



ABSTRACTS IN URGENT CARE

- Ethnic Background Matters in ECG Evaluation
- Lean on Risk Stratification Tools in Chest Pain
- Lasting Effects of Headache in Children
- Trauma and Childhood Migraine
- Comparing 'Fixes' for Distal Radial Fractures in Adolescents
- Casting Options in Distal Radius Fractures in the Elderly

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Ethnicity and STEMI Criteria of ECG

Key point: The ethnic background of patients should be considered during ECG evaluation of ST-segment-elevation myocardial infarction (STEMI).

Citation: ter Haar CC, Kors JA, Peters RJ, et al. Prevalence of ECGs exceeding thresholds for ST-segment-elevation myocardial infarction in apparently healthy individuals: the role of ethnicity. *J Am Heart Assoc.* 2020;9(13):e015477.

Relevance: ECG is a simple, noninvasive investigation tool in urgent care centers. Further studies such as echocardiogram and troponin are not usually immediately available in this setting when considering the possibility of STEMI. The current guidelines in the diagnosis and management of STEMI are based mostly on patients of Western European descent. This current study found that there is widespread variation of STEMI criteria in the ECG based on the ethnic background of patients who are not of Western European descent, resulting in clinically relevant under and over-diagnosis of STEMI cases.

Study summary: This study reflected 10,783 apparently healthy individuals in the HELIUS (Healthy Life in an Urban Setting) study which was conducted in Amsterdam, the Netherlands. HELIUS is a multiethnic cohort study which included six different ethnic populations (African Surinamese, South Asian Surinamese, Dutch, Moroccan, Turkish, and Ghanaian). The American Heart Association and European Society of Cardiology guidelines were used for the evaluation of ST-segment elevation in the ECG. The study revealed that the application of the AHA and ECS guidelines for STEMI resulted in higher (sub-Saharan African people) and lower (Turkish women) diagnoses

of STEMI among these respective patient populations. The authors suggested careful consideration of the demographic and patient characteristics prior to evaluating the ECG for the diagnosis and management of STEMI. ■

Unrecognized Myocardial Infarction and Gender Variation

Key point: It is more common for women than it is for men to have myocardial infarction without clinical symptoms.

Citation: van der Ende MY, Juarez Orozco LE, Waardenburg I, et al. Sex-based differences in unrecognized myocardial infarction. *J Am Heart Assoc.* 2020;9(13):e015519.

Relevance: Management of chest pain can be challenging, especially in the urgent care settings with limited access to prompt troponin testing and the cardiology services. A careful consideration of at-risk groups and thorough evaluation of risk-stratification tools may be useful in clinical practice (eg, the HEART score).

Study summary: The study was based on the database of the Lifeline Cohort study which was conducted in the Netherlands among 97,203 people for a duration of 5 years. Initial review of participants included physical examination and ECG evaluation. A subsequent assessment of the patients included repeat ECG and cardiac biomarkers. The ECGs were reviewed electronically with designated software and experienced cardiologists. Unrecognized MI was defined as occurring in patients who did not have any features of MI during their initial evaluation and developed ECG features of MI during the subsequent visits without having typical clinical features, such as chest pain. The study showed that the women (30%) had higher incidence of unrecognized MI than men (16%), $p < 0.001$. ■



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Childhood Headache and Behavioral Health Considerations

Key point: There is a significant association among headache, depression, and anxiety among children.

Citation: Romano C, Cho SY, Marino S, et al. Primary headache in childhood associated with psychiatric disturbances: an update. *Eur Rev Med Pharmacol Sci.* 2020;24(12):6893-6898.

Relevance: Headache in children is a common presentation to urgent care centers. Exploring the association of this common condition with underlying mental conditions may be a useful tool in the management of such cases.

Study summary: This is a case-control study which was conducted in Italy between 2011 and 2019. The case group consisted of 475 children with history of primary headache while the control group was comprised of 475 children of identical demographic characteristics with no headache. The study revealed that anxiety and depression had statistically significantly higher prevalence among children with headache than those without headache (27% vs 8.3%, respectively, $p < 0.001$). ■

Migraine: Could Childhood Trauma Be the Cause?

Key points: Childhood trauma has various effects on the patients' physical, mental, and emotional well-being. This study showed that there is a high association between childhood trauma and migraine.

Citation: Kascakova N, Furstova J, Hasto J, et al. When a head is about to burst: attachment mediates the relationship between childhood trauma and migraine. *Int J Environ Res Public Health.* 2020;17(2):414.

Relevance: Migraine headaches are common reasons for patients to seek care in urgent care centers. A careful history of childhood trauma may help the urgent care clinicians in the identification and management of migraine.

Study summary: This was a questionnaire-based survey among 1,800 people that was conducted in 2016 in 14 different geographical areas of the Czech Republic. A validated Childhood Trauma Questionnaire (CTQ) was used to stratify the risk and association of childhood trauma with migraine. The definition of *childhood trauma* included physical abuse, emotional abuse, neglect, and sexual abuse. The authors found a significant direct association between childhood trauma and migraine headache in adulthood (standardized parameter estimates= 0.101, standard error= 0.039, $p = 0.010$). ■

Management of Distal Radius Fractures Among Adolescents

Key points: Different techniques are applied in the management of distal radius fractures among adolescents. When initial conservative management fails, operative management may

be necessary. This study examines the differences between two operative methods.

Citation: Li J, Rai S, Tang X, et al. Fixation of delayed distal radial fracture involving metaphyseal diaphyseal junction in adolescents: a comparative study of crossed Kirschner-wiring and non-bridging external fixator. *BMC Musculoskeletal Disorders.* 2020;21(1):1-8.

Relevance: Little is known about the long-term outcomes of distal radius fractures among adolescents following their initial management in urgent care. This study gives us some insights about the outcomes following the operative management of such patients.

Study summary: In this retrospective observational study, the authors examined adolescent patient outcomes following the operative management of distal radius fractures. The study was conducted in Wuhan, China between 2012 and 2017. The patients were divided into external fixator (EF, $n = 146$) and k-wire (KW, $n = 117$) groups and were followed for more than 12 months following the surgery. The study showed there were no statistically significant differences between the groups in terms of functional outcome ($p = 0.086$). However, the authors suggested that the EF group has benefits over KW due to shorter duration of surgery, less tendon irritation, and better radiological outcome. ■



Functional Outcome Following Distal Radius Fracture Manipulation in Elderly Patients

Key points: Different types of casts are applied following manipulation of distal radius fractures. The type of immobiliza-

tion device and position of the wrist in the cast can affect the functional outcome of distal radius fractures.

Citation: Raittio L, Launonen AP, Hevonkorpi T, et al. Two casting methods compared in patients with Colles' fracture: a pragmatic, randomized controlled trial. *PLoS one*. 2020;15(5): e0232153.

Relevance: There are various options in the management of distal radius fractures in elderly patients. Conservative management in the below-elbow cast following manipulation is a commonly practiced technique. The outcome of such cases depends on various factors including the type of cast and position of the wrist. The study explores the effect of the type of immobilization and position of the wrist on the functional outcome at 12 months.

Study summary: In this pragmatic, multicenter randomized controlled trial, the authors explored the functional outcomes

of distal radius fractures in 105 elderly patients following the conservative management in below-elbow casts. The patients were older than 65 years and were randomized into two groups: functional cast (FC, 0-10 dorsal angulation) and volar flexion and ulnar deviation cast (VFUDC). The RCT was conducted in three hospitals in Finland. The patients were followed up with the patient-reported wrist evaluation score (PRWE) and Quick-DASH scores at 12 months following the injury. The RCT revealed that there were no statistically significant differences between the two types of casts and position of the wrists. However, the FC showed relatively better outcome in terms of PRWE scores (15.5 vs 20.4, $p=0.24$). The authors recommend FC following distal radius fractures due to its clinically significant better results, though it failed to achieve a statistical significance.

Initial splinting in a sugar tong splint in urgent care remains the standard of care for immediate management, but patients can be informed that they may be given a below-elbow cast when following up with an orthopedic specialist. ■

Spotlight on Original Research in Pediatric Urgent Care:

Excerpts from the 2020 Pediatric Urgent Care Conference (PUCC)

Los Angeles, CA

■ DAVID J. MATHISON, MD, MBA

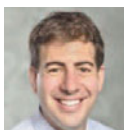
Decreasing Length of Stay in the Pediatric Urgent Care with Electronic Discharge Instructions*

Wooster J, Patel A, Nedved A, Lee B

The aim of this research was to determine if an electronic discharge process could decrease length of stay by an average of 10 minutes per patient. An electronic discharge procedure was implemented through a patient portal at a single freestanding

“Non-fellowship-trained PUC physicians reported less preparation during residency for procedures such as fracture and joint reductions, regional and digital nerve blocks, and procedural sedation.”

pediatric urgent care, eliminating the use of hard copy instructions. After implementation, a retrospective manual audit was performed for patients on the 14th and 28th day of each month from August 2018 to April 2019 and stratified length of stay (LOS) (total and bedded) by means of discharge. The mean total LOS was calculated each month for the depart process type and trends were smoothed by using a 3-month moving average. The LOS measures were compared to patient satisfaction scores



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