthalmologist is reasonable. All other defects should be seen by a specialist within 24 hours. Antibiotics, which may be prescribed as either ointment or drops, should be administered to all patients with epithelial defects. Ointment is generally preferred (particularly for children) because it is easier to apply, stays in place longer, and lubricates the eye. However, ointments are not well tolerated by most adults because they obscure vision and interfere with activities such as driving and reading. Drops are dispersed by the natural lubrication mechanisms of the eye. Firmly squeezing the eye shut for 5 minutes after administration will close the drainage ducts and increase penetration. Contact lens wearers with corneal abrasions require antipseudomonal antibiotic coverage and should be advised to refrain from wearing their contacts until they are cleared to do so by an ophthalmologist. All patients with corneal ulcers also require antipseudomonal antibiotic coverage.

Patients with painful corneal abrasion may require systemic narcotics. Ophthalmic nonsteroidal anti-inflammatory drugs (NSAIDs) may be prescribed, but are expensive. Topical anesthetics such as tetracaine should never be prescribed or given to patients for use at home, as repeated use may be associated with the development of ulcers. Tetanus status should be updated as needed. Eye patching has not been shown to be effective in accelerating healing. In fact, because it might worsen the infection and thus lengthen the time to recovery, it is not recommended [3].

**Table 1.1** Treatment of corneal abrasions, ulcers, and foreign bodies

<table>
<thead>
<tr>
<th>Antibiotic</th>
<th>Ointment dose</th>
<th>Drops dose</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>No contacts</td>
<td>Trimethoprim/</td>
<td>0.5” four times a</td>
<td>1–2 drops q 2 h</td>
</tr>
<tr>
<td>No contacts</td>
<td>polymyxin B</td>
<td>day</td>
<td></td>
</tr>
<tr>
<td>No contacts</td>
<td>Erythromycin</td>
<td>0.5” q 3–4 h</td>
<td>None</td>
</tr>
<tr>
<td>No contacts</td>
<td>Sulfacetamide</td>
<td>0.5” four times a</td>
<td>1–3 drops q 2–3 h</td>
</tr>
<tr>
<td></td>
<td></td>
<td>day</td>
<td></td>
</tr>
<tr>
<td>Contacts</td>
<td>Tobramycin</td>
<td>0.5” three times a</td>
<td>1–2 drops q 4 h</td>
</tr>
<tr>
<td></td>
<td></td>
<td>day (severe</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>infection, q 3–4h)</td>
<td></td>
</tr>
<tr>
<td>Contacts</td>
<td>Ciprofloxacin</td>
<td>None</td>
<td>1–2 drops four times a day</td>
</tr>
<tr>
<td>Ulcer</td>
<td>Tobramycin</td>
<td>0.5” q 3–4 h</td>
<td>2 drops q 30–60min</td>
</tr>
<tr>
<td>Ulcer</td>
<td>Ciprofloxacin</td>
<td>None</td>
<td>1–2 drops q 1 h</td>
</tr>
</tbody>
</table>


**KEY FACT** | Foreign bodies or rust rings can wait up to 24 hours for removal by an ophthalmologist.

**KEY FACT** | All patients with corneal ulcers require antipseudomonal antibiotic coverage.
A hyphema is a collection of blood in the anterior chamber. Patients typically present with eye pain and pupillary constriction. Visual acuity is variably affected, based on the amount of blood present. The condition most commonly results from trauma, but it can appear spontaneously in patients with sickle cell anemia or bleeding dyscrasias. Hyphemas are graded on a scale of I to IV, based on the amount of blood present (Figure 1.1). The hyphema grade is important to the clinical management and disposition of the patient. Visual acuity should be documented and globe rupture ruled out before a complete eye examination—including measurement of intraocular pressure—is performed. Concomitant ocular and bony injuries are common in patients with hyphema. Computed tomography (CT) may be indicated for patients with facial trauma. Laboratory studies to identify coagulopathy (complete blood count (CBC), prothrombin time (PT), partial thromboplastin time (PTT)) should be done in patients with known or suspected bleeding disorders. After globe rupture is excluded, ultrasound, if available, can be used to evaluate the eye for retinal detachment, lens damage, an intraocular foreign body, and choroidal hemorrhage [4].

All patients with hyphema are at risk of long-term complications such as synechiae and angle recession, cataracts, and delayed bleeding, and therefore must be followed up daily by an ophthalmologist. Certain patients have risk factors that necessitate emergent consultation and might warrant admission: these include sickle cell disease, bleeding dyscrasias (such as anticoagulation or hemophilia), potentially open globes, young age, and grade III or IV hyphemas [5–7]. Healthy compliant patients with none of the above risk factors who have hyphemas that fill less than 50% of the anterior chamber can be discharged home with ophthalmologic follow-up within 12 to 24 hours. Interventions are focused on an avoidance of re-bleeding and prevention of intraocular hypertension. Patients should be placed with the head of the bed elevated 30 degrees, in a dim quiet room. An eyeshield should be placed, and removed only for examination. The patient should be placed on bed rest with bathroom privileges and should not read or watch television as those activities may cause pupillary constriction and obstruct outflow. Analgesia with topical cycloplegics may be used, and systemic narcotics are frequently also required. NSAIDs should be avoided because of their associated bleeding risk. Nausea and vomiting should be treated aggressively since they can raise intraocular pressure. These instructions should be clearly communicated to any patient being discharged.

**Figure 1.1** Grades of hyphema.

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**Throat**

Sore throat is an extremely common complaint. It has a broad differential, ranging from viral illness to life-threatening conditions such as epiglottis and retropharyngeal abscess. In the majority of cases, these conditions can be differentiated by the history and physical examination. The fear of “strep throat” brings many people to acute care centers. Most people do not realize, however, that infection with Group A Streptococcus (GAS) is responsible for fewer than 10% of cases [8]. Other bacterial causes of acute pharyngitis include gonorrhea, diphtheria, and *Fusobacterium*. Viruses account for the majority of cases of pharyngitis. Typical viral pathogens include adenovirus, Epstein–Barr virus (EBV), cytomegalovirus (CMV), the human immunodeficiency virus (HIV), and influenza.
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Treatment of GAS pharyngitis with antibiotics can reduce the duration of illness by 1 or 2 days, decrease the risk of transmission, and prevent nonsuppurative complications (rheumatic fever and post-streptococcal glomerulonephritis, which are both rare among adults in the United States) and suppurative complications (peritonsillar abscess, sinusitis, retropharyngeal abscess). Those treatment goals, although well intentioned, lead to a great deal of prescriptions for unwarranted antibiotics. Overuse of antibiotics is typically thought of as hazardous to the population at large in terms of increasing resistance patterns, but it can also be dangerous for the individual. Disruption of the normal flora puts the patient at risk of superinfections by organisms such as Candida and Clostridium difficile and makes the antibiotic less effective for that patient for a full year [9]. The decision to prescribe antibiotics can be based on the individual patient’s condition or by a combination of culture, the rapid streptococcal antigen test (RSAT), and the Centor criteria (see below). The use of culture is often impractical in an acute care practice, given that it can take 2 or 3 days to get results. The RSAT is 70–90% sensitive and 90–100% specific [10–12]. To perform this test, vigorously swab both tonsils and the posterior pharynx. Obtaining an adequate sample is crucial, as sensitivities correlate directly to inoculum size [13]. A positive test result is helpful, but a negative result does not rule out the disease. Many facilities do not have RSAT capabilities, so the diagnosis of GAS pharyngitis is frequently based on clinical criteria.

The Centor criteria constitute a clinical decision rule designed to assist with the diagnosis of streptococcal pharyngitis. The four criteria are tonsillar exudates, swollen, tender anterior cervical nodes, the absence of a cough, and a history of (or current) fever. If none of these criteria is present, the likelihood of a culture being positive for the presence of GAS is 2.5%. The likelihood of a positive test result increases with the number of criteria present: one criterion, 6.5%; two criteria, 15%; three criteria, 32%; and all four criteria, 56% [11]. The Centor criteria have a better negative than positive predictive value. Treatment based on the presence of three or four criteria alone will lead to overtreatment of 50%. The absence of three or four criteria leads to a negative predictive value of 80%, making this information more clinically useful.

Several studies have evaluated treatment strategies based on a combination of clinical criteria, RSAT, and culture, yielding variable results [14, 15]. The general recommendation is as follows: adults with fewer than two Centor criteria should not receive further testing or treatment. Adults with two or more criteria should be tested with RSAT, without reflex culture for negative results. Antibiotic treatment based on a positive RSAT is reasonable, but treatment based on clinical symptoms alone is not recommended [14, 16, 17]. Treatment recommendations for children differ, and a more generous treatment strategy can be adopted for adults in close contact with children. The traditional antibiotic regimen is penicillin, in either an intramuscular preparation (benzathine penicillin G, 1.2 million units given once) or an oral form (PenVK, 500 mg PO, BID for 10 days). Macrolides can be used for penicillin-allergic patients (azithromycin, 500 mg PO, daily for day 1, then 250 mg PO daily for days 2–5). Recent studies have shown improved bacterial eradication with cephalosporins, although this has not yet been proven to be clinically significant [18, 19].

Adjunctive treatment for GAS pharyngitis includes hydration, fever control, and in some cases corticosteroids. Several studies have shown that corticosteroids improve severe throat pain and shorten the clinical course [20–22]. Dexamethasone, 10 mg IV or IM, can be given as a one-time dose, making it convenient. Alternatively, prednisone
can be prescribed as a 5-day, 40-mg burst. Analgesia with acetaminophen, NSAIDs, or topical numbing medications may be used. Patients with a strep throat can generally be discharged, providing they can tolerate fluid.

**Mononucleosis deserves special consideration for any patient with pharyngitis, particularly if antibiotics may be prescribed. Treatment with the “cillin” family of antibiotics has been linked with the development of a macular erythematous generalized rash. Mononucleosis is a viral illness that can be caused by CMV, EBV, or adenovirus. The symptoms are generally malaise, fatigue, severe pharyngitis with lymphadenopathy, and fever.**

Testing for mononucleosis can be complicated, because the monospot test catches only EBV-related mononucleosis with good sensitivity after 2 weeks of infection. However, the test may not be positive in early infection and is not positive for non-EBV cases. The test stays positive for approximately one year. Alternatively, a blood smear for atypical lymphocytes and evaluation of the differential may hold clues for diagnosis. Treatment of mononucleosis relies mainly on supportive care, fluids, and analgesia. Steroids may be administered if the airway is obstructed; otherwise, no significant benefit is conveyed by their use.

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**Peritonsillar abscesses (PTAs) are the most common cause of deep neck infection [24, 25]. PTAs form next to the palatine tonsils and are generally preceded by pharyngitis. The cause is usually polymicrobial, the predominant organisms being GAS, *Staphylococcus aureus* (including methicillin-resistant *Staphylococcus aureus* (MRSA)), and respiratory anaerobes. Patients typically present with a unilateral sore throat, a “hot potato” voice, and trismus, and they may drool. These patients can have quite an ill appearance and may develop a life-threatening airway obstruction. If trismus is so severe that visualization of the tonsils is limited, CT imaging or examination in an operating room may be required. The typical appearance of a PTA is an extremely swollen, erythematous, fluctuant tonsil. The uvula is deviated to the opposite side. While PTAs are almost always unilateral, bilateral cases may rarely occur and pose a diagnostic challenge.**

Imaging is not required to diagnose a PTA, although it may be necessary to differentiate these abscesses from peritonsillar cellulitis and other deep-neck infections. A CT scan with IV contrast is the traditional approach. However, ultrasound imaging is gaining popularity as it offers the advantages of no radiation, immediate results, and real-time guidance for drainage. If the patient has only cellulitis – without abscess formation – antibiotics and supportive care are adequate. If an abscess is present, incision and drainage, either by needle aspiration or with a scalpel, is required. This should be done only by a clinician trained in the procedure. Clindamycin is the preferred antibiotic. For patients with severe infections, vancomycin should be added, particularly if MRSA in the area has a high resistance to clindamycin. Supportive care includes hydration, fever control, analgesia (both systemic and topical), and possibly corticosteroids, with dosing as listed for GAS pharyngitis.

**PTA is a potentially life-threatening disease, and it is important to err on the side of transfer to an emergency department. Many patients need to be admitted and need to receive parenteral antibiotics until they are afebrile, tolerate fluids, and show clinical improvement. Reliable patients who have no signs of airway compromise, appear to be otherwise well and have dependable plans for follow-up within 24 hours, may be discharged with a 14-day course of antibiotics.**

**Retropharyngeal abscess and epiglottitis are two deadly deep-neck infections that must be considered in patients with severe throat pain. Retropharyngeal abscess is much more common in children, but it can occur in adults. Patients are likely to complain of neck stiffness and, typically, appear quite ill. Consider this diagnosis when the**