ABSTRACTS IN URGENT CARE

- Responsible Antibiotic Use in SSTIs
- Assessing for and Managing Head Lice Infestation
- Safe Discharge of Chest Pain Patients
- Digital Rectal Exam in Trauma Evaluation
- Tele-Exam in Pediatric Urgent Care
- Reducing Admissions for Croup
- Molnupiravir to Treat COVID-19 in Vaccinated Adults

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Clinician Training to Optimize Antibiotic Choice and Duration for Uncomplicated Skin/Soft Tissue Infections

Take-home point: Maintenance of certification (MOC) project participation was associated with improvement in evidence-based practice and was sustained after the intervention period.

Citation: Wiltrakis S, Jaggi P, Lu L, et al. Optimizing antibiotic treatment of skin infections in pediatric emergency and urgent care centers. *Pediatrics*. 2022 Oct 1;150(4): e2021053197.

Relevance: Antibiotic stewardship remains one of the key measures of quality within the urgent care industry. Ensuring evidence-based practice is fundamental for patient safety.

Study summary: This was a quality improvement (QI) project aimed at improving outpatient antibiotic prescribing practices for purulent and nonpurulent skin and soft-tissue infections (SSTIs) in a large healthcare system in Atlanta, GA. Clinical practice guidelines for management of SSTIs were developed and updated by an interdisciplinary team to reflect latest professional society recommendations for antibiotic treatments of purulent and nonpurulent SSTIs. The SSTI guidelines were shared with all emergency and urgent care providers via in-person meetings, email, and in a department-wide newsletter. The authors compared the performance of MOC QI project participants to providers who did not participate. MOC participants received monthly emails with guideline reminders and scorecards containing individual and group performance.

The authors identified 9,306 SSTIs (5,507 ED visits [59.2%] and 3,799 UC visits [40.8%]). MOC participants achieved significantly higher compliance with published antibiotic recommendations than non-MOC participants.

Editor's comments: The authors did not achieve their intended goal of 80% optimal antibiotic choice. Only 27% of all eligible physicians participated in the MOC group. Some of the planned expansion of the project was curtailed by the COVID-19 pandemic. This study supports existing data suggesting that regular reminders of appropriate prescribing can significantly impact clinician behavior. ■

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Mitigating Risk for Head Lice Outbreaks

Take-home point: Accurate diagnosis of head lice infestation and prescribing appropriate treatments (pediculicides and alternative therapies), as well as providing information for families, schools, and other community agencies is critical for mitigating outbreaks.

Citation: Nolt D, Moore S, Yan A, et al. AAP Committee on Infectious Diseases, Committee on Practice and Ambulatory Medicine, Section on Dermatology. Head lice. *Pediatrics*. 2022;150(4): e2022059282

Relevance: Communicating to patients that head lice infestation is not a sign of poor hygiene can help mitigate patient anxiety, given the stigmatizing nature of its occurrence.

Study summary: This was a clinical report from the American Academy of Pediatrics (AAP) clarifying current diagnosis and treatment protocols for head lice infestation.

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To summarize, identification of nits, nymphs, or adult lice with the naked eye establishes the diagnosis. In most cases, transmission occurs by direct contact with the hair of an infested individual—the most common scenario being head-to-head contact.

Topical agents for head lice treatment are regarded as safe to use in pregnant and lactating women. Unless resistance to these products has been proven in the community, pyrethroids are the recommended first-line therapy for active infestations. Topical ivermectin lotion and spinosad (in patients >6 months of age) or malathion 0.5% (in patients >6 years of age) should be used in areas where resistance to permethrin and pyrethrins has been demonstrated.

Screening for nits alone is not an adequate way of predicting which children or adolescents are affected, and has not been proven to have a significant effect on incidence in schools.

Children should not be restricted from school attendance because of head lice, given the low risk of contagion within classrooms. No-nit policies in classrooms are hazardous, as they increase stigma associated with this condition.

Editor's comments: The guidance in this report does not indicate a definitive standard of care. Variations, considering individual circumstances, may be appropriate. ■

What's the Magic Number for High-Sensitivity Troponin Assays?

Take-home point: Patients with high-sensitivity troponin (HST) values between 3 ng/L and the 99th percentile after 6 hours of chest pain have a very low rate of clinically relevant adverse cardiac events and non-ST elevation myocardial infarction (NSTEMI).

Citation: Bhat R, Nguyen M, Blue O, et al. High sensitivity troponin—six hours is the magic number. *Am J Emerg Med*. 2022;61:52-55.

Relevance: Safe discharge of patients with chest pain without requiring further unnecessary investigations is the ongoing conundrum for urgent care practitioners. As more UC centers gain access to HST testing, understanding timing of testing to safely and adequately exclude ACS becomes increasingly important.

Study summary: This was a multicenter retrospective study conducted among four EDs in Washington, DC. The aim of the study was to determine the risk of clinically relevant adverse cardiac events (CRACE) among patients with HST levels between 3 ng/L and the 99th percentile upper reference limit at 6 hours from symptom onset. ED patients were included if they were admitted for a primary diagnosis of chest pain and had an initial HST between 3 ng/L and the 99th percentile upper reference limit. The primary outcome was a clinically relevant adverse cardiac event during admission, defined as death, cardiac or respiratory arrest, ST elevation myocardial infarction (STEMI), or life-threatening arrhythmia. Secondary outcomes included non-ST elevation myocardial infarction (NSTEMI).

The authors included 1,187 patients admitted to the hospital for chest pain with initial HST above the limit of detection (3 ng/L) but below the gender-specific 99th percentile upper reference limit (34 ng/L for women and 53 ng/L for men). They found no instances of CRACE events in the 429 patients who were admitted solely for acute chest pain with initial HST under the 99th percentile upper reference limit at 6 h from symptom onset.

Thirty clinically relevant adverse cardiac events (2.5%) were identified; all occurred in patients who had another compelling reason for their admission. Of 36x patients who developed NSTEMI during their admission, 29 were admitted primarily for chest pain. Twenty-six of the 29 patients had elevated HST above the reference level at 6 hours.

Editor's comments: Not all patients with ACS suffer chest pain. It is possible that not all patients with ACS were included in the analysis. Conversely, the differential for chest pain certainly includes other life-threatening entities beyond chest pain.

It seems clear that with a single HST below 99th percentile for gender collected >6h after symptom onset, from this study among others, that the short-term risk of CRACE is well below the ACEP clinical policy guideline of 2% acceptable miss rate for ACS. ■

Do Trauma Patients Require Digital Rectal Examinations as Part of Their Assessment?

Take-home point: The use of digital rectal exams (DRE) in trauma patients has minimal, if any, value in assessing for clinically relevant injuries. DRE was not found to influence the management of injuries in this study.

Citation: Beeton G, Alter N, Zagales R, et al. The benefits and clinical application of the digital rectal exam in trauma populations: Towards enhancing patient safety and quality outcomes. *Am J Emerg Med*. 2023;63:132–137.

Relevance: Teachings around trauma evaluation are steeped in dogma. While recent scientific literature has questioned much of this dogma, Advanced Trauma Life Support (ATLS) recommends broad use of DRE in trauma patients following a primary assessment of traumatic injuries.

Study summary: This systematic review assessed the validity, clinical relevance, and diagnostic value of DRE in adult and pediatric trauma populations. Literature searches for relevant articles were conducted utilizing PubMed, Google Scholar, EMBASE, ProQuest, and CINAHL databases. The Population, Intervention, Comparator, and Outcomes (PICO) tool was used. PICO question 1: In adult and pediatric trauma patients, what is the sensitivity of DRE for detecting spinal cord, gastrointestinal, and urethral injuries? PICO 2: In adult and pediatric trauma patients, does performing a DRE change the management of spinal cord, gastrointestinal or urethral injuries?

The authors screened 3,810 initial articles and focused their review on nine relevant articles. They found that the DRE had very poor test characteristics for all injuries examined. Sensitivity for detecting spinal cord injury was 0% to 50% and sensitivity for gastrointestinal injury was 0% to 51%. DRE performed even more poorly in the pediatric population and had false negative rates of 66% to 100%, including failure to accurately identify all urethral and gastrointestinal injury in one study. The authors conclude that there is no clinical utility, as the test has poor reliability and does not affect management.

Editor's comments: The authors noted a dearth of literature regarding the topic, with none of the nine articles reviewed being RCTs. However, in the typical patient presenting with trauma to a UC center, there appears to be no use for screening DRE. Given the invasiveness of this exam and need for chaperone presence, it's difficult to imagine an appropriate scenario for its application in the setting of UC trauma evaluation. ■

Are Remote Physical Examinations Reliable in Pediatric Telemedicine?

Take-home point: Measurements from remote physical examination via use of a novel mobile medical device were comparable with those from in-person physical examination in children >2 years of age.

Citation: Wagner R, Lima T, Tavares da Silva M, et al. Assessment of pediatric telemedicine using remote physical examinations with a mobile medical device: a nonrandomized controlled trial. *JAMA Network Open*. 2023;6(2):e2252570.

"There are high numbers of children admitted to hospitals with croup who have limited or no further interventions while hospitalized."

Relevance: Advances in medical technology have made telemedicine an increasingly viable alternative, or at minimum an adjunct, to in-person examination. This is especially promising for optimizing healthcare access.

Study summary: This was a prospective multicenter single-arm nonrandomized controlled trial conducted to assess the ability of a mobile device to accurately perform remote physical examinations as part of a telemedicine consultation process coordinated by two Brazilian pediatric EDs. The mobile device used in this study (TytoPro) was designed for physical examination during teleconsultation and allows for remote evaluation of ears, throat, skin, heart, and lungs. For the study, patients were examined via both a synchronous telehealth and a conventional in-person physical exam. The physical exams were conducted by different pediatricians.

The authors enrolled 690 patients. They found that the device could be used for reliable otoscopy (otoscope), skin examination (integrated camera), body temperature measurement (integrated thermometer), and throat and oral examination (tongue depressor). The authors found a concordance of 89% between device-aided telehealth exam and conventional physical exam. The most common issues were with accurate digital auscultation of heart and lungs in active and crying children.

Editor's comments: Especially in the pediatric population, ear pain is among the most common complaints. This device offers promise for being able to assess otalgia via telemedicine, which has been difficult due to limitations of existing technologies. ■

Reducing Hospital Admissions for Croup

Take-home point: Croup quality improvement interventions were associated with a significant decrease in hospital admissions without increasing revisits.

Citation: Hester G, Nickle A, Watson D, et al. Use of a clinical guideline and order set to reduce hospital admissions for croup. *Pediatrics*. 2022;150:e2021053507.

Relevance: Other than initial treatment with corticosteroids, most croup management consists of supportive

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care. There are high numbers of children admitted to hospitals with the condition who have limited or no further interventions while hospitalized. Better guidance on necessity, or lack thereof, for most cases of croup may reduce unnecessary hospitalizations.

Study summary: This was a quality improvement initiative conducted at a tertiary pediatric healthcare organization in the midwestern U.S. The croup workgroup addressed croup management with a single group of clustered interventions including clinician education, development, and integration of clinical guidelines and croup-specific order sets. Education provided to ED and hospitalist providers included didactics plus discussion sessions (ED providers) or newsletters (hospitalists) reviewing key literature.

The main intervention was implementation of an evidence-based clinical guideline and order set for croup embedded in the electronic health record (EHR).

The guideline encouraged early initiation of systemic steroids and recommended up to a 2-hour period of ED observation after each treatment with nebulized epinephrine. Admission was considered advisable after three total doses of nebulized epinephrine.

The authors included 2,906 croup encounters (2,123 baseline and 783 postimplementation) in their analysis. They found the admission rate was significantly lower in the postintervention period (5.5% vs 10.2% pre-implementation). Among patients who received two or fewer doses of nebulized epinephrine during their ED encounter, the admission rate was even more significantly lower in the postintervention period (1.7% vs 6.3%). There was no significant change in ED revisits.

Editor's comments: The study was interrupted by the COVID-19 pandemic. Respiratory symptoms may not be the only driver of admission, and the study did not consider reasons for admission such as caregiver preference.

Only 1.7% of patients receiving two or more nebulizer treatments were admitted without concerning outcomes. This suggests that among the more mild–moderate cases of croup, such as those seen in UC, admission seems to confer no significant benefit. ■

COVID-19 Abstract
Efficacy of Molnupiravir to Treat COVID-19 Infection in Vaccinated Adults

Take-home point: Molnupiravir did not reduce the frequency of COVID-19-associated hospitalizations or death among high-risk vaccinated adults in the community.

Citation: Butler C, Hobbs F, Gbinigie O, et al. Molnupiravir plus usual care versus usual care alone as early treatment for adults with COVID-19 at increased risk of adverse outcomes (PANORAMIC): an open-label, platform-adaptive randomized controlled trial *Lancet*. 2023;401(10373):281-293.

Relevance: COVID-19 mortality continues. It is worthwhile to track emerging data to determine which therapies can mitigate ongoing loss of life.

Study summary: This was a national, multicenter, primary care, open-label, multigroup, prospective, platform adaptive trial of early treatments for COVID-19 in the UK. Participants were patients aged 50 years or older who had COVID-19 symptoms that had started within the previous 5 days and had had a positive nucleic acid or rapid antigen test within the previous 7 days.

Participants were randomly assigned in a 1:1 fashion to receive molnupiravir plus usual care or usual care alone. Patients in the molnupiravir group were administered 800 mg molnupiravir orally twice daily for 5 days. Prescription of monoclonal antibodies and antiviral agents other than molnupiravir during usual care was also permitted.

The outcomes evaluated were all-cause mortality nonelective hospital admission, and death within 28 days of randomization. Participants were followed through an online daily diary for 28 days after randomization.

The study enrolled 25,783 participants. The authors found that the early addition of molnupiravir to usual care did not reduce hospital admissions or death. Participants in the molnupiravir-plus-usual-care group recovered faster than those in the usual care group. The molnupiravir group also had a higher rate of early sustained recovery and fewer general practitioner consultations, which did not reach statistical significance. There was a significant reduction in viral detection and viral load in the molnupiravir group from day 4 onwards.

Editor's comments: The open-label design introduces the possibility of placebo effects. Further study is warranted, but this well-designed trial suggests that, when reaching for an antiviral agent in higher-risk outpatients with early COVID-19, molnupiravir is of dubious value. ■