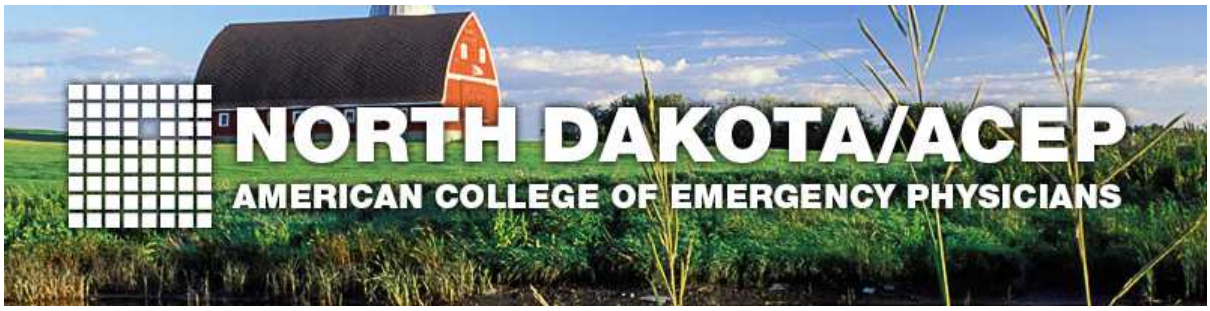
A Newsletter for the Members of the North Dakota Chapter - Summer 2020



K.J. Temple, MD, FACEP
President

Adriana Alvarez
Executive Director
800.798.1822 Ext. 3312 | Website

President's Message

North Dakota ACEP Members,

It has been a difficult year for most of us in so many levels. I hope you are taking or plan on taking some time off for YOU. Your wellness is key to be able to what we do for our patients. I hope you enjoy reading the articles theat were submitted by a few medical students in North Dakota. Read there articles below.

Medical Student Corner

Coronavirus Disease 2019: Recent Updates in the Management of COVID-19

Sarah Lewis
Anastasia Schroeder
Jon Solberg, MD, FACEP, FAWM, DiMM

The status and management of COVID-19 is rapidly changing. As of August 1, 2020, there are 6,469 positive cases, 1,077 active cases and 103 deaths in the state of North Dakota. With the increasing number of cases has come a great deal of information and guidance on how to best approach the management of patients with COVID-19. This article serves as a summary of the most recent guidelines laid out by the National Institutes of Health in the management of COVID-19 as of July 30, 2020. The primary focus of these new updates is on the use of antiviral medications and corticosteroids with a discussion on Vitamin C, Vitamin D and zinc in the treatment and prevention of COVID-19.

A report from the Randomised Evaluation of COVID-19 Therapy (RECOVERY) trial recommended the use of dexamethasone (6mg per day for up to 10 days) in the treatment of patients who are mechanically ventilated and on supplemental oxygen. Those who are not on supplemental oxygen should not receive the steroid. The addendum to this recommendation is that if dexamethasone is not available, alternative corticosteroids such as, hydrocortisone, methylprednisolone and prednisone are acceptable. No additional immuno-modulator or antibiotic therapy is

recommended at this time for COVID-19 specific patients unless another indication exists.

Remdesivir is an anti-viral medication that acts by binding the viral RNA-dependent RNA polymerase, thereby inhibiting viral replication. This medication has demonstrated activity against SARS-CoV-2; in rhesus macaque models with COVID-19, animals treated with remdesivir had lower virus levels in the lungs and reduced pulmonary damage than control animals. Remdesivir has since been used in several clinical trials including the multinational, randomized, placebo-controlled trial Adaptive COVID-19 Treatment Trial (ACTT) for the treatment of COVID-19. It was found that patients who received remdesivir had a faster recovery compared to those on placebo. This was primarily found among patients who required oxygen supplementation. Data on its use for patients with moderate disease has yet to be established, although is currently being studied.

Patients who benefit most from remdesivir are those requiring supplemental oxygen. The most recent updates designating the use of this anti-viral distinguish between oxygen requirements and mode of oxygen delivery. A distinction was made between two groups: those requiring low-flow supplemental oxygen and those who require high-flow, invasive or non-invasive mechanical ventilation or extracorporeal membrane oxygenation (ECMO). Initially, remdesivir was recommended for all the above scenarios, but more recent guidelines suggest the use of this medication among those receiving more intensive oxygen therapy is not clinically beneficial. At this point, recommendation for or against remdesivir for hospitalized patients requiring high-flow oxygen, invasive and noninvasive mechanical ventilation, or ECMO has not been established; however, the supply of remdesivir is limited. Therefore, the use of remdesivir is recommended for COVID-19 patients who are hospitalized and on less invasive oxygen supplementation for 5 days or until they are discharged, whichever occurs first. If a patient progresses from requiring supplemental oxygen to more aggressive forms, the course of remdesivir should be completed.

Recent discussion on the use of vitamin C, vitamin D and zinc supplementation has been included in the guidelines laid out by the NIH. While these have been promoted in the treatment and prevention of respiratory viral infections, their indications with COVID-19 have yet to be established as adjunctive therapy. Overall, there is insufficient evidence for or against the use of vitamin C, D or zinc in the treatment of COVID-19 patients. Furthermore, the COVID- 19 Treatment Guidelines Panel recommends against the use of zinc supplementation beyond dietary allowance in the prevention of COVID-19. Studies have shown that zinc supplementation for as little as 10 months can cause copper deficiency and result in hematologic defects and possible neurologic deficits. Because there are apparent adverse effects and no proven clinical benefit, the recommendation is against the use of zinc supplementation for the prevention of disease.

In conclusion, guidelines pertaining to the management of COVID-19 are rapidly evolving. Currently, the National Institutes of Health released recommendations supporting the use of the glucocorticoid’s prednisone, methylprednisolone and hydrocortisone in addition to dexamethasone in patients who are mechanically ventilated and on supplemental oxygen. Due to limited supplies, the anti-viral, remdesivir, should primarily be used in hospitalized patients requiring supplemental low-flow oxygen. Lastly, there is no recommendation for or against the use of vitamin C and D in the treatment of COVID-19 but a definite recommendation against the use of zinc supplementation to prevent COVID-19.

Summary

- Prednisone, methylprednisolone and hydrocortisone are appropriate alternatives to dexamethasone in the management of COVID-19 patients on supplemental oxygen.

- The use of remdesivir is recommended for COVID-19 patients who are hospitalized and on low-flow supplemental oxygen for 5 days or until they are discharged, whichever occurs first. It is recommended that patients requiring high-flow, invasive or non-invasive mechanical ventilation, and ECMO not be managed with remdesivir at this time.
- There is insufficient data to recommend for or against the use of Vitamin C, Vitamin D and zinc in the treatment of COVID-19.
- The utilization of zinc beyond dietary allowance is NOT recommended in the prevention of COVID-19.

Resources

1. North Dakota Department of Health. Coronavirus Cases. Accessed 01 August 2020.
2. COVID-19 Treatment Guidelines Panel. Coronavirus Disease 2019 (COVID-19) Treatment Guidelines. National Institutes of Health. Accessed 01 August 2020.

Medical Student Corner
Easy to Miss Orthopedic Injuries

Alexander Buchholz, MS4 & Lane Vendsel, MS4
Jon Solberg, MD, FACEP, FAWM, DiMM

With time at a premium in the Emergency Department, interpreting radiographs confidently and quickly is a must. However, some orthopedic injuries are either very uncommon, hard to diagnose via imaging, or both. Still, these injuries, although seemingly mild on presentation and imaging, can lead to debilitating deficits for the patient if left untreated. Below are three classic examples of commonly missed orthopedic injuries.

Perilunate Injuries- Commonly occur during fall on outstretched hand (FOOSH) injuries, and include scapholunate dissociation, perilunate dislocation, and lunate dislocation. These three injuries represent a spectrum of severity of the same injury and have increasing consequences.

Scapholunate dissociation will usually present with radiographic findings of a widened space between the scaphoid and lunate (figure 1), usually >3-4 mm on an AP x-ray (called the "Terry Thomas" or "David Letterman" sign"). Long term injuries include advanced scapholunate collapse.

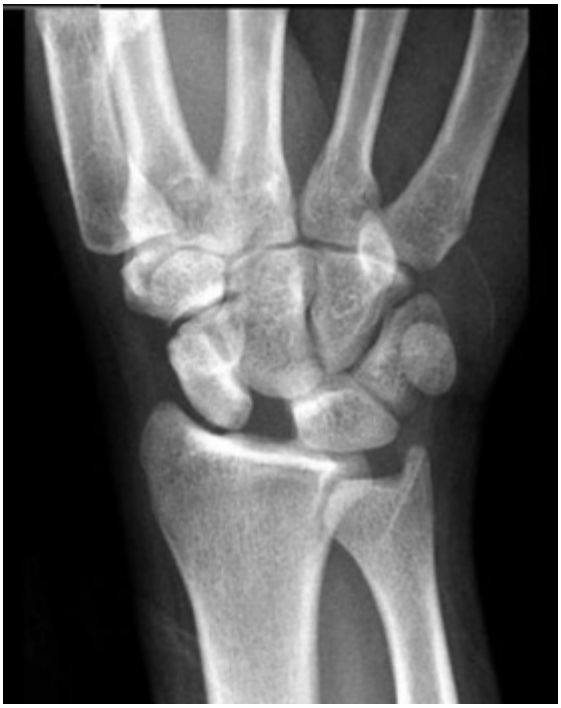


Figure 1. Classic "Terry Thomas" sign of scapholunate dissociation.

Perilunate dislocation occurs when the capitate dislocates from the lunate fossa, but the lunate still articulates with the radius. A lunate dislocation occurs with a volar displacement of the lunate, where it loses articulation with both the radius and the capitate. Lateral x-ray often reveals the "empty cup sign" (figure 2). In a normal lateral view, the radius, lunate, and capitate look like a stack of cups in a straight line. These injuries are reducible in the ER. Failure to fix this injury can result in median nerve palsy, pressure necrosis, compartment syndrome, and long-term wrist injury.

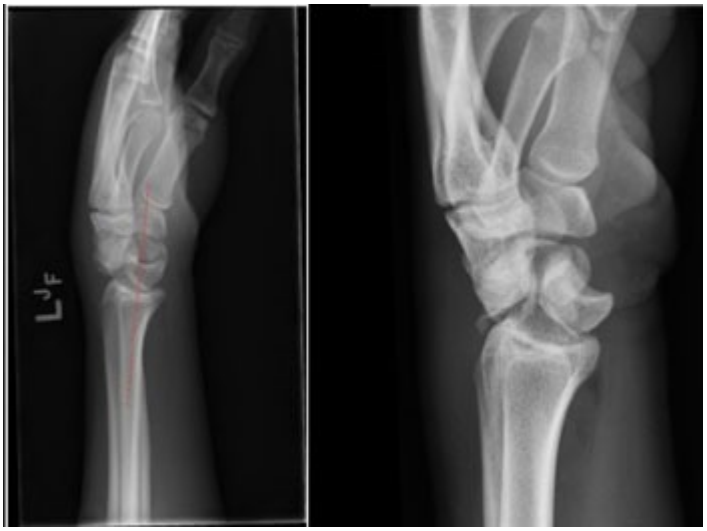


Figure 2. Normal "stack of cups" appearance of radius, lunate and capitate (left), with abnormal "empty cup sign" of lunate dislocation (right).

Lisfranc Injury - A spectrum of injuries, from a simple sprain to disruption of all the tarsometatarsal joints in the midfoot (1-5 metatarsals, the three cuneiforms, and the cuboid). Most commonly occur at the 2nd metatarsal. Lisfranc injuries occur when external rotation is applied to a foot in plantar flexion. Patient injuries often involve stepping in a hole, miss-stepping while walking downstairs, or using stirrups in

equestrian sports. A normal tarsometatarsal complex on X-ray includes alignment of the 2nd metatarsal along the medial edge of the middle cuneiform on AP view and the 4th metatarsal aligned with the medial border of the cuboid on an oblique view (figure 3). Any separation greater than 1 mm between the metatarsal bases, cuneiforms, and cuboid (figure 4), or any horizontal shifts of the metatarsals along the cuneiforms and cuboid is considered pathologic. Surgical referral is indicated if there is a proximal fracture of any of the first four metatarsals, widening greater than 1 mm between the first and second metatarsal bases, or if an avulsion fracture ("fleck sign") of the medial cuneiform or second metatarsal is present (figure 5). Relatively minor injuries to the tarsometatarsal joint complex can cause severe disability in the long term without intervention, thus necessitating surgical consult even if only soft tissue is injured. In the absence of radiographic findings but with high suspicion of injury, patients should be placed in a below-knee posterior plaster slab and be non-weight bearing on the foot for a couple weeks. In severe cases, Lisfranc injuries can lead to compartment syndrome and subsequent vascular compromise and nerve damage.

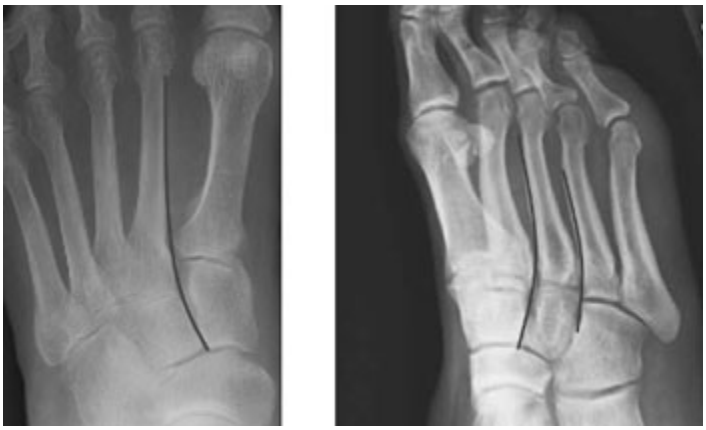


Figure 3. Normal alignment of tarsometatarsal joint complex on AP (left) and oblique (right) views.

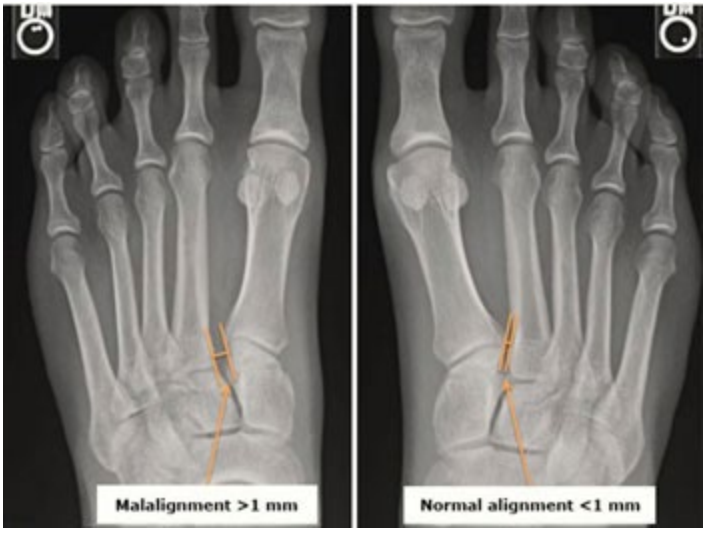


Figure 4. Bilateral comparison of normal and abnormal alignment of the 1st and 2nd metatarsal bases.

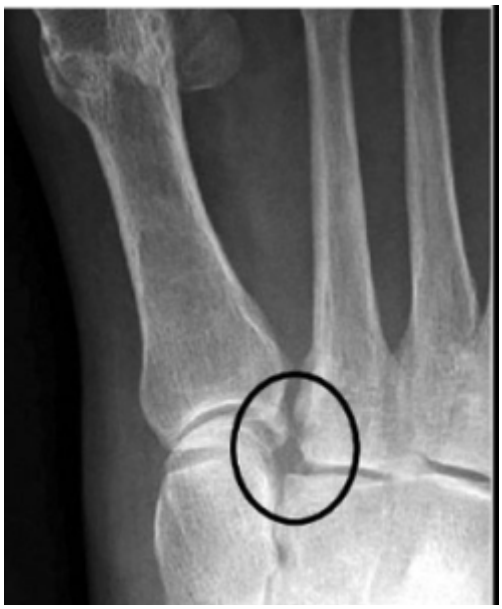


Figure 5. "Fleck sign" from avulsion of 2nd metatarsal with bony fragement.

Ulnar Collateral Ligament (UCL) Injury - Patients will present with a history of striking their thumb on a fixed object (i.e., ski pole) or FOOSH that caused violent abduction of their thumb. Colloquially, UCL injuries are called "skier's thumb or gamekeeper's thumb." Partial or complete UCL tears result in valgus laxity and pain with thumb abduction and extension. Patients present to the ED with acute swelling and pain along the ulnar side of the 1st metacarpophalangeal (MCP) joint. Valgus stress testing of the injured thumb often reveals 15-30 degrees of increased MCP joint laxity and decreased pinch grip (thumb and first finger) strength testing. X-rays can identify avulsions at the UCL insertion site (base of the proximal phalanx), but in the absence of an avulsion, have reduced utility aside from identifying additional fractures (Figure 6). Therefore, ultrasound is useful in making the diagnosis. To visualize partial and complete tears of the UCL, place the ultrasound probe along the ulnar aspect of the thumb under valgus stress (Figures 7 and 8). X-ray findings that warrant surgery referral include: bony fragments displaced more than 2 mm at the MCP, greater than 10% articular surface involvement, and/or complete UCL tear necessitate. A feared complication, amenable with surgery, is the entrapment of the adductor pollicis aponeurosis by the two ends of the torn UCL ("Stener lesion"). Stener lesions prevent the UCL from healing, and patients can develop MCP osteoarthritis. Management of partial tears with no evidence of avulsion is often non-surgical. The thumb should be protected from valgus stress for at least three weeks with either a thumb spica or prefabricated splints.

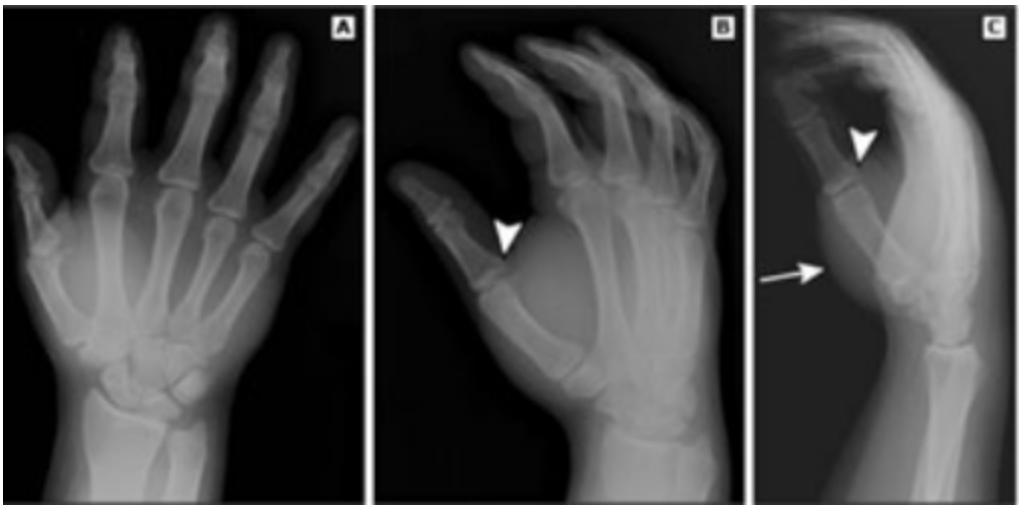


Figure 6. PA (A), oblique (B), and lateral (C) views of an UCL tear with avulsion fracture at the ulnar base of the 1st proximal phalanx (white arrowheads), and subsequent thenar eminence soft tisue swelling (white arrow).

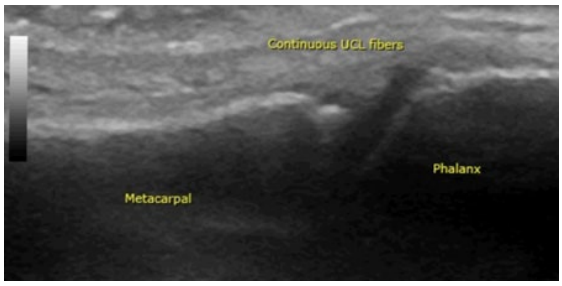


Figure 7. Normal ultrasound of the 1st MCP joint with the UCL visibly intact.

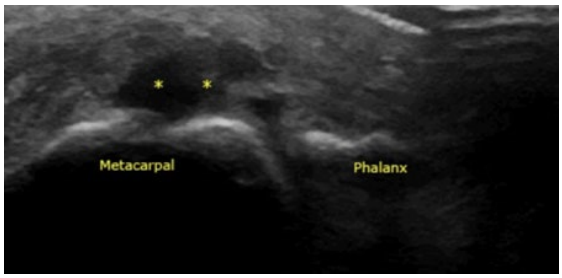


Figure 8. Ultrasound of a torn UCL (star*).

Citations

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Libby B, Ersoy H, Pomeranz SJ. Imaging of the Lisfranc injury. J Surg Orthop Adv. 2015;24(1):79-82.Melville DM, Jacobson JA, Fessell DP. Ultrasound of the thumb ulnar collateral ligament: technique and pathology. AJR Am J Roentgenol. 2014;202(2):W168.
Schroeder NS, Goldfarb CA. Thumb ulnar collateral and radial collateral ligament injuries. Clin Sports Med. 2015;34(1):117-126.
Stanbury, SJ & Elfar, JC. Perilunate dislocation and perilunate fracture-dislocation. 2011. J Am Acad Orthop Surj, 19(9): 554-562.

Stay current with the COVID-19 Center. It's your one-stop-shop for clinical and legislative updates. **Quick Links:** Physician Wellness Hub | COVID-19 Field Guide

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Get PPE through Project N95
With member concerns about the quality of N95 masks on the open market, ACEP has joined with Project N95 to offer PPE to you at volume prices. This exclusive benefit for ACEP members is available only through August 26. Registration opens at 4 p.m. ET today Wednesday, August 19 and is only available to members in the 50 states of the US, DC and Puerto Rico.

ACEP & EMRA Launch Diversity Mentoring Initiative on August 15
This collaboration between the ACEP Diversity, Inclusion and Health Equity Section (DIHE) and EMRA's Diversity & Inclusion Committee that supports leadership and career development for diverse medical students, residents, fellows, academic attendings and community emergency physicians in the EM community. The first 200 mentees have been matched with 100 mentors from across the EM community. If you're interested in being part of the next cohort, slots will open up in six months. Follow #mentorsofEM and #menteesofEM on Twitter to keep tabs on the program's progress, and learn more at mentor.acep.org.

New Policy Statements and Information Papers
During their June 2020 meeting, the ACEP Board of Directors approved the following new policy statements and information/resource papers. For a full list of the College's current policy statements, consult the ACEP Policy Compendium.

New Policy Statements:
Antimicrobial Stewardship
Expert Witness Cross-Specialty Testimony for Standard of Care
Leadership and Volunteers Conduct Policy
Medical Neutrality

Revised Policy Statements:
2020 Compendium of ACEP Policy Statements on Ethical Issues (page two of the Code of Ethics)
Guidelines Regarding the Role of Physician Assistants and Nurse Practitioners in the Emergency Department
Role of the Emergency Physician in Injury Prevention and Control for Adult and Pediatric Patients

New Information/Resource Papers (Smart Phrases)
Antitussive Medications for Children
Asthma Exacerbation
Asymptomatic Hypertension
Coronavirus Concern — Confirmed or Suspected
Ethanol Intoxication
Influenza-Like Illness
Injection Drug Use

Motor Vehicle Crash

ACEP20 is a CME Jackpot + Announcing Special Guest: Dr. Anthony Fauci!
ACEP20 will include more than 250 hours of CME education, but here's the best part: Attendees get access to this education and **CME for THREE YEARS** after the event! All of the live events will be debuting during the original dates: Oct. 26-29. We are happy to announce our **first special guest at ACEP20 – Dr. Anthony Fauci,** NIAID Director. We'll be unveiling other celebrity keynote speakers throughout August, so follow ACEP's social media channels for those exciting announcements. Click here for more information and to register.

Upcoming Webinar: The Long and Winding Road of an Epidemic: Prescription Opioids, Heroin, and Beyond
Join us on August 31, 2020 from 1pm - 2pm CT for the first installment in a 6-part **free** webinar series on opioid use disorder, federal and state regulations/regulatory considerations and state initiatives. Click here to register.

Moderator and Panelists:

- Chadd K Kraus, DO, DrPH, MPH, FACEP, Director, Emergency Medicine Research Core Faculty, Geisinger Medical Center, EM Residency Associate Professor of Medicine, Geisinger Commonwealth School of Medicine
- Harry Monroe, Director, Chapter and State Relations, ACEP
- Jeffrey Davis, Regulatory Affairs Director, ACEP

The webinar will be recorded and link to recording will be made available to all registrants. For more information, please email Mari Houlihan at mhoulihan@acep.org.

Regulatory Updates

Check out our Regs & Eggs blog for the latest regulatory updates.

2021 Physician Fee Schedule Proposed Rule: What You Need To Know
ACEP recently published a new comprehensive summary of the 2021 Physician Fee Schedule Proposed Rule and its potential effect on emergency medicine. Last week, we sent a letter expressing our concerns with the proposed cuts and calling on Congress to waive budget neutrality requirements to avert the cuts that pose a significant threat to EM physicians and the health care safety net. Voice your concerns by joining the thousands of ACEP members who have urged their legislators waive the budget neutrality requirement for calendar years 2021 and 2022 by signing on to a bipartisan “Dear Colleague” letter.

HHS Reopens Application Process for Provider Relief Funding
Most EM groups were eligible to receive funding from the Medicare General Distribution. If you missed the original June 3 deadline, you may be eligible to apply now. Note: If you already received funding from the "General Distribution" and kept

it, you cannot apply for additional funding. The cap in funding is still 2% of your annual patient revenues.

CMS Delays AUC Program to 2022
CMS recently announced that it would delay the full implementation of the Appropriate Use Criteria (AUC) program until at least the start of calendar year (CY) 2022. ACEP has long advocated for emergency physicians to be exempted from this program. Learn more about the AUC program.

As of Aug. 1, all laboratories must report certain data elements for all COVID-19 tests (including patient demographic data). The responsibility of collecting this information may fall on emergency physicians.

What President Trump's Executive Order on Rural Health and Telehealth Means for EM
On August 3, President Trump issued an executive order (EO) that calls on the Department of Health and Human Services (HHS) to develop new payment models aimed at transforming how clinicians practicing in rural areas are reimbursed under Medicare. Further, the President states in the EO that he believes that many of the telehealth flexibilities available during the COVID-19 public health emergency (PHE) should be made permanent and asks HHS to issue a reg that would examine which services should continue to be provided to patients via telehealth after the PHE ends. On the same day the EO was issued, the (CY) 2021 Physician Fee Schedule (PFS) and Quality Payment Program (QPP) proposed reg was released, which includes a robust set of proposed telehealth policies. Last week's regulatory blog digs in to the telehealth proposals and what they could mean for emergency physicians.

Related News: New Analysis Reveals Worsening Shortage of Emergency Physicians in Rural Areas

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Urge Congress: Please Support Mental Health Resources and Protections for COVID-19 Health Care Providers
ACEP applauds last week's introduction of the Lorna Breen Health Care Provider Protection Act in the Senate. We worked closely with the legislators on the development of this bill and encourage ACEP members to contact their legislators to ask for their support. Read our latest Member Alert for information about this legislation and the other bills ACEP is supporting that advocate for the wellbeing of frontline health care workers.

Marking Physician Suicide Awareness Day
Physician Suicide Awareness Day is coming up on Sept. 17. ACEP will be providing updates on the Dr. Lorna Breen Health Care Provider Protection Act and additional tools and resources to mark this solemn occasion. As we advocate against barriers that prevent EM physicians from seeking mental health care, ACEP encourages members to visit the Wellness Hub at acep.org/wellness-hub for multiple pathways to help you find the support you need during this challenging season for our profession.

The **Innovation in Suicide Prevention Award** recognizes promising and innovative acute care activities in the area of suicide prevention that improve patient outcomes and improve lives of patients and/or providers. Nominations are due Sept. 1.

NEMPAC Charity Match
For a limited time, your NEMPAC contribution of $100 or more will be matched 10 cents on the dollar by ACEP to a charitable cause that provides resources to the COVID-19 front lines. The more you give, the more we give back! You can choose from one of three charities after making your contribution online: EMF COVID-19 Research Fund, GetUsPPE.org or the American Foundation for Suicide Prevention. Click here to join your fellow ACEP members today to support meaningful **political and charitable** involvement.

Be Accredited to Provide Pain & Addiction Care in the ED
Show your community that your ED is part of the solution. ACEP is now accepting applications for the Pain & Addiction Care in the ED (PACED) Accreditation Program, developed for EM physicians by EM physicians.

PACED, the nation's only specialty-specific accreditation program, will provide the education, tools & resources you need to provide better care for patients in pain & those with substance misuse.

Elevate the quality of patient care with innovative treatments, alternative modalities, and impactful risk reduction strategies in a collaborative team setting, resulting in positive outcomes for your patients, families, providers, and communities. Learn more at www.acep.org/PACED or contact us at paced@acep.org.

North Dakota Chapter
c/o National ACEP
4950 West Royal Lane
Irving, Texas 75063-2524