



ABSTRACTS IN URGENT CARE

- Taping Plus Standard Care for Upper Body Injuries
- Yoga and Migraine
- The Challenge of the Limping Child
- Relieving the Pain of Renal Colic
- Exercise to Alleviate Lower Back Pain
- Does Familiarity Breed Higher Quality Care?

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Kinesiology Taping for Shoulder and Chest Wall Injuries

Take-home point: Kinesiology taping (KT) combined with standard care appears to be more effective for acute pain reduction in patients with uncomplicated traumatic injury of the shoulder or chest wall.

Citation: Bakker M, Bon V, Hubrechts B, et al. Kinesiotaping for acute pain due to uncomplicated traumatic injury of the shoulder or chest wall. *Am J Emerg Med.* 2022;58:197-202.

Relevance: KT offers a nonpharmacologic adjunct to reduce pain from a variety of musculoskeletal injuries.

Study summary: This prospective randomized controlled trial was conducted in a single emergency room in the Netherlands. Patients diagnosed with traumatic injury of the shoulder and chest wall were included. Specific injuries included rib fractures, rib contusions, disruption of the AC joint, and fractures of the clavicle or proximal humerus. The control group received the standard treatment with oral analgesics, with sling added for shoulder injuries. The intervention group received the same treatment as the control group with the addition of KT. Oral analgesics used were acetaminophen 1000 mg and naproxen 500 mg by protocol.

The authors enrolled 83 patients into the study, 40 of whom were randomized into the intervention group and 43 of whom were randomized into the control group. Pain relief in the KT (intervention) group was superior to that in the control group ($p=0.018$). The authors noted a decrease in the pain score values of 2.44 on a visual analog scale

(mean pain level=2.86 in the intervention group vs 4.74 in the control group). Cohen's effect size was $d=0.9$.

Editor's comments: There were four subgroups of injuries treated and the results may not be generalizable, as each subgroup had different pain intensity and overall prognosis. This was a small sample size with a heterogeneous group of injuries, so broad conclusions are difficult to draw. However, it does appear that KT is a reasonable adjunct to other forms of analgesia with little risk. ■

Treating Migraines with Yoga

Take-home point: Yoga therapy was associated with substantial decrease in pain intensity, headache frequency, and headache duration in patients with migraine.

Citation: Wu Q, Liu P, Liao C, Tan I. Effectiveness of yoga therapy for migraine: a meta-analysis of randomized controlled studies. *J Clin Neurosci.* 2022; 99:147-151.

Relevance: Migraine is, for many, a chronic and debilitating problem. Nonpharmacological adjuncts may be beneficial in avoiding dependence and minimizing adverse effects of medications in migraine patients.

Study summary: This was a meta-analysis of six RCTs; five studies were conducted in Asia, while one study was conducted in the United States. The databases searched included PubMed, EMBASE, Web of Science, EBSCO, and Cochrane Library. Six studies reported pain intensity, five reported headache frequency, two studies reported headache duration, four studies reported Headache Impact Test-6 (HIT-6) score, and two studies reported Migraine Disability Assessment (MIDAS) score. Headache frequency suggested the number of migraine attack per month. HIT-6 scale defined the impact of headaches on the daily life of a respondents.

The authors found yoga therapy could significantly de-



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crease pain intensity (SMD= -1.21; 95% CI=-2.17 – -0.25; p= 0.01). There was significant heterogeneity among the studies. Yoga therapy also significantly decreased headache frequency (SMD=-1.43; 95% CI= -2.23 – -0.64; p=0.0004), headache duration (SMD= -1.03; 95% CI=-1.85 – -0.21; p= 0.01), HIT-6 score (SMD=-2.28; 95% CI=-3.81– -0.75; p= 0.003) and MIDAS score (SMD=-0.52; 95% CI=-0.77– -0.27; p< 0.0001). (SMD=standard mean difference)

Editor’s comments: Despite the meta-analysis methods, there were relatively few patients (<100 collectively). There was also significant heterogeneity. However, yoga is a generally safe complementary therapy and there’s little downside to recommending that patients who suffer from migraine try it. ■

Transient Synovitis in Pediatric Hip Pain Presentations

Take-home point: The risk of missed septic arthritis and other bacterial infections in children diagnosed with transient synovitis (TS) is small, but occurs more commonly in younger children.

Citation: Lipshaw M, Walsh P. Transient synovitis of the hip: current practice and risk of misdiagnosis. *Am J Emerg Med.* 2022;61:1-6.

Relevance: The nontraumatic limping child can be a diagnostic challenge for urgent care providers. Understanding presentations at higher risk for septic joints is essential.

Study summary: This was a retrospective cohort study of children diagnosed with TS who were evaluated in emergency rooms from more than 50 tertiary care pediatric hospitals in the U.S. The primary outcome was diagnosis of septic arthritis or other bacterial MSK infection within 14 days following the index visit.

The authors examined the records of 6,419 children and found 62 (1%) who were ultimately diagnosed with a bacterial musculoskeletal infection within 14 days of ED discharge. Thirty-five had septic arthritis (56%), 33 had osteomyelitis (53%), and 21 had pyomyositis (34%). Children with a return visit with a bacterial musculoskeletal infection diagnosed were younger than those without (median age 2.6 vs 4.6 years, p <0.01). The rate of missed bacterial musculoskeletal infection was 2.4% (n=37) in children <3 years of age and 0.5% (n=25) in children >3 years of age (p<0.01). Serum laboratory testing (67% vs 79%, p<0.01), ultrasound (46% vs 54%, p<0.01), and hip arthrocentesis (3.4% vs 5.3%, p= <0.01) were performed less frequently in children <3 years old.

Editor’s comments: The study enrolled only patients who were diagnosed with TS and therefore cannot be generalized to all children presenting with hip pain and/or limp. Retrospective collection of data introduces potential bias to the study. This was an ED-based study and may not represent the same population seen in urgent care. Additionally, lab testing and ultrasound which were commonly used in diagnosing TS are not routinely available in UC centers. Regardless, missed serious bacterial infections of the musculoskeletal system seem to be uncommon in children. It is worth noting that the diagnosis of a bacterial etiology of pain was more elusive in children <3 years of age. ■

Does Adding Dexamethasone to Ketorolac Improve Pain Relief in Renal Colic?

Take-home point: The addition of dexamethasone to ketorolac provided improved pain control, decreased opioid requirements, and decreased antiemetic requirements for patients with renal colic.

Citation: Razi A, Farrokhi E, Lotfabadi P, et al. Dexamethasone and ketorolac compare with ketorolac alone in acute renal colic: a randomized clinical trial. *Am J Emerg Med.* 2022 Aug; 58:245-250.

Relevance: Dexamethasone has been used as an adjunct by anesthesiologists to reduce the need for opioids. Many UC centers carry both ketorolac and dexamethasone and it would be of value to understand if there is potential for synergy in treating renal colic.

Study summary: This was a double-blind, randomized clinical trial designed to evaluate the efficacy of dexamethasone in the relief of renal colic among patients presenting to an emergency room in Iran. Eligible patients were randomly assigned in a 1:1 fashion into the intervention and comparison groups by block randomization. The intervention group received ketorolac (30 mg IV) with placebo (sterile water for injection IV), while patients in the comparison group received ketorolac (30 mg IV) plus dexamethasone (8 mg IV). The pain was assessed on a 10-point visual analog scale at 30 and 60 minutes posttherapy intervals.

The authors enrolled 120 patients, with 60 randomized into each arm. They found significantly decreased VAS scores after 30 minutes, but at 60 minutes there was no difference between groups in pain scores. Fifty-eight percent of patients in the standard group and 35% in the intervention group required opioids as rescue pain relief (p=0.01), and 28% in the standard group and 12% in the intervention needed an antiemetic (p=0.022).

Editor’s comments: This was a small, single-center study of ED patients based in Iran, which limits generalizability. There was no standardized definition of what constituted “need” for opioid rescue analgesia. Medications were administered intravenously, which is an infrequent occurrence in U.S. urgent care centers. Despite limitations, the data suggest that addition of dexamethasone may be reasonable in select patients with renal colic and low risk for adverse reactions to corticosteroids. ■

Including Exercise in the Management of Lower Back Pain

Take-home point: Exercise should be considered as part of multimodal management of nonspecific lower back pain (NSLBP).

Citation: Osborne H, Burt P. Including exercise prescription in the management of non-specific low back pain. *Emerg Med Australas.* 2022;34(5):833–836.

Relevance: Back pain is a recurrent or chronic issue for many patients. Most conventional pharmacotherapies and adjunctive therapies have limited benefit in the treatment of low back pain. It is worthwhile to be familiar with strategies that empower patients to mitigate their back pain symptoms.

Study summary: This was a perspective editorial based on the experiences of two Australian sports and exercise physicians. The American College of Sports Medicine has previously recommended 150 minutes of walking per week (equivalent to 30 minutes for 5 days a week) for patients with back pain.

The authors suggest that NSLBP is a diagnosis given to patients who do not fit into specific categories of inflammatory disease, cancer, or infection. NSLBP is over-investigated and overmedicalized and represents 99% of lower back pain presentations to family medicine physicians and 74% of ED presentations. NSLBP can be treated similarly to other sources of musculoskeletal pain; rest recommendations are largely considered outdated and loading activities can begin on day 2.

Core strengthening has been shown to be ineffective for NSLBP. Pilates and similar activities have proven no better than other exercise programs. These authors recommend home base strengthening, such as simple unweighted squats. They encourage clinicians to avoid language which pathologizes NSLBP. Imaging is not recommended in the absence of red flags, as radiologic findings generally reflect associations, not causes of pain. Manual therapy (by osteopaths, physiotherapists, or chi-

ropractors), massage, cupping, and needling only have short-term effects, but no long-term benefit. Recovery is most likely with a multimodal, holistic approach that includes physical exercise.

Editor’s comments: This article reflects the authors’ perspectives based on their experience of treating NSLBP and review of relevant research. ■

Interpersonal Familiarity and Team Performance

Take-home point: Increased familiarity between nurses and clinicians promoted more rapid improvement of relationships within the team and better performance on complex cognitive tasks.

Citation: Iyasere C, Wing J, Martel N, et al. Effect of increased interprofessional familiarity on team performance, communication, and psychological safety on inpatient medical teams: a randomized clinical trial. *JAMA Intern Med.* 2022;182(11):1190-1198.

Relevance: There is an increasing reliance of interprofessional teams in healthcare. Understanding the factors that contribute to team performance can help improve teamwork and patient care.

Study summary: This randomized clinical trial was conducted on the medicine teaching service at Massachusetts General Hospital. Fifteen PGY-1 residents (ie, interns) were randomized to the intervention group and spent all 16 weeks of their rotation on the same inpatient floor. Eighteen PGY-1 control residents spent their rotation rotating across five different medical floors. The authors provided surveys to the nurses and the residents with emphasis on team performance, interprofessional communication, psychological safety, and patient-related outcomes.

In simulations of the care of patients with anaphylaxis, the authors found that residents on the teams in the intervention group were more likely to ask the patient appropriate questions (60% vs 20%; p=0.03) and anticipate problems (73% vs 27%; p=0.01). In the second simulation regarding insulin management, the intervention team performed better in composite teamwork score for leadership and management (mean 2.47 vs 2.17; p= 0.045)

Editor’s comments: This was a single-center study with a small number of participants, which limits its generalizability. Despite these limitations, the study results emphasized the importance of collegial relationships. These factors should be taken into consideration when staffing urgent care centers. ■