Go to **MDedge.com/CHESTPhysician** for the latest news on the coronavirus pandemic.

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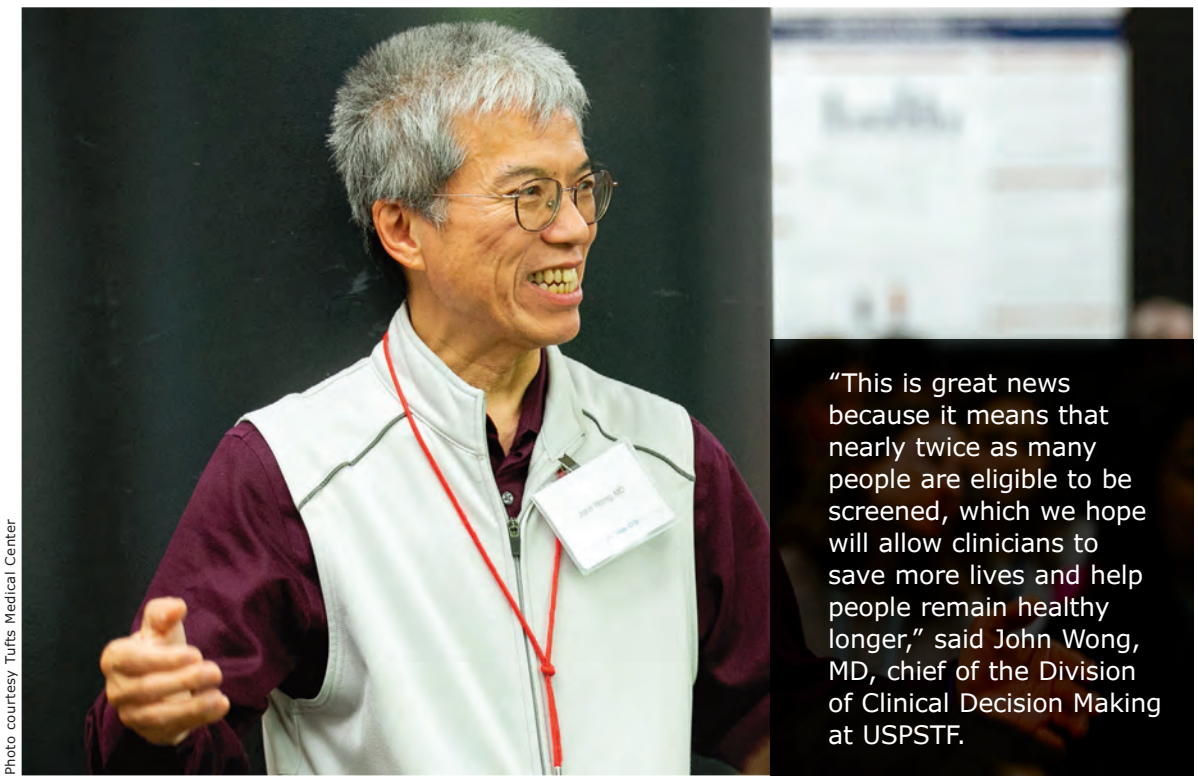

Photo courtesy Tufts Medical Center

"This is great news because it means that nearly twice as many people are eligible to be screened, which we hope will allow clinicians to save more lives and help people remain healthy longer," said John Wong, MD, chief of the Division of Clinical Decision Making at USPSTF.

USPSTF broadens criteria for lung cancer screening

BY ROXANNE NELSON, RN, BSN

The U.S. Preventive Services Task Force has expanded the criteria for lung cancer screening. The updated final recommendations have lowered the age at which screening starts from 55 to 50 years and have reduced the criterion regarding smoking history from 30 to 20 pack-years.

"This is great news because it means that nearly twice as many people are eligible to be screened, which we hope will allow clinicians to save more lives and help people remain healthy longer," commented John Wong, MD, chief science officer, vice chair for clinical affairs, and chief of the Division of Clinical Decision Making at USPSTF.

The updated final recommendations were published online on March 9 in JAMA (2021. doi: 10.1001/jama.2021.0377).

The USPSTF recommends annual screening with low-dose CT for adults aged 50-80 years who have a 20–pack-year smoking history and currently smoke or have quit within the past 15 years.

This updates guidance issued in 2013, which recommended annual screening for lung cancer for adults aged 55-80 years who had a 30–pack-year smoking history and who were either current smokers or had quit within the past 15 years.

USPSTF CRITERIA // *continued on page 4*

Time is of the essence: DST up for debate again

BY WILL PASS
MDedge News

Seasonal time change is now up for consideration in the U.S. Congress, prompting sleep medicine specialists to weigh in on the health impact of a major policy change.

As lawmakers in Washington propose an end to seasonal time changes by permanently establishing daylight saving time (DST), the American Academy of Sleep Medicine is pushing for a Congressional hearing so scientists can present evidence in favor of converse legislation – to make standard time the new norm.

According to the AASM, seasonal time changes in either direction have been associated with a range of detrimental health effects; however, the switch from standard time to DST incurs more risk.

"Current evidence best supports the adoption of year-round standard time, which aligns best with human circadian biology and provides distinct benefits for public health and safety," the AASM noted in a 2020 position statement on DST (J Clin Sleep Med. 2020 Oct 15;16[10]:1781-4).

The statement cites a number of studies that have reported associations between the switch

DAYLIGHT SAVING TIME // *continued on page 7*

INSIDE HIGHLIGHT

NEWS FROM CHEST

CRITICAL CARE COMMENTARY

Reclaiming patient-centered care from the grip of COVID-19

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INDICATION

Esbriet® (pirfenidone) is indicated for the treatment of idiopathic pulmonary fibrosis (IPF).

SELECT IMPORTANT SAFETY INFORMATION

Elevated liver enzymes and drug-induced liver injury (DILI): DILI has been observed with Esbriet. In the postmarketing period, non-serious and serious cases of DILI, including severe liver injury with fatal outcome, have been reported. Patients treated with Esbriet had a higher incidence of ALT and/or AST elevations of ≥3x ULN (3.7%) compared with placebo patients (0.8%). Increases in ALT and AST ≥3x ULN were reversible with dose modification or treatment discontinuation.

Conduct liver function tests (ALT, AST, and bilirubin) prior to the initiation of therapy with Esbriet, monthly for the first 6 months, every 3 months thereafter, and as clinically indicated. Measure liver function promptly in patients who report symptoms that may indicate liver injury, including fatigue, anorexia, right upper abdominal discomfort, dark urine, or jaundice. Dosage modification or interruption may be necessary for liver enzyme elevations.

Photosensitivity reaction or rash: Patients treated with Esbriet had a higher incidence of photosensitivity reactions (9%) vs placebo (1%). Patients should avoid or minimize exposure to sunlight and sunlamps, regularly use sunscreen (SPF 50 or higher), wear clothing that protects against sun exposure, and avoid concomitant medications that cause photosensitivity. Dosage reduction or discontinuation may be necessary.

Gastrointestinal (GI) disorders: Patients treated with Esbriet had a higher incidence of nausea, diarrhea, dyspepsia, vomiting, gastroesophageal reflux disease (GERD), and abdominal pain. GI events required dose reduction or interruption in 18.5% of 2403 mg/day Esbriet-treated patients, compared with 5.8% of placebo patients; 2.2% of 2403 mg/day Esbriet-treated patients discontinued treatment due to a GI event, vs 1.0% of placebo patients. The most common (>2%) GI events leading to dosage reduction or interruption were nausea, diarrhea, vomiting, and dyspepsia. Dosage modification may be necessary.

Adverse reactions: The most common adverse reactions (≥10%) were nausea, rash, abdominal pain, upper respiratory tract infection, diarrhea, fatigue, headache, dyspepsia, dizziness, vomiting, anorexia, GERD, sinusitis, insomnia, weight decreased, and arthralgia.

Drug Interactions:

CYP1A2 inhibitors: Concomitant use of Esbriet and strong CYP1A2 inhibitors (e.g., fluvoxamine) is not recommended, as CYP1A2 inhibitors increase systemic exposure of Esbriet. If discontinuation of the CYP1A2 inhibitor prior to starting Esbriet is not possible, dosage reduction of Esbriet is recommended. Monitor for adverse reactions and consider discontinuation of Esbriet.

Concomitant use of ciprofloxacin (a moderate CYP1A2 inhibitor) at the dosage of 750 mg BID and Esbriet are not recommended. If this dose of ciprofloxacin cannot be avoided, dosage reductions of Esbriet are recommended, and patients should be monitored.

Moderate or strong inhibitors of both CYP1A2 and other CYP isoenzymes involved in the metabolism of Esbriet should be avoided during treatment.

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ESBRIET OFFERS ESTABLISHED SAFETY BUILT ON MULTIPLE CLINICAL STUDIES

Esbriet was rigorously analyzed in three phase 3, randomized, double-blind, placebo-controlled, multicenter trials in patients with idiopathic pulmonary fibrosis (IPF)[1]

Serious adverse events (AEs), including elevated liver enzymes and drug-induced liver injury, photosensitivity reactions, and gastrointestinal disorders, have been reported with Esbriet[1]

The most common AEs (>1%) leading to discontinuation were rash and nausea. The most common AEs (>3%) leading to dosage reduction or interruption were rash, nausea, diarrhea, and photosensitivity reaction.

Some AEs with Esbriet were mild to moderate, occurred early, and decreased over time[1,2]

Photosensitivity reactions and GI events typically occurred in the first 3 to 6 months of treatment and infrequently led to discontinuation

<9% of photosensitivity events and <8% of GI events in three phase 3 trials were severe. The remaining photosensitivity and GI events were mild to moderate in severity[2]

>1400 patients were evaluated for safety of Esbriet, with >170 on treatment for more than 5 years in clinical trials[1]

Dose modifications, interruptions, and discontinuations with Esbriet 267 mg may help manage potential AEs like GI events and photosensitivity reactions[1]

Demonstrated efficacy

In ASCEND and CAPACITY 004, Esbriet delayed disease progression by slowing lung function decline vs placebo[1,3]

In CAPACITY 006, no statistically significant difference vs placebo in change in %FVC or decline in FVC volume from baseline to 72 weeks was observed[1,4]

Learn more at **EsbrietHCP.com**

CYP1A2 inducers: Concomitant use of Esbriet and strong CYP1A2 inducers should be avoided, as CYP1A2 inducers may decrease the exposure and efficacy of Esbriet.

Specific Populations:

Mild to moderate hepatic impairment: Esbriet should be used with caution in patients with Child Pugh Class A and B. Monitor for adverse reactions and consider dosage modification or discontinuation of Esbriet as needed.

Severe hepatic impairment: Esbriet is not recommended for patients with Child Pugh Class C. Esbriet has not been studied in this patient population.

Mild (CL_{cr} 50–80 mL/min), moderate (CL_{cr} 30–50 mL/min), or severe (CL_{cr} <30 mL/min) renal impairment: Esbriet should be used with caution. Monitor for adverse reactions and consider dosage modification or discontinuation of Esbriet as needed.

End-stage renal disease requiring dialysis: Esbriet is not recommended. Esbriet has not been studied in this patient population.

Smokers: Smoking causes decreased exposure to Esbriet which may affect efficacy. Instruct patients to stop smoking prior to treatment and to avoid smoking when on Esbriet.

You may report side effects to the FDA at 1-800-FDA-1088 or www.fda.gov/medwatch or to Genentech at 1-888-835-2555.

Please see Brief Summary of Prescribing Information on adjacent pages for additional Important Safety Information.

Study design: The safety and efficacy of Esbriet were evaluated in three phase 3, randomized, double-blind, placebo-controlled, multicenter trials in which 1247 patients were randomized to receive Esbriet (n=623) or placebo (n=624).[1] In ASCEND, 555 patients with IPF were randomized to receive Esbriet 2403 mg/day or placebo for 52 weeks. Eligible patients had percent predicted forced vital capacity (%FVC) between 50%–90% and percent predicted diffusing capacity of lung for carbon monoxide (%DL_{co}) between 30%–90%. The primary endpoint was change in %FVC from baseline at 52 weeks.[1,3] In CAPACITY 004, 348 patients with IPF were randomized to receive Esbriet 2403 mg/day or placebo. Eligible patients had %FVC ≥50% and %DL_{co} ≥35%. In CAPACITY 006, 344 patients with IPF were randomized to receive Esbriet 2403 mg/day or placebo. Eligible patients had %FVC ≥50% and %DL_{co} ≥35%. For both CAPACITY trials, the primary endpoint was change in %FVC from baseline at 72 weeks.[1,4] Esbriet had a significant impact on lung function decline and delayed progression of IPF vs placebo in ASCEND.[1] Esbriet demonstrated a significant effect on lung function for up to 72 weeks in CAPACITY 004, as measured by %FVC and mean change in FVC (mL).[1] **No statistically significant difference vs placebo in change in %FVC or decline in FVC volume from baseline to 72 weeks was observed in CAPACITY 006.[1]**

References: 1. Esbriet Prescribing Information. Genentech, Inc. July 2019. **2.** Data on file. Genentech, Inc. 2019. **3.** King TE Jr, Bradford WZ, Castro-Bernardini S, et al; for the ASCEND Study Group. A phase 3 trial of pirfenidone in patients with idiopathic pulmonary fibrosis [published correction appears in *N Engl J Med.* 2014;371(12):1172]. *N Engl J Med.* 2014;370(22):2083–2092. **4.** Noble PW, Albera C, Bradford WZ, et al; for the CAPACITY Study Group. Pirfenidone in patients with idiopathic pulmonary fibrosis (CAPACITY): two randomised trials. *Lancet*. 2011;377(9779):1760–1769.

Esbriet® (pirfenidone) tablets 267 mg 801 mg

USPSTF criteria could allow more Black individuals to be screened

// continued from page 1

The move will nearly double the number of people eligible for screening, up to 14.5 million individuals – an increase of 81% (6.4 million adults) from the 2013 recommendations.

The expanded criteria may help increase screening among Black individuals and women. Data show that both groups tend to smoke fewer cigarettes than White men and that Black persons are at higher risk for lung cancer than White persons. In addition, research has shown that about one-third of Black patients with lung cancer were diagnosed before the age of 55 years, which means they would not have been recommended for screening under the previous guidelines.

Uptake has been limited

To date, uptake of lung cancer screening has been very limited, from 6% to 18% of individuals who meet the eligibility criteria.

The new recommendations will open up screening to many more people, but challenges to implementation remain.

"The science is clear that lung cancer screening has the potential to

save lives," Dr. Wong told this news organization. "We recognize that there are existing barriers to screening everyone who is eligible, but clinicians and patients both deserve to know that screening can detect lung cancer early, when treatment has the best chance of being beneficial."

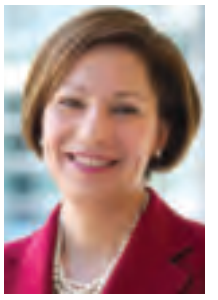
He added that the hope is that these recommendations will encourage clinicians to examine the barriers to effective lung cancer screening in their communities and to do what they can to improve implementation. "We also hope to encourage patients to have conversations with their clinicians about whether they are eligible for screening and to discuss smoking cessation treatments if they are still smoking," Dr. Wong added.

In an accompanying editorial, Louise M. Henderson, PhD; M. Patricia Rivera, MD; and Ethan Basch, MD, all from the University of North Carolina at Chapel Hill, address some of the current challenges in implementation.

They note that reimbursement for lung cancer screening by Medicare requires submission of data to a Centers for Medicare & Medicaid Services–approved registry, and this can present problems for facilities serving less affluent communities or that have limited resources.

Medicaid coverage is also uneven. As of September 2020, lung cancer screening was covered by 38 Medicaid programs, but not by 9. For three programs, data on coverage were not available.

"With the new recommendations lowering the screening-eligible age to 50 years, many eligible individuals who are uninsured or who are receiving Medicaid and living in states that do not cover screening will have financial barriers to undergo screening," they write.



DR. RIVERA

In addition, many individuals in at-risk populations lack adequate geographic access to comprehensive lung cancer screening programs.

Expanding eligibility criteria is important, the editorialists point out, but barriers to screening, which include lack of insurance coverage and limited physical access to high-quality screening programs, highlight the complex problems with implementation that need to be addressed.

"A concerted effort to increase the reach of lung cancer screening is needed," they write. "The 2021 USPSTF recommendation statement represents a leap forward in evidence and offers promise to prevent more cancer deaths and address screening disparities. But the greatest work lies ahead to ensure this promise is actualized."

Advocacy needed

When approached for comment, Jianjun Zhang, MD, PhD, from the department of thoracic/head and neck medical oncology, University of Texas MD Anderson Cancer Center, Houston, said he supports the new guidelines, and they will lower mortality. "The data are pretty strong overall," he said in an interview.

Although the uptake of screening is currently very low, he pointed out that, even if uptake remains the same, more lives will be saved because eligibility has been expanded. "More people will be getting screened, so it's a start," he said.

Aside from factors such as insurance and access, another problem

Continued on following page

FDA okays first molecular OTC COVID-19 test

BY MEGAN BROOKS

The U.S. Food and Drug Administration has granted emergency use authorization (EUA) for the Cue COVID-19 Test for Home and Over The Counter Use (Cue OTC Test, Cue Health).

The Cue OTC Test is the first molecular diagnostic test available to consumers without a prescription.

The test detects genetic material from SARS-CoV-2 present in the nostrils and delivers results in about 20 minutes to the user's mobile smart device via the Cue Health app.

In testing, the Cue OTC Test correctly identified 96% of positive nasal swab samples from individuals known to have symptoms and correctly identified 100% of positive samples from individuals without symptoms.

The test is intended for use in people aged 2 years and older with and without symptoms.

"With this authorization, consumers can purchase and self-administer one of the easiest, fastest, and most accurate tests without a prescription," Clint Sever, cofounder and chief product officer of Cue Health, said in a news release.

"This FDA authorization will help us improve patient outcomes with a solution that provides the accuracy of central lab tests, with the speed and accessibility required to address emergent global health issues," he said.

Cue Health expects to produce more than 100,000 single-use test kits per day by this summer. Dena Cook, the company's chief communications officer, told this news organization that the company hasn't announced pricing information yet, but the price will be "comparable" to other price points and other products on the market.

In June, the FDA granted an EUA to Cue Health's COVID-19 test for use in clinical and point-of-care settings.The test is currently being used in hospitals, physicians' offices, and dental clinics, as well as schools, essential businesses, nursing homes, and other congregate-care facilities. The test is also being distributed through a program led by the U.S. Department of Defense and the U.S. Department of Health & Human Services across several states.

A version of this article first appeared on Medscape.com.

Continued from previous page

involves primary care. "Time is very limited in primary care," he said. "You have about 15 minutes, and it can be really hard to fit everything into a visit. Screening may get left out or may only get a brief mention."

Advocacy is needed, Dr. Zhang pointed out. "Breast cancer has strong voices and advocacy, and people are more aware of mammography," he said. "The information is disseminated out into the community. We need the same for lung cancer."

Dr. Zhang emphasized that, even with the expanded criteria, many individuals will still be missed. "There are other risk factors besides smoking," he said. "About 10% of lung cancers occur in never-smokers."

Other risk factors include a family history of lung cancer, exposure to certain materials and chemicals, work in the mining industry, and genetics.

"We will move on to more personalized screening at some point," he said. "But right now, we can't make it too complicated for patients and doctors. We need to concentrate on increasing screening rates within these current criteria."

The updated guidelines have been given a B recommendation, meaning the USPSTF recommends that clinicians provide the service to eligible patients, there is at least fair evidence that this service improves important health outcomes, and benefits outweigh harms.

The USPSTF is an independent, voluntary body. The U.S. Congress mandates that the Agency for Healthcare Research and Quality support the operations of the USPSTF. All members of the USPSTF receive travel reimbursement and an honorarium for participating in USPSTF meetings.

The original article lists relevant financial relationships of task force members. Dr. Zhang has received grants from Johnson & Johnson and Merck, and adversary/consulting/honoraria fees from AstraZeneca, Bristol-Myers Squibb, GenePlus, Innovent, OrigMed, and Roche.

A version of this article first appeared on Medscape.com.

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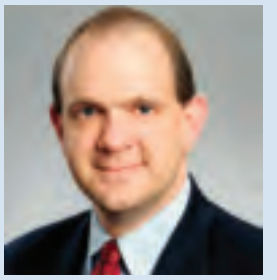

David A. Schulman, MD, MPH, FCCP, is Editor in Chief of *CHEST Physician*.

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CHEST PHYSICIAN (ISSN 1558-6200) is published monthly for the American College of Chest Physicians by Frontline Medical Communications Inc., 7 Century Drive, Suite 302, Parsippany, NJ 07054-4609. Subscription price is $244.00 per year. Phone 973-206-3434, fax 973-206-9378.

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Daylight saving time has been linked to atrial fibrillation risk // continued from page 1

to DST and acute, negative health outcomes, including higher rates of hospital admission, cardiovascular morbidity, atrial fibrillation, and stroke. The time shift has been associated with a spectrum of cellular, metabolic, and circadian derangements, from increased production of inflammatory markers, to higher blood pressure, and loss of sleep. These biological effects may have far-reaching consequences, including increased rates of fatal motor accidents in the days following the time change, and even increased volatility in the stock market, which may stem from cognitive deficits.

U.S. Senator Marco Rubio (R-Fla.) and others in the U.S. Congress have reintroduced the 2019 Sunshine Protection Act, legislation that would make DST permanent across the country. According to a statement on Sen. Rubio's website, "The bill reflects the Florida legislature's 2018 enactment of year-round DST; however, for Florida's change to apply, a change in the federal statute is required. Fifteen other states – Arkansas, Alabama, California, Delaware, Georgia, Idaho, Louisiana, Maine, Ohio, Oregon, South Carolina, Tennessee, Utah, Washington, and Wyoming – have passed similar laws, resolutions, or voter initiatives, and dozens more are looking. The legislation, if enacted, would apply to those states [that] currently participate in DST, which most states observe for eight months out of the year."


DR. RAMAR


DR. RISHI


DR. CHUDOW


DR. FARMER

A stitch in time

"The sudden change in clock time disrupts sleep/wake patterns, decreasing total sleep time and sleep quality, leading to decrements in daytime cognition," said Kannan Ramar, MBBS, MD, president of the AASM and a sleep medicine specialist at Mayo Clinic, Rochester, Minn.

Emphasizing this point, Dr. Ramar noted a recent study that reported an 18% increase in "patient safety-related incidents associated with human error" among health care workers within a week of the spring time change (Sleep. 2020 Apr. doi: 10.1093/sleep/zsaa056.171).

"Irregular bedtimes and wake times disrupt the timing of our circadian rhythms, which can lead to symptoms of insomnia or long-term, excessive daytime sleepiness. Lack of sleep can lead to numerous adverse effects on our minds, including decreased cognitive function, trouble concentrating, and general moodiness," Dr. Ramar said.

He noted that these impacts may be more significant among certain individuals.

"The daylight saving time changes can be especially problematic for any populations that already experience chronic insufficient sleep or other sleep difficulties," Dr. Ramar said. "Populations at greatest risk include teenagers, who tend to experience chronic sleep restriction during the school week, and night-shift workers, who often struggle to sleep well during daytime hours."

While fewer studies have evaluated the long-term effects of seasonal time changes, the AASM position statement cited evidence that "the body clock does not adjust to daylight saving time after several months," possibly because "daylight saving time is less well-aligned with intrinsic human circadian physiology, and it disrupts the natural seasonal adjustment of the human clock due to the effect of late-evening light on the circadian rhythm."

"Populations at greatest risk include teenagers, who tend to experience chronic sleep restriction during the school week, and night-shift workers, who often struggle to sleep well during daytime hours."

According to the AASM, permanent DST, as proposed by Sen. Rubio and colleagues, could "result in permanent phase delay, a condition that can also lead to a perpetual discrepancy between the innate biological clock and the extrinsic environmental clock, as well as chronic sleep loss due to early morning social demands that truncate the opportunity to sleep." This mismatch between sleep/wake cycles and social demands, known as "social jet lag," has been associated with chronic health risks, including metabolic syndrome, obesity, depression, and cardiovascular disease.

Cardiac impacts of seasonal time change

Muhammad Adeel Rishi, MD, a sleep specialist at Mayo Clinic, Eau Claire, Wis., and lead author of the AASM position statement, highlighted cardiovascular risks in a written statement for this article, noting increased rates of heart attack following the spring time change, and a higher risk of atrial fibrillation.

"Mayo Clinic has not taken a position on this issue," Dr. Rishi noted. Still, he advocated for permanent standard time as the author of the AASM position statement and vice chair of the AASM public safety committee.

Jay Chudow, MD, and Andrew K. Krumerman, MD, of Montefiore Medical Center, New York, lead author and principal author, respectively, of a recent study (Sleep Med. 2020 May;69:155-8) that reported increased rates of atrial fibrillation admissions after DST transitions, had the same stance.

"We support elimination of seasonal time changes from a health perspective," they wrote in a joint comment. "There is mounting evidence of a negative health impact with these seasonal time changes related to effects on sleep and circadian rhythm. Our work found the spring change was associated with more admissions for atrial fibrillation. This added to prior evidence of increased cardiovascular events related to these time changes. If physicians counsel patients on reducing risk factors for disease, shouldn't we do the same as a society?"

Pros and cons

Not all sleep experts are convinced. Mary Jo S. Farmer, MD, PhD, FCCP, a sleep specialist and director of pulmonary hypertension services at Baystate Medical Center, and assistant professor of medicine at the University of Massachusetts, Springfield, considers perspectives from both sides of the issue.

"Daylight saving time promotes active lifestyles as people engage in more outdoor activities after work and school, [and] daylight saving time produces economic and safety benefits to society as retail revenues are higher and crimes are lower," Dr. Farmer said. "Alternatively, moving the clocks forward is a cost burden to the U.S. economy when health issues, decreased productivity, and workplace injuries are considered."

If one time system is permanently established, Dr. Farmer anticipates divided opinions from patients with sleep issues, regardless of which system is chosen.

"I can tell you, I have a cohort of sleep patients who prefer more evening light and look forward to the spring time change to daylight saving time," she said. "However, they would not want the sun coming up at 9:00 a.m. in the winter months if we stayed on daylight saving time year-round. Similarly, patients would not want the sun coming up at 4:00 a.m. on the longest day of the year if we stayed on standard time all year round."

Dr. Farmer called for more research before a decision is made.

"I suggest we need more information about the dangers of staying on daylight saving or standard time year-round because perhaps the current strategy of keeping morning light consistent is not so bad," she said.

Call for a Congressional hearing

According to Dr. Ramar, the time is now for a Congressional hearing, as lawmakers and the public need to be adequately informed when considering new legislation.

"There are public misconceptions about daylight saving time and standard time," Dr. Ramar said. "People often like the idea of daylight saving time because they think it provides more light, and they dislike the concept of standard time because they think it provides more darkness. The reality is that neither time system provides more light or darkness than the other; it is only the timing that changes."

Until new legislation is introduced, Dr. Ramar offered some practical advice for navigating seasonal time shifts.

"Beginning 2-3 days before the time change, it can be helpful to gradually adjust sleep and wake times, as well as other daily routines such as meal times," he said. "After the time change, going outside for some morning light can help adjust the timing of your internal body clock."

The investigators reported no conflicts of interest.

chestphysiciannews@chestnet.org

Routine vaccinations fall short during pandemic

BY WALTER ALEXANDER
MDedge News

Physicians are going to have to play catch-up when it comes to getting older patients their routine, but important, vaccinations missed during the pandemic.

Weekly general vaccination among Medicare beneficiaries aged ≥65 years fell by around 80% soon after the national COVID-19 emergency declaration and have recovered only partially and gradually, according to a report by Kai Hong, PhD, and colleagues at the Centers for Disease Control and Prevention, published in the Morbidity and Mortality Weekly Report (2021 Feb 19. doi: 10.15585/mmwr.mm7007a4). "As the pandemic continues," the investigators stated, "vaccination providers should continue efforts to resolve disruptions in routine adult vaccination."

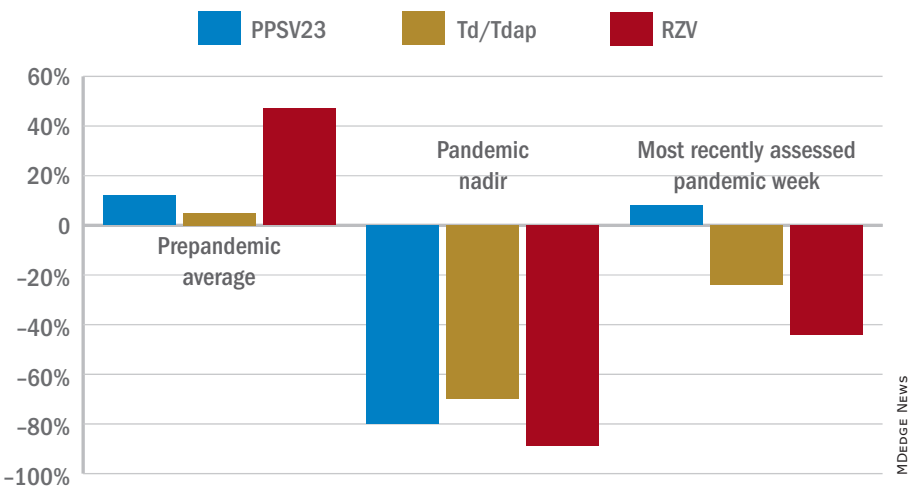
The CDC issued guidance recommending postponement of routine adult vaccination in response to the March 13, 2020, COVID-19 national emergency declaration by the U.S. government and also to state and local shelter-in-place orders. Health care facility operations were restricted because of safety concerns around exposure to the SARS-CoV-2 virus. The result was a significant drop in routine medical care including adult vaccinations.

The investigators examined Medicare enrollment and claims data to assess the change in weekly receipt of four routine adult vaccines by Medicare beneficiaries aged ≥65 during the pandemic: (13-valent pneumococcal conjugate vaccine [PCV13], 23-valent pneumococcal polysaccharide vaccine [PPSV23], tetanus-diphtheria or tetanus-diphtheria-acellular pertussis vaccine [Td/Tdap], and recombinant zoster vaccine [RZV]). The comparison periods were Jan. 6–July 20, 2019, and Jan. 5–July 18, 2020.

Of the Medicare enrollees in the study sample, 85% were White, 7% Black, 2% Asian, 2% Hispanic, and 4% other racial and ethnic groups. For each of the four vaccines overall, weekly rates of vaccination declined sharply after the emergency declaration, compared with corresponding weeks in 2019. In the period prior to the emergency declaration (Jan. 5–March 14, 2020), weekly percentages of Medicare beneficiaries vaccinated with PPSV23, Td/Tdap, and RZV were consistently higher than rates during the same period in 2019.

After the March 13 declaration, while weekly vaccination rates plummeted 25% for PPSV23 and 62% for RZV in the first week, the greatest weekly declines were during April 5-11, 2020, for PCV13, PPSV23, and Td/Tdap, and during April 12-18, 2020, for RZV. The pandemic weekly vaccination rate nadirs revealed declines of 88% for PCV13, 80% for PPSV23, 70% for Td/Tdap, and 89% for RZV.

Change in weekly vaccination rate from 2019 to 2020



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Note: Based on Medicare enrollment and claims data for beneficiaries aged ≥65 years.
Source: MMWR. 2021 Feb 19;70(7):245-9

Routine vaccinations increased midyear

Vaccination rates recovered gradually. For the most recently assessed pandemic week (July 12-18, 2020), the rate for PPSV23 was 8% higher than in the corresponding period in 2019. Weekly corresponding rates for other examined vaccines, however, remained much lower than in 2019: 44% lower for RZV, 24% lower for Td/Tdap and 43% lower for PCV13. The CDC Advisory Committee on Immunization Practices voted in June 2019 to stop recommending PCV13 for adults aged ≥65 years and so vaccination with PCV13 among this population declined in 2020, compared with that in 2019.

Another significant drop in the rates of adult vaccinations may have occurred because of the surge in COVID-19 infections in the fall of 2020 and subsequent closures and renewal of lockdown in many localities.

Disparities evident in routine vaccination trends

Dr. Hong and colleagues noted that their findings are consistent with prior reports of declines in pediatric vaccine orders, administration, and coverage during the pandemic. While the reductions were similar across all racial and ethnic groups, the magnitudes of recovery varied, with vaccination rates lower among racial and ethnic minority adults than among White adults.

In view of the disproportionate COVID-19 pandemic effects among some racial and ethnic minorities, the investigators recommended monitoring and subsequent early intervention to mitigate similar indirect pandemic effects, such as reduced utilization of other preventive services. "Many members of racial and ethnic minority groups face barriers to routine medical care, which means they have fewer opportunities to receive preventive interventions such as vaccination," Dr. Hong said in an interview. "If vaccination is deferred, older adults and adults with underlying medical conditions who subsequently become infected with a vaccine-preventable disease are at increased risk for complications," Dr. Hong said. "The most important thing clinicians can do is identify patients who are due for or who have missed vaccinations, and contact them to schedule visits. Immunization Information Systems and electronic health records may be able to support this work. In addition, the vaccination status of all patients should be assessed at every health care visit to reduce missed opportunities for vaccination."

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Cannabinoids may pose danger to older patients with COPD

BY HEIDI SPLETE
MDedge News

Older adults with chronic obstructive pulmonary disease who began using synthetic cannabinoids showed a 64% increase in all-cause mortality, compared with nonusers, findings from a large study have shown.

Synthetic cannabinoid drugs, such as nabilone and dronabinol, have been approved by the Food and Drug Administration for nausea and vomiting caused by chemotherapy. But their off-label use by adults with COPD to help manage chronic musculoskeletal pain, insomnia, and refractory dyspnea is on the rise, wrote Nicholas T. Vozoris, MD, of the University of Toronto and colleagues.

Cannabinoids may actually contribute to negative respiratory outcomes among individuals with COPD through several possible mechanisms including causing sedation, inducing anxiety, and provoking respiratory muscle weakness, they said.

"Possible adverse respiratory effects of cannabinoids may occur with greater likelihood among older adults (in whom COPD is more prevalent), as this group is known to less efficiently metabolise drugs," they noted.

In a retrospective, population-based cohort study published in Thorax (2021 Jan 1. doi: 10.1136/thoraxjnl-2020-215346), the researchers identified 185,876 adults 66 years and older with COPD using health administrative database information for 2006-2016. New cannabinoid users (those starting nabilone or dronabinol) were matched with control nonusers (defined as new users of noncannabinoid drugs). Individuals receiving palliative care, or having a diagnosis of cancer or HIV, were excluded because these are settings where synthetic cannabinoids may be prescribed for nausea or vomiting, and

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these patients are more likely to be in a poorer state of health.

Overall, new cannabinoid users had significantly higher all-cause mortality rates, compared with nonusers (hazard ratio, 1.64). The effects was greater in high-dose users.

Daniel Ouellette, MD, FCCP, associate professor of medicine at Wayne State University and a senior staff physician at Henry Ford Hospital, both in Detroit, commented that this study has value for clinicians.

DR. OUELLETTE

"Many states are liberalizing cannabinoid use, and it is important to know the health effects of this type of drug on patients with chronic respiratory disease," he noted. "The study is somewhat surprising. While one might have expected adverse consequences in patients with COPD who inhaled smoke from cannabinoids, it is somewhat unexpected that oral use would be associated with adverse consequences." He added, "Pain in older adults is a complex problem. Cannabinoids are often recommended for pain in the general community, but pain per se is not a primary symptom for most patients with COPD from their respiratory problems. Physicians treating patients with COPD should diagnose the cause of the pain and provide appropriate treatment."

Dose makes a difference

All-cause mortality increased by 231% and hospitalization for COPD or pneumonia increased by 178% among new users of higher-dose cannabinoids, compared with nonusers. Higher dose was defined in this study as more than 1.5 mg/day of nabilone. No significant differences appeared in new users vs. nonusers in hospitalization for COPD or pneumonia at lower doses, and no significant differences appeared overall in outpatient respiratory exacerbations, emergency department visits for COPD or pneumonia, or COPD- or pneumonia-related mortality.

Potential limitations and implications outlined

"The fact that COPD- or pneumonia-related mortality was not observed to occur with significantly greater rates among cannabinoid users with COPD may suggest that the increased all-cause mortality finding was not being driven by adverse respiratory-related drug effects, as we hypothesized, and instead was possibly a result of unresolved confounding," the researchers noted.

The study findings were limited by several factors including the inability to prove causation in an observational study, and the potential for confounding based on unmeasured differences between cannabinoid users and nonusers, the researchers said. "Our findings may not be generalizable to all individuals with COPD, as our study included only those aged 66 years and older, and our COPD identification algorithm, while highly specific, had modest sensitivity," they added. However, the results were strengthened by the large study population and suggest that cannabinoids are not contraindicated for older adults with COPD, the researchers said.

The study was supported by The Lung Association – Ontario Grant Review/Grant-In-Aid. The researchers had no financial conflicts to disclose.

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Steroids reduced COVID-19 persistent lung dysfunction

BY RICHARD MARK KIRKNER
MDedge News

A study of post–COVID-19 patients in the United Kingdom who developed severe lung inflammation after they left the hospital may provide greater clarity on which patients are most likely to have persistent lung dysfunction.

In addition to pinpointing those most at risk, the findings showed that conventional corticosteroid treatment is highly effective in improving lung function and reducing symptoms (Ann Am Thorac Soc. 2021 Jan 12. doi: 10.1513/AnnalsATS.202008-1002OC).


DR. GUPTA

Researchers from Guy's and St. Thomas' National Health Foundation Trust in London reported that a small percentage of patients – 4.8%, or 35 of 837 patients in the study – had severe persistent interstitial lung disease (ILD), mostly organizing pneumonia, 4 weeks after discharge. Of these patients, 30 received steroid treatment, all of whom showed improvement in lung function.

Lead author Katherine Jane Myall, MRCP, and colleagues wrote that the most common radiologic finding in acute COVID-19 is bilateral ground-glass opacification, and findings of organizing pneumonia are common. However, no reports exist of the role of inflammatory infiltrates during recovery from COVID-19 or of the effectiveness of treatments for persistent ILD. "The long-term respiratory morbidity remains unclear," Dr. Myall and colleagues wrote.

The study findings are significant because they quantify the degree of lung disease that patients have after COVID-19, said Sachin Gupta, MD, FCCP, a pulmonologist and critical care specialist at Alameda Health System in Oakland, Calif. He added that the disease course and presentation followed the pattern of organizing pneumonia in some patients, and traditional corticosteroid therapy seemed to resolve symptoms and improve lung function.

"This is a really important piece to get out there because it describes what a lot of us are worried about in patients with post-COVID lung disease and about what type of lung disease they have. It offers a potential treatment," he said.

Dr. Myall and colleagues noted that even a "relatively small proportion" of patients with persistent, severe ILD – as reported in this study – pose "a significant disease burden." They added: "Prompt therapy may avoid potentially permanent fibrosis and functional impairment."

The single-center, prospective, observational study followed discharged patients with telephone calls 4 weeks after discharge to determine their status. At that point, 39% of the study cohort (n = 325) reported ongoing symptoms.

The patients had outpatient examinations at 6 weeks post discharge, at which time 42.9% (n = 138) had no signs or symptoms of persistent disease; 33.8% (n = 110) had symptoms but no radiologic findings and received referrals to other departments; and 24% (n = 77) were referred to the post-COVID lung disease multidisciplinary team. A total of 59 were diagnosed with persistent post-COVID interstitial change, 35 of whom had organizing pneumonia, hence the rationale for using steroids in this group, Dr. Myall and colleagues stated.

The 30 patients treated with corticosteroids received a maximum initial dose of 0.5 mg/kg prednisolone, which was rapidly weaned over 3 weeks. Some patients received lower doses depending on their comorbidities.

Treatment resulted in an average relative increase in transfer factor of 31.6% ($P < .001$) and forced vital capacity of 9.6% ($P = .014$), along with significant improvement in symptoms and x-ray signs.

The study identified some key characteristics of the patients who had persistent post–COVID-19 inflammatory ILD. They were mostly male (71.5%) and overweight with an average body mass index of 28.3, but only 26% were obese. Most had at least one comorbidity, with the most common being diabetes and asthma (22.9%). Their average hospital stay was 16.9 days, 82.9% required oxygen, 55% were in the ICU, and 46% needed invasive mechanical ventilation.

The patients most vulnerable to ILD and organizing pneumonia were the "sicker" of the whole cohort, Dr. Gupta said. "In one sense, it's reassuring that this is not just happening in anyone; this is happening in patients who had the worst course and were hospitalized in the ICU for the most part."

The study shows that identifying these patients early on and initiating steroid therapy could avoid persistent lung injury and scarring, Dr. Gupta said.

Patients with post–COVID-19 ILD will require ongoing follow-up to better understand the disease course, Dr. Myall and colleagues stated, although they predicted organizing pneumonia is unlikely to recur once it resolves.

Dr. Myall and coauthors had no relevant relationships to disclose. Dr. Gupta disclosed he is also an employee and shareholder at Genentech.

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Postintubation tracheal injury in the COVID-19 era

BY JIM KLING
MDedge News

Postintubation laryngeal and tracheal injuries may be yet another part of recovery from severe COVID-19 infection for some patients.

Evidence has been accumulating on the link between prolonged intubation and lingering breathing and speaking difficulties, a concern that has become more germane in the wake of the COVID-19 pandemic. Now, researchers in Italy led by Giacomo Fiacchini, MD, and Luca Bruschini, MD, of the University of Pisa (JAMA Otolaryngol Head Neck Surg. 2021;147:70-76) have published new research suggesting tracheal complications were particularly common in COVID-19 patients intubated for prolonged periods during the pandemic.

The study may be revealing effects of the pandemic itself, as resources and staff were at times overwhelmed by critical care patients. Of the 98 patients admitted from March 1 to May 31, 2020, 47% intubated for longer than 14 days developed full-thickness tracheal lesions, compared with 2.2% of a control group treated during the same time frame in 2019. The difference is eye-popping, but may not be generalizable. "I have not observed an increased rate of tracheal injury, but we haven't carefully studied that outcome as far as I know," said Daniel Ouellette, MD, FCCP, who is a senior staff physician and director of the pulmonary inpatient unit at Henry Ford Health System, and an associate professor at Wayne State University, Detroit.

He expressed concern about the retrospective nature of the study, and wondered if the different outcomes might be because of disruptions caused by the pandemic. "It's not hard to imagine that these patients were seen [during] a great rush of patients, whereas the control group was looked at during a period where that kind of volume didn't exist. There might have been a tendency for more inexperienced practitioners to be intubating patients because they were in the middle of the epidemic. There might have been less supervision of trainees. Individuals, physicians, teams may have been more rushed. Protocols may not have been followed as closely. It may all be an effect of the epidemic itself," said Dr. Ouellette.

The investigators suggested that implementation of pronation maneuvers may have increased cuff pressure on the tracheal walls leading to some injuries. In addition, the prothrombotic and antifibrinolytic state of patients with COVID-19 may have contributed, along with the impact of systemic steroids that may have altered normal healing of tracheal wall microwounds caused by intubation, cuff pressure, or tracheostomy.

Other research has suggested increased complications from intubation among COVID-19 patients, including a case series that found heightened frequency of pneumomediastinum (Anaesthesia. 2020 Aug;75[8]:1076-81. doi: 10.1111/anae.15113). The authors of that study suggested that aggressive disease pathophysiology and accompanying risk of alveolar damage and tracheobronchial injury may be to blame, along with larger-bore tracheal tubes and higher ventilation pressures. That study may also be reflecting the conditions of intubation during the pandemic.

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Not all institutions saw an uptick in tracheal injury or pneumomediastinum. Mary Jo S. Farmer, MD, PhD, FCCP, of the department of medicine at University of Massachusetts, Springfield, asked one of the institute's statisticians to examine pneumothorax frequency from March 15, 2020, to March 1, 2021, comparing the rates between patients who tested positive for SARS-CoV-2 within 14 days of admission, and those who tested negative. The rate was 0.5% in patients who tested positive versus 0.4% in those who tested negative. "My division chief's gut sense is it's just the same. The prevalence [of pneumomediastinum] is what we were seeing before," said Dr. Farmer.

DR. FARMER

Shortly before the COVID-19 pandemic, researchers at Vanderbilt University Medical Center, Nashville, Tenn., found that more than half of patients undergoing prolonged intubation experience breathing and speaking difficulties at 10 weeks post intubation. The group has followed up that study with another study (JAMA Otolaryngol Head Neck Surg. 2021;147[3]:232-7. doi:10.1001/jamaoto.2020.4517) looking at treatment timing and outcomes.

The researchers reviewed the experiences of 29 patients with laryngeal injury from endotracheal intubation between May 1, 2014, and June 1, 2018. Ten patients with posterior glottis injury received early treatment, at a median of 34.7 days to presentation (interquartile range, 1.5-44.8 days). Nineteen patients with posterior glottis stenosis received treatment at a median of 341.9 days (absolute difference, 307.2 days; 95% confidence interval, 124.4-523.3 days). Demographic characteristics and comorbidities were similar between the two groups. At last follow-up, 90% of the early-treatment group were decannulated, compared with 58% of the late group (absolute difference, 32%; 95% CI, –3% to 68%). The early group required a mean of 2.2 interventions, compared with 11.5 in the late group (absolute difference, 9.3; 95% CI, 6.4-12.1). No patients in the early group required an open procedure, compared with 90% of the late-treatment group.

Although early treatment seems promising, the timing of laryngeal injury repair would be a key consideration. "You would worry about patient stability, [making] sure they're clinically stable and didn't have any acute ill effects from the injury itself or the underlying illness that led to intubation," said Dr. Ouellette. For COVID-19 patients, that would mean recovery from pneumonia or any other lung problems, he added.

Together, the studies raise concerns and questions over tracheal and laryngeal injury in the context of COVID-19, but fall short of providing clinical guidance. "It raises the awareness in the mind of the critical care physician about these potential injuries to the larynx surrounding intubation," said Dr. Farmer.

The studies received no funding. Dr. Ouellette and Dr. Farmer reported no relevant financial disclosures.

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TEMPURA/GETTY IMAGES

Earlier antibiotics for sepsis did not lead to overuse

BY ROXANNE NELSON
MDedge News

There has been a marked increase in the time to antibiotic administration for ICU patients with sepsis across Veterans Affairs hospitals, but there is no evidence that they are being given inappropriately, according to new findings.

Accelerating time to antibiotics in sepsis means that patients will be treated earlier, but it could also result in more patients receiving antibiotics, including those without infection. This in turn may contribute to antimicrobial resistance.

"The time to antibiotics for sepsis accelerated across VA hospitals, and declined from 5.8 to 4.8 hours between 2013 and 2018," said lead study author Sarah Seelye, PhD, data scientist at the U.S. Department of Veterans Affairs, Ann Arbor, Mich. "Despite this, there was no evidence between hospital-level antibiotic acceleration in sepsis and antibiotic use among all patients with potential sepsis."

The results were presented at the Critical Care Congress sponsored by the Society of Critical Care Medicine, which was held virtually this year.

"Many hospitals have initiated programs like this to accelerate the use of antibiotics in patients with severe sepsis, but at the same time, there is growing concern that earlier antibiotic initiation may result in increased antibiotic treatment overall, including those without infection," said Dr. Seelye. "However, to date, there is little evidence to support this claim."


DR. COOPERSMITH

The goal of their study was to investigate whether hospital-level acceleration in antibiotic timing for sepsis was associated with increasing antibiotic use among patients hospitalized with potential infection.

They identified 1,101,239 hospitalizations for potential infection in 132 VA hospitals during the period from 2013 to 2018. Of these patients, 608,128 (55.2%) received antibiotics within 48 hours of presentation to the emergency department. A total of 117,435 (10.7%) met the criteria for sepsis.

Hospitals were classified into tertiles of antibiotic acceleration for sepsis: rapid, slow, and flat.

In the VA system, patients with severe sepsis began receiving faster antibiotic treatment in 2017, compared with earlier years. In 2017-2018 more than 20% of sepsis patients had received their first treatment within 2 hours, compared with 14% in 2013-1014.

In 2017-2018, more than 20% of sepsis patients had received their first treatment within 2 hours, compared with 14% in 2013-1014.

Hospitals categorized as rapid accelerators decreased their time to antibiotic initiation from 6.4 hours to 4.5 hours, while slow accelerators went from 5.6 to 4.6 hours from 2013 to 2018, and flat accelerators remained stable during the time period (5.3 hours down to 5.2 hours).

"This paper does show that you can get antibiotics into patients faster, which can be lifesaving, without inappropriately using them on everybody."

However, statistical analysis showed no real difference between the three groups in antibiotic prescribing.

"Despite this, there was no evidence between hospital-level antibiotic acceleration in sepsis and antibiotic use among all patients with potential sepsis," said Dr. Seelye.

Weighing in on the study results, Craig M. Coopersmith, MD, professor of surgery at Emory University, Atlanta, noted that these results are very convincing, considering the size of the study and that it encompassed 132 different facilities. "It's difficult to say how generalizable these results are but they are definitely generalizable to all hospitals in the VA system," he said. "In general, there are similarities between large health care systems, and it would be surprising if we found the opposite to be true in non-VA health systems."

However, he emphasized that there is some possibility that the results would not be identical because different health care systems have different methods of providing care.

"This paper does show that you can get antibiotics into patients faster, which can be lifesaving, without inappropriately using them on everybody," Dr. Coopersmith said.

He explained that there is more attention being paid now to antibiotic stewardship, compared with 10 or 15 years ago. "Given the choice of giving someone a single dose of antibiotics who may not need it, as opposed to withholding them from someone who is septic which is life threatening, the risk benefit ratio weighs heavily toward starting them early," he said. "And then escalate rapidly."

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COVID-19 vaccination linked to less mechanical ventilation

BY DAMIAN MCNAMARA

Immunization of people 70 and older with the Pfizer/BioNTech COVID-19 vaccine in Israel was associated with a precipitous drop in need for mechanical ventilation, new evidence reveals.

Compared with residents younger than 50 – so far vaccinated at lower rates than those of the higher-risk older people – Israelis 70 and older were 67% less likely to require mechanical ventilation for SARS-CoV-2 infection in February 2021 compared with October-December 2020.

"Achieving high vaccination coverage through intensive vaccination campaigns has the potential to substantially reduce COVID-19–associated morbidity and mortality."

"This study provides preliminary evidence at the population level for the reduction in risk for severe COVID-19, as manifested by need for mechanical ventilation, after vaccination with the Pfizer-BioNTech COVID-19 vaccine," wrote lead author Ehud Rinott, department of public health, faculty of health sciences, Ben-Gurion University of the Negev in Beer-Sheva, Israel, and colleagues.

The study was published online Feb. 26, 2021, in Morbidity and Mortality Weekly Report (doi: 10.15585/mmwr.mm7009e3).

The progress of COVID-19 vaccination across Israel presents researchers with a unique opportunity to study effectiveness on a population level. In this study, 84% of residents 70 and older received two-dose vaccinations. In contrast, only 10% of people in Israel younger than 50 received the same vaccine coverage.

Along with senior author Yair Lewis, MD, PhD, and coauthor Ilan Youngster, MD, Mr. Rinott compared mechanical ventilation rates between Oct. 2, 2020, and Feb. 9, 2021. They found that the ratio of people 70 and older compared with those younger than 50 requiring mechanical ventilation changed from 5.8:1 to 1.9:1 between these periods. This translates to the 67% decrease.

The study offers a "real-world" look at vaccination effectiveness, adding to more controlled evidence from clinical trials. "Achieving high vaccination coverage through intensive vaccination campaigns has the potential to substantially reduce COVID-19–associated morbidity and mortality," the researchers wrote.

Israel started a national vaccination program on Dec. 20, 2020, targeting high-risk residents including people 60 and older, health care workers, and those with relevant comorbidities. At the same time, in addition to immunization, Israel has used strategies like stay-at-home orders, school closures, mask mandates, and more.

Potential limitations include a limited ability to account for the effect of the stay-at-home orders, spread of virus variants, and other concomitant factors; a potential for a delayed reporting of cases; and variability in mitigation measures by age group.

Dr. Youngster reported receipt of consulting fees from MyBiotix Ltd.

A version of this article first appeared on Medscape.com.

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Evidence grows on impact of cannabis vaping on teens

BY HEIDI SPLETE
MDedge News

Vaping cannabis significantly increased the risk of respiratory symptoms in adolescents, according to findings of a study based on a national sample of teens.

Most studies of electronic nicotine delivery system (ENDS) use in teens have not addressed cannabis vaping, although e-cigarette– or vaping product use–associated lung injury (EVALI) has been predominately associated with cannabis products, wrote Carol J. Boyd, PhD, of the University of Michigan School of Nursing, Ann Arbor, and colleagues.


DR. SEAY

"At this time, relatively little is known about the population-level health consequences of adolescents' use of ENDS, including use with cannabis and controlling for a history of asthma," they said.

In a study published in the Journal of Adolescent Health (2021 Mar 3. doi: 10.1016/j.jadohealth.2021.01.019), the researchers identified 14,798 adolescents aged 12-17 years using Wave 4 data from the Population Assessment of Tobacco and Health Study. Of these, 17.6% had a baseline asthma diagnosis, 8.9% reported ever using cannabis in ENDS, and 4.7% reported any cannabis use. In addition, 4.2% reported current e-cigarette use, 3.1% reported current cigarette use, 51% were male, and 69.2% were White.

Any cannabis vaping makes impact

In a fully adjusted model, teens who had ever vaped cannabis had higher odds of five respiratory symptoms in the past year, compared with those with no history of cannabis vaping: wheezing or whistling in the chest (adjusted odds ratio, 1.81); sleep disturbed by wheezing or whistling (AOR, 1.71); speech limited because of wheezing (AOR, 1.96); wheezy during and after exercise (AOR, 1.33), and a dry cough at night independent of a cold or chest infection (AOR, 1.26).

Neither e-cigarettes nor cigarettes were significantly associated with any of these five respiratory symptoms in the fully adjusted models. In addition, "past 30-day use of cigarettes, e-cigarettes and cannabis use were associated with some respiratory symptoms in bivariate analyses but not in the adjusted models," the researchers noted. In addition, the associations of an asthma diagnosis and respiratory symptoms had greater magnitudes than either cigarette, e-cigarette, and cannabis use or vaping cannabis with ENDS.

The study findings were limited by several factors including the inherent limitations of secondary database analysis, the researchers noted. "Another limitation is that co-use of cannabis and tobacco/nicotine was not assessed and, in the future, should be examined: Researchers have found that co-use is related to EVALI symptoms among young adults," they said.

However, the study is the first known to include ENDS product use and respiratory symptoms while accounting for baseline asthma, and an asthma diagnosis was even more strongly associated with all five respiratory symptoms, the researchers said.

The results suggest that "the inhalation of cannabis via vaping is associated with some pulmonary irritation and symptoms of lung diseases (both known and unknown)," that may be predictive of later EVALI, they concluded.


HAZEMMKAMAL/GETTY IMAGES

VIEW ON THE NEWS

Mary Cataletto, MD, FCCP, comments: While the long-term respiratory effects of tobacco smoke exposure are well known, data are less robust for vaping, especially for teens.

As 14 states have already legalized and 27 have decriminalized small amounts of marijuana for recreational use in adults, there is growing concern about access and use in pediatric populations where the 2020 statistics from the National Institute on Drug Abuse show lifetime prevalence rates of 27.9% in high school seniors and 10.2% in 8th graders. Social media, ease of access, and the perception of low risk have contributed to its popularity in this age group. Approximately 15% of cases of e-cigarette vaping–associated lung injury occurred in individuals under 18 years of age. Respiratory effects included cough, chest pain, and shortness of breath. The majority of these cases were associated with THC-containing vape products from informal sources.

This study is important because it demonstrates a growing market penetration of marijuana vaping in adolescents; suggests adverse health outcomes, especially with lifetime cannabis use; and challenges public health and policy makers to continue targeted education and to implement effective strategies to prevent access and use in this age group.

Product details aid in diagnosis

"As we continue to see patients presenting with EVALI in pediatric hospitals, it is important for us to identify if there are specific products (or categories) that are more likely to cause it," said Brandon M. Seay, MD, a pediatric pulmonologist and sleep specialist at Children's Healthcare of Atlanta, in an interview. "When we are trying to diagnose EVALI, we should be asking appropriate questions about exposures to specific products to get the best answers. If we simply ask 'Are you smoking e-cigarettes?' the patient may not [equate] e-cigarette smoking to vaping cannabis products," he said.

Dr. Seay said he was not surprised by the study findings. "A lot of the patients I see with EVALI have reported vaping THC products, and most of them also report that the products were mixed by a friend or an individual instead of being a commercially produced product," he noted. "This is not surprising, as THC is still illegal in most states and there would not be any commercially available products," he said. "The mixing of these products by individuals increases the risk of ingredients being more toxic or irritating to the lungs," Dr. Seay added. "This does highlight the need for more regulation of vaping products. As more states legalize marijuana, more of these products will become available, which will provide an opportunity for increased regulation, he said.

The take-home message for clinicians is to seek specific details from their young patients, Dr. Seay emphasized. "When we are educating our patients on the dangers of vaping/e-cigarettes, we need to make sure we are asking specifically which products they are using and know the terminology," he said. "The use of THC-containing products will be increasing across the country with more legalization, so we need to keep ourselves apprised of the different risks between THC- and nicotine-containing devices," he added.

As for additional research, it would be interesting to know whether patients were asked where they had gotten their products (commercially available products vs. those mixed by individuals) and explore any difference between the two, said Dr. Seay. "Also, as these products are relatively new to the market, compared to cigarettes, data on the longitudinal effects of vaping (nicotine and THC) over a long period of time, compared to traditional combustible cigarettes, will be needed," he said.

The study was funded by grants from the National Institutes of Health, National Institute on Drug Abuse, and National Cancer Institute. The researchers had no financial conflicts to disclose.

Dr. Seay had no financial disclosures, but serves as a member of the CHEST Physician editorial board.

chestphysiciannews@chestnet.org

Mild TBI tied to long-term sleep problems

BY PAULINE ANDERSON

Veterans who have suffered a traumatic brain injury (TBI) are significantly more likely to develop insomnia and other sleep problems years later compared to their counterparts who have not suffered a brain injury, a new study shows.

Results of a large longitudinal study show that those with TBI were about 40% more likely to develop insomnia, sleep apnea, excessive daytime sleepiness, or another sleep disorder in later years, after adjusting for demographics and medical and psychiatric conditions.

Interestingly, the association with sleep disorders was strongest among those with mild TBI versus a more severe brain injury.

The study showed that the risk for sleep disorders increased up to 14 years after a brain injury, an indicator that "clinicians should really pay attention to sleep disorders in TBI patients both in the short term and the long term," study investigator Yue Leng, MD, PhD, assistant professor, department of psychiatry and behavioral sciences, University of California, San Francisco, told this news organization.

The study was published online in Neurology (2021. doi: 10.1212/WNL.0000000000011656).

First long-term look

TBI is common among veterans, who may have sleep complaints or psychiatric symptoms, but previous studies into the consequences of TBI have examined the short- vs. long-term impact, said Dr. Leng.

To examine the longitudinal association between TBI and sleep disorders, the investigators examined data on 98,709 Veterans Health Administration patients diagnosed with TBI and an age-matched group of the same number of veterans who had not received such a diagnosis. The mean age of the participants was 49 years at baseline, and 11.7% were women. Of the TBI cases, 49.6% were mild.

Researchers used an exposure survey and diagnostic codes to establish TBI and its severity.

Patients with TBI were more likely to be male and were much more likely to have a psychiatric condition, such as a mood disorder (22.4% vs. 9.3%), anxiety (10.5% vs. 4.4%), posttraumatic stress disorder (19.5% vs. 4.4%), or substance abuse (11.4% vs. 5.2%). They were also more likely to smoke or use tobacco (13.5% vs. 8.7%).

Researchers assessed a number of sleep disorders, including insomnia, hypersomnia disorders, narcolepsy, sleep-related breathing disorders, and sleep-related movement disorders.

During a follow-up period that averaged 5 years but ranged up to 14 years, 23.4% of veterans with TBI and 15.8% of those without TBI developed a sleep disorder.

After adjustment for age, sex, race, education, and income, those who had suffered a TBI were 50% more likely to develop any sleep disorder, compared with those who had not had a TBI (hazard ratio, 1.50; 95% confidence interval, 1.47-1.53.)

After controlling for medical conditions that included diabetes, hypertension, myocardial infarction, and cerebrovascular disease, as well as psychiatric disorders such as mood disorders, anxiety, PTSD, substance use disorder, and tobacco use, the HR for developing a sleep disorder was 1.41 (95% CI, 1.37-1.44).

The association with TBI was stronger for some sleep disorders. Adjusted HRs were 1.50 (95% CI, 1.45-1.55) for insomnia, 1.50 (95% CI, 1.39-1.61) for hypersomnia, 1.33 (95% CI, 1.16-1.52) for sleep-related movement disorders, and 1.28 (95% CI, 1.24-1.32) for sleep apnea.

It's unclear what causes postinjury sleep problems, but it could be that TBI induces structural brain damage, or it could affect melatonin secretion or wake-promoting neurons.

Damage to arousal-promoting neurons could help explain the reason the link between TBI and sleep disorders was strongest for insomnia and hypersomnia, although the exact mechanism is unclear, said Dr. Leng.

Greater risk with mild TBI

Overall, the association was stronger for mild TBI than for moderate to severe TBI. This, said Dr. Leng, might be because of differences in the brain injury mechanism.

Mild TBI often involves repetitive concussive or subconcussive injuries, such as sports injuries or blast injury among active-duty military personnel. This type of injury is more likely to cause diffuse axonal injury and inflammation, whereas moderate or severe TBI is often attributable to a direct blow with more focal but severe damage, explained Dr. Leng.

She noted that veterans with mild TBI were more likely to have a psychiatric condition, but because the study controlled for such conditions, this doesn't fully explain the stronger association between mild TBI and sleep disorders.

Further studies are needed to sort out the exact mechanisms, she said.

The association between TBI and risk for sleep disorders was reduced somewhat but was still moderate in an analysis that excluded patients who developed a sleep disorder within 2 years of a brain injury.

'Outstanding' research

Commenting for this news organization, Frank Conidi, MD, director, Florida Center for Headache and Sports Neurology; CEO, Brainsport; Team Neurologist, the Florida Panthers of the National Hockey League; and past president, Florida Society of Neurology, said the study is "by far" the largest to investigate the correlation between sleep disorders and head trauma.

The design and outcome measures "were well thought out," and the researchers "did an outstanding job in sorting through and analyzing the data," said Dr. Conidi.

The new results "solidify what those of us who see individuals with TBI have observed over the years: that there is a higher incidence of all types of sleep disorders" in individuals with a TBI, said Dr. Conidi.

However, he questioned the study's use of guidelines to classify the various types of head trauma. These guidelines, he said, "are based on loss of consciousness, which we have started to move away from when classifying TBI."

In addition, Dr. Conidi said he "would have loved to have seen" some correlation with neuroimaging studies, such as those used to assess subdural hematoma, epidural hematoma, subarachnoid hemorrhage, and diffuse axonal injury, but that this "could be an impetus for future studies."

The study was supported by the U.S. Army Medical Research and Material Command and the U.S. Department of Veterans Affairs. Dr. Leng and Dr. Conidi have disclosed no relevant financial relationships.

A version of this article first appeared on Medscape.com.

CARDIOTHORACIC SURGERY

Delay surgery by 7 weeks after COVID-19 diagnosis

BY DAMIAN MCNAMARA

Seven weeks appears to be the ideal amount of time to delay surgery, when possible, after someone tests positive for COVID-19, researchers in the United Kingdom report.

Risk for death was about 3.5 to 4 times higher in the first 6 weeks after surgery among more than 3,000 people with a preoperative COVID-19 diagnosis compared with patients without COVID-19. After 7 weeks, the 30-day mortality rate dropped to a baseline level.

The study was published online in Anaesthesia (2021. doi: 10.1111/anae.15458). Surgery should be further delayed for people who remain symptomatic at 7 weeks post diagnosis, lead author Dmitri Nepogodiev, MBChB, said in an interview.

"In this group we recommend waiting until COVID-19 symptoms resolve, if possible. However, our study did not capture specific data on long COVID … so we are unable to make specific recommendations for this group," said Dr. Nepogodiev, research fellow at the NIHR Global Health Research Unit on Global Surgery at the University of Birmingham (England).

"This should be an area for future research," he added.

The international, multicenter, prospective cohort study is notable for its sheer size – more than 15,000 investigators reported outcomes for 140,231 surgical patients from 1,674 hospitals across 116 countries. In total, 2.2% of these patients tested positive for SARS-CoV-2 prior to surgery.

Surgery of any type performed in October 2020 was assessed. A greater proportion of patients with a preoperative COVID-19 diagnosis had emergency surgery, 44%, compared with 30% of people who never had a COVID-19 diagnosis.

Death rates among surgical patients

Comparing the timing of surgery after COVID-19 diagnosis vs. 30-day mortality yielded the following results:

- 0-2 weeks – 9.1% mortality.
- 3-4 weeks – 6.9%.
- 5-6 weeks – 5.5%.
- 7 weeks or longer – 2.0%.

For comparison, the 30-day mortality rate for surgical patients without a preoperative COVID-19 diagnosis was 1.4%. A COVID-19 diagnosis more than 7 weeks before surgery did not make a significant difference on outcomes.

The 'why' remains unknown

The reasons for the association between a COVID-19 diagnosis and higher postoperative death rates remain unknown. However, Dr. Nepogodiev speculated that it could be related to "some degree of lung injury, even if patients are initially asymptomatic." Intubation and mechanical ventilation during surgery could exacerbate the existing lung injury, he said, thereby leading to more severe COVID-19.

In fact, Dr. Nepogodiev and colleagues found that postoperative pulmonary complications followed a pattern similar to the findings on death. They reported higher rates of pneumonia, acute respiratory distress syndrome, and unexpected reventilation in the first 6 weeks following a COVID-19 diagnosis. Again, at 7 weeks and beyond, the rates returned to be relatively the same as those for people who never had COVID-19.

"Waiting for 7 or more weeks may allow time for the initial COVID-19 injury to resolve," Dr. Nepogodiev said. As with nearly all studies of this nature, results must be interpreted on a case-by-case basis for individual patients. However, this study does add important information for patients and providers in helping them have an informed discussion on the timing of surgery," said Dr. Diaz, a fellow in the Center for Healthcare Outcomes and Policy and a resident in general surgery at the Ohio State University, Columbus.

Dr. Nepogodiev and colleagues included both urgent and elective surgeries in the study. Dr. Diaz said this was a potential limitation because emergency operations "should never be delayed, by definition." Lack of indications for the surgeries and information on cause of death were additional limitations.

Dr. Nepogodiev and Dr. Diaz disclosed no relevant financial relationships. The study had multiple funding sources, including the National Institute for Health Research Global Health Research Unit, and the Association of Upper Gastrointestinal Surgeons.

A version of this article first appeared on Medscape.com.

New light cast on type 2 MI aims to sharpen diagnosis, therapy

BY STEVE STILES

The hospital and postdischarge course of patients diagnosed with type 2 myocardial infarction, triggered when myocardial oxygen demand outstrips supply, differs in telling ways from those with the more common atherothrombotic type 1 MI, suggests a new registry analysis that aims to lift a cloud of confusion surrounding their management.

The observational study of more than 250,000 patients with either form of MI, said to be the largest of its kind, points to widespread unfamiliarity with distinctions between the two, and the diagnostic and therapeutic implications of misclassification. It suggests, in particular, that type 2 MI may be grossly underdiagnosed and undertreated.

The minority of patients with type 2 MI were more likely female and to have heart failure (HF), renal disease, valve disease, or atrial fibrillation, and less likely to have a lipid disorder, compared with those with type 1 MI. They were one-fifth as likely to be referred for coronary angiography and 20 times less likely to undergo revascularization.

Indeed, only about 2% of the type 2 cohort ultimately underwent percutaneous coronary intervention (PCI) or coronary artery bypass surgery (CABG). Yet the analysis suggests that cardiovascular risk climbs regardless of MI type and that in patients with type 2 MI, coronary revascularization might well cut the risk of death in half over the short term.

There were also disparities in clinical outcomes in the analysis, based on data from the final 3 months of 2017 in the Nationwide Readmissions Database, which reportedly documents almost 60% of hospitalizations in the United States.

For example, those with type 1 or type 2 MI – as characterized in the then-current third Universal Definition of Myocardial Infarction and today's UDMI-4 – were comparably at risk for both 30-day all-cause readmission and HF readmission. But type 2 patients were less likely to die in the hospital or be readmitted within 30 days for recurrent MI.

The new analysis largely confirms that patients with type 2 MI are typically burdened with multiple comorbidities but also suggests that type 2 often was incorrectly classified as type 1.

Revascularization uncertain

The study's 3-month observation period immediately followed the debut of a code specifically for type 2 MI in the ICD-10-CM system.

Type 2 accounted for about 15% of MIs during that period, the percentage climbing sharply from the first to the third month. That suggests clinicians were still getting used to the code during the early weeks, "undercoding" for type 2 MI at first but less so after some experience, Cian P. McCarthy, MB, BCh, BAO, Massachusetts General Hospital, Boston, said in an interview.

"I can imagine that, as people become more aware of the coding, using it more often, the proportion of type 2 MI relative to the total MI cases will probably be much higher," said McCarthy, lead author on the study published online Feb. 15, 2021, in the Journal of the American College of Cardiology.

What had been understood about type 2 MI came largely from single-center studies, he said. This "first national study of type-2 MI in the United States" sought to determine whether such findings are hospital specific or "representative of what people are doing nationally."

The new analysis largely confirms that patients with type 2 MI are typically burdened with multiple comorbidities, Dr. McCarthy said, but also suggests that type 2 often was, and likely still is, incorrectly classified as type 1. So, it was "surprising" that they were rarely referred for angiography. "Only 1 in 50 received revascularization."

Those diagnosed with type-2 MI were far less likely to receive coronary angiography (10.9% vs. 57.3%), PCI (1.7% vs. 38.5%), or CABG (0.4% vs. 7.8%) ($P < .001$ for all three differences), the report noted.

That, Dr. McCarthy said, "clearly shows that clinicians are uncertain about whether revascularization is beneficial" in type 2 MI.

Coding not in sync with UDMI

If there is confusion in practice about differentiating type 2 from type 1 MI, it likely has multiple sources, and one may be inconsistencies in how the UDMI and relevant ICD codes are applied in practice.

For example, the coding mandate is always to classify ST-segment elevation MI and non-STEMI as type 1, yet UDMI-4 itself states that a type 2 MI may be either STEMI or non-STEMI, noted Dr. McCarthy, as well as an editorial accompanying the report (J Am Coll Cardiol. 2021 Feb 23;77[7]:858-60).

"It also can be difficult at times to distinguish type 2 MI from the diagnosis of myocardial injury," both of which are partly defined by elevated cardiac troponin (cTn), adds the editorial, from Kristian Thygesen, MD, DSc, Aarhus (Denmark) University Hospital, and Allan S. Jaffe, MD, Mayo Clinic, Rochester, Minn.

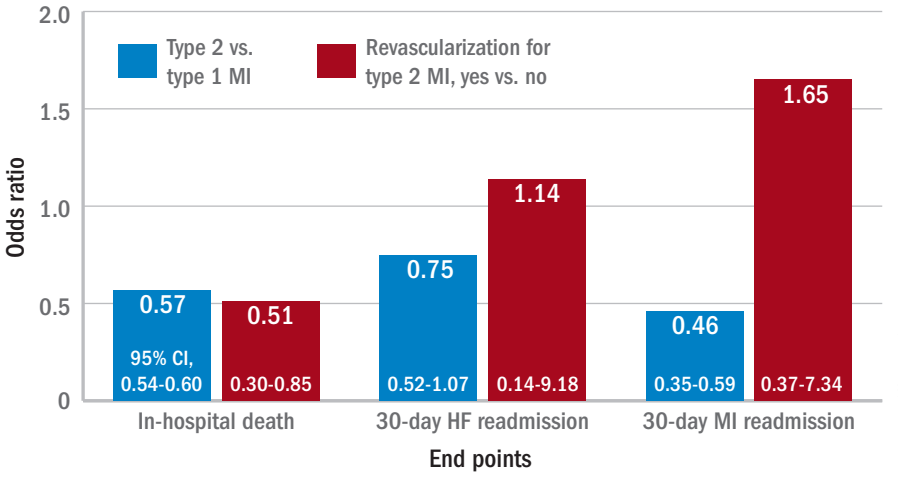
Crucially, but potentially sometimes overlooked, a diagnosis of infarction requires evidence of ischemia along with the biomarker elevation, whereas myocardial injury is defined by raised cTn without evidence of ischemia. Yet there is no ICD-10-CM code for "nonischemic myocardial injury," Dr. Thygesen and Dr. Jaffe observed.

"Instead, the new ICD-10-CM coding includes a proxy called 'non-MI troponin elevation due to an underlying cause,'" they wrote. "Unfortunately, although some have advocated using this code for myocardial injury, it is not specific for an elevated cTn value and could represent any abnormal laboratory measurements." The code could be "misleading" and thus worsen the potential for miscoding and "misattribution of MI diagnoses."

Dr. McCarthy has disclosed no relevant financial relationships. Dr. Thygesen disclosed no relevant financial relationships. Dr. Jaffe disclosed serving as a consultant for Abbott, Roche, Siemens, Beckman-Coulter, Radiometer, ET Healthcare, Sphingotec, Brava, Quidel, Amgen, Novartis, and Medscape for educational activities.

A version of this article first appeared on Medscape.com.

Study outcomes by MI type and revascularization status



Note: Based on data for 255,947 patients from the final 3 months of 2017 in the Nationwide Readmissions Database.

Source: Dr. McCarthy

MDEDGE NEWS

VIEW ON THE NEWS

Jonathan Ludmir, MD, comments: Type 2 MI is often misdiagnosed and can be challenging to manage. Each case of type 2 MI should be individualized and requires a thoughtful approach. This study highlights the importance of recognizing and appropriately managing type 2 MI. Critical care physicians need to be aware of the long-term outcomes of patients with type 2 MI, and make sure they have appropriate follow-up care, both during and after admission.

PULMONARY PERSPECTIVES®

2020 updates to the Asthma Management Guidelines

BY MUHAMMAD ADRISH, MD, FCCP; DHARANI K. NARENDRA, MBBS, FCCP; AMBER J. OBERLE, MD; AND SARANG PATIL, MD

National Asthma Education and Prevention Program (NAEPP) published its last Expert Panel Report in 2007. Since that time, substantial progress has been made in understanding the pathophysiology and treatment of asthma. A new report has provided a much-needed update in the evaluation and management of asthma. It focuses on several priority topics jointly decided upon by the National Heart, Lung, and Blood Institute (NHLBI) Advisory Council Asthma Expert Working Group, the National Asthma Education and Prevention Program (NAEPP) participant organizations, and the public in 2015. These topics include the role of fractional exhaled nitric oxide (FeNO), allergen mitigation, intermittent inhaled corticosteroids (ICS), long-acting muscarinic agents (LAMA), immunotherapy, and bronchial thermoplasty (BT) in asthma management. This document did not include the subsequent new developments in the role of biologics in asthma. The following is a summary of the recommendations made in the 2020 Focused Updates to the Asthma Management Guidelines.[1]


DR. ADRISH


DR. NARENDRA


DR. OBERLE


DR. PATIL

FeNO measurement is recommended to aid in asthma diagnosis and monitoring and to assist in ICS medication titration in individuals with asthma who are 5 years and older. The panel recommends that clinicians use FeNO levels, in conjunction with other relevant clinical data

ASTHMA GUIDELINES *Continued on following page*

LUNG CANCER

Shared decision-making in lung cancer screening needs work

BY RICHARD MARK KIRKNER
MDedge News

FROM THE JOURNAL CHEST ▪ Shared decision-making is an integral step in lung cancer screening with low-dose CT (LDCT) in high-risk patients, but a cross-sectional study at two academic medical centers in Texas has found wide variability in the quality of shared decision-making encounters and that nearly a third of patients reported being conflicted about their decisions to pursue screening.


DR. NISHI


DR. BEGNAUD

Lead author Shawn P.E. Nishi, MD, associate professor in the division of pulmonary critical care and sleep medicine, department of internal medicine, of the University of Texas Medical Branch, Galveston, noted two striking findings of the study, published in Chest (2021 Feb 5. doi: 10.1016/j.chest.2021.01.041): that physicians rarely used decision aids according to Centers for Medicare & Medicaid Services direction, and that a "considerable imbalance" exists in the way physicians present management choices to patients. "As physicians, we want to focus on the positive," she said, "but in shared decision-making (SDM) there needs to be a better balance between presentation and understanding of the risks and the benefits of lung cancer screening (LCS)."

Since 2015, CMS has reimbursed for LCS counseling and an shared decision-making visit before a patient has the screening.

The study analyzed self-reported survey results of 266 patients who had been through SDM at UTMB Galveston and MD Anderson Cancer Center in Houston in 2017. They completed patient surveys the following year. The study population was 87% White, 38% had a family history of lung cancer, and 39% were current smokers. The mean pack-year history was 40.4 years.

A high percentage – 86.6% – said they were satisfied with the level in which they were involved in their screening decision. Patients reported that their doctors talked to them about the benefits of LCS far more frequently than the potential harms, 68.3% to 20.8%. And 12.5% said they understood that an abnormal scan was likely to result in a negative finding. Only 30.7% said they'd received educational materials about LCS during the screening process.

A year after completing the SDM process, their knowledge of LCS was variable at best; on average, they answered 41.4% of the questions correctly, and almost one-third (31%) indicated that screening, rather than quitting smoking, was the best way reduce their lung cancer risk.

The study noted that, for patients who derive a small benefit from LCS, the absolute risk reduction is only 0.3%, which may not be enough to offset the potential harms of LDCT.

"The LCS exam itself is a simple noninvasive procedure; you get a scan and go about your day once it's read," Dr. Nishi said. "However there is a high false-positive rate, and the question really becomes that, as you start to work up those false positives and even true positives, however small, there is a risk associated with every procedure or evaluation thereafter. So the shared decision-making process is really there to ensure that patients value finding their lung cancer early if they do have it versus the potential harms down the line."

However, as this study points out, there aren't many parameters for what SDM entails. "It's more than just an information exchange back and forth," Dr. Nishi said. "It's about having good-quality communication between the provider and patients so that the right decision can ultimately be made for each patient. It takes a very dedicated person that can commit the time and expertise to it. I don't think that it should be taken lightly."

As Dr. Nishi and colleagues pointed out in their study, SDM incorporates three essential elements: recognizing and acknowledging that a decision has to be made, knowing and understanding the best available evidence, and incorporating the patient's own values and preferences in the decision.

CMS outlines specific components of SDM. It includes, beyond a discussion of the potential benefits and harms and use of a decision aid, education on the need for adherence to annual screening, and counseling on either stopping smoking or continued abstinence.

Abbie Begnaud, MD, FCCP, a pulmonologist at the University of Minnesota, Minneapolis, said this study confirmed what other studies found about shortcomings of SDM, with one difference. "We already knew we were not doing a great job at shared decision-making," she said. "To me, the difference in this study is that most of the patients were pretty satisfied with their degree of involvement."

She noted the low percentage of patients who understood that abnormal scans may be noncancerous. "This is one area that I think is an important place for us to improve," Dr. Begnaud said.

The findings about non-White patients and former smokers are also telling, Dr. Begnaud said. "This highlights that we need to pay close attention to these two groups – people who have traditionally, historically been marginalized in medical care – and provide them the support they need to make a decision."

Dr. Nishi and colleagues have no relevant disclosures. Dr. Begnaud has no relevant relationships to disclose.

chestphysiciannews@chestnet.org

ASTHMA GUIDELINES *Continued from previous page*

such as spirometry and asthma control questionnaires, for medical decision making. Similarly, when using FeNO to guide therapeutic changes in the ICS dose, the panel advises making changes based upon frequent measurements as a part of longitudinal assessment rather than one single measurement, as several factors can influence an FeNO measurement. Studies have demonstrated that a strategy that incorporates FeNO measurements into a treatment algorithm can reduce the risk of exacerbations; however, this has not been shown to reduce hospitalizations or quality of life.[2]

Allergen mitigation interventions, which can be used in individuals of all ages, are only recommended for those who have symptoms related to specific indoor aeroallergens exposure. This can be confirmed by skin testing or specific IgE in the appropriate clinical setting if specific allergen testing is not readily available. While most recommendations focus on using a multicomponent approach to allergen mitigation (ie, dust mite covers, HEPA filters, air purifiers, carpet removal, mold remediation, pest or pest removal, etc), pest removal was the only single-component approach that was deemed effective. Dust mite covers alone are unlikely to lead to significant improvement if not paired with additional mitigation strategies; however, note that there was low certainty about these recommendations. Ultimately, allergen mitigation should focus on addressing those identified triggers resulting in poor control of asthma. Simultaneously, the clinician should consider the resources and costs associated with some of these interventions.

The panel has recommended using ICS therapy for on-demand (prn) usage, even in those with mild persistent asthma, recognizing that earlier and more frequent on-demand ICS usage results in fewer exacerbations. While the recommendations slightly differ based upon the age group, in those >12 years with mild persistent asthma, recommendations are for either daily ICS + as-needed short-acting beta-agonist (SABA), or as-needed ICS and SABA use. As in the Global Initiative for Asthma (GINA) guidelines, the panel also recommends single maintenance and rescue therapy (SMART) using ICS-formoterol inhalers for moderate to severe asthma. SMART has also been shown to reduce the risk of exacerbation. The clinician needs to use ICS-LABA medications where formoterol is the LABA component due to its quick onset of action (within 5 minutes, hence allowing it to be used as a rescue). Shared decision-making must be utilized when considering cost, insurance formulary restrictions, and perhaps delayed insurer and pharmacy adoption of these guidelines, as patients are likely to use more than one canister in a month when utilizing SMART.[3,4]

LAMA is a pharmacologic class of long-acting inhaled bronchodilators. Guidelines addressed the role of LAMA in individuals aged 12 years and older. Three recommendations are made regarding the role of LAMA in this age group. In individuals with persistent, uncontrolled asthma while using ICS therapy, the guidelines recommend the addition of a LABA over LAMA therapy.[5] LAMA can be added to ICS in individuals with uncontrolled asthma who cannot use LABA or are already on ICS-LABA maintenance therapy.

For those patients with mild to moderate allergic asthma, as defined by allergic sensitization via skin testing or in-vitro elevated serum IgE levels, the expert panel conditionally recommends subcutaneous immunotherapy (SCIT) as an adjunct treatment to standard pharmacotherapy. It is recommended only in those patients whose asthma remains controlled throughout initiation, build-up, and maintenance phases. SCIT should not be used for patients with severe asthma, and all attempts should be made to optimize asthma with standard therapy first. The risks and benefits of SCIT should be discussed with the specialist before starting therapy. Sublingual immunotherapy (SLIT) is not recommended for the treatment of asthma.

Regarding BT, the Expert Panel conditionally recommends against BT in individuals age 18 years and older with persistent asthma because of the small benefit to risk ratio and uncertain outcomes. Because there is a risk of worsening asthma control or inducing an exacerbation, it is advised that BT not be performed in individuals with an FEV_1 <50%-60% or those with a history of life-threatening asthma. If BT is considered, it should be performed by an experienced specialist and should be done in conjunction with a clinical trial or registry to track its long-term safety and effectiveness.[6] All efforts should be made to optimize asthma therapy and address comorbidities before pursuing BT.

This Expert Panel report provides a robust systematic review of the evidence that addresses key questions in the management of asthma. However, not providing any recommendations regarding the use of biologics was a significant gap. Further guidance regarding their role can be found in the GINA guidelines, and by the European Respiratory Society and American Thoracic Society, both of which were also published in 2020.[7,8]

Dr. Adrish is Clinical Assistant Professor, Bronx Care Health System, New York; Dr. Patil is Assistant Professor, Department of Respiratory Sleep and Critical Care Medicine, Maharashtra University of Health Sciences (MUHS), India; Dr. Oberle is Assistant Professor of Medicine, Associate Medical Director, Duke Asthma, Allergy and Airway Center, Durham, NC.

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NETWORKS

Communicating serious news over video. Bringing protocols to the forefront. Sleep and burnout in health care workers. Lung cancer screening.

Palliative and end-of-life care

Communicating serious news over video

Critical care consultation using telemedicine is increasingly prevalent. Having serious conversations regarding end-of life care over video can be extremely challenging. Here are some suggestions and sample phrases to make palliative-focused conversations more successful


DR. BADKE

Prior to initiating the conversation, communicate with the bedside team. Ensure they want you to discuss palliative options and make an outline of discussion topics together. Identify and include all important decision-makers. Family may need to be connected over a digital meeting platform such as Zoom© or WEBex© and arrange for interpreter services if needed.

Prepare the virtual meeting place ahead of time. Test the connection, and make sure the audiovisual quality is clear. Have the camera centrally positioned, and ensure adequate lighting to easily see facial expressions. Remove distracting background furniture, and clear your space of confidential material. Have a quiet area planned to avoid interruptions (*J Gen Intern Med.* 2020 Oct 27:1-4. doi: 10.1007/s11606-020-06278-z. Online ahead of print).

Open the conversation with introductions, and explore perceptions with open-ended questions: "So I know where to begin, tell me about your understanding of what has been happening?" Get a sense of the patient's previous function, quality of life, and their values as an individual. Maintain good eye contact throughout. When ready to give an update, use simple language and avoid details: "Unfortunately, your condition is worse. You have not been responding to treatments as hoped. Your lungs are needing much more support, and I'm worried they are not going to get better."Anticipate emotions, and provide empathetic responses: "I wish we had better news. This must be overwhelming for you" (Back, et al. *Ann Int Med.* 2020;172[11]:759).

Finally, offer a recommendation. Most patients and families are interested in your advice and want guidance. Use the patient's previously stated values to support your recommendation.

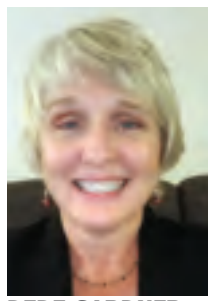
Andrew Badke, MD
Steering Committee Member

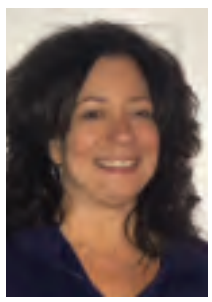
Respiratory care

COVID-19 pandemic bringing protocols to the forefront

COVID-19 has health care organizations threatened like never before. Staffing requirements, equipment necessities, and personnel training happen in a whirlwind. Information could change daily/hourly, and the need for protocols and guidelines became more evident each day.

While protocols have existed long before COVID-19, many institutions and organizations responded to the ever-changing pandemic by creating clinical practice guidelines (CPGs) to help not only their experienced staff members but also the nontraditional ICU caregivers thrust onto the front lines. Organizations worked on PPE protocols, respiratory care management, and ECMO guidelines to name a few (https://bit.ly/39fRuHF). Protocols with algorithms and CPGs have been shown to reduce patient harm and improve standardization and communication (Lavell J, et al. *Curr Treat Options Pediatr.*2015;1:347).


DEDE GARDNER


DONNA TANNER

A CPG is a general principle that guides the management of care, in which specific questions are posed, a literature review is completed, and the quality of the research evaluated. The questions are answered using the strength of the available research. CPG decision points are then based on the evidence or on the consensus of experts, resulting in a protocol that are descriptions of detailed behaviors to be followed in specific situations. These behaviors are provided in a list format or a flow diagram. Using a universal language for protocols with algorithms has aided many hospitals ensure effective care for patients and has even helped develop multidisciplinary relationships not present prior to the pandemic (O'Brian H, et al. *Ir J Med Sci*. 2020; (Sep 7):1-8. doi: 10.1007/s11845-020-02354-9. Online ahead of print; Griffin K, et al. *Am J Respir Crit Care Med*. 2020;201(11):1337).

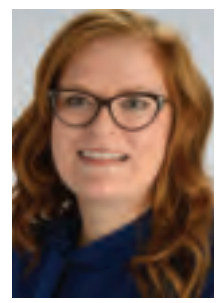
Access guidelines, statements, and key research related to the management of patients with COVID-19 and the delivery of critical care during the pandemic: https://www.chestnet.org/Guidelines-and-Resources/COVID-19/Guidelines-and-Statements.

DeDe Gardner, RRT, DrPh, FCCP
Donna Tanner, RRT-ACCS, MBA, FCCP
Steering Committee Members

Sleep medicine

Time to move the dial: Sleep and burnout in health care workers during the pandemic

Although the interaction between sleep, mood disorders, and burnout is well established, many of us are still sleep-deprived. A cross-sectional study of over 800 health care workers during the pandemic stay-at-home orders in March 2020 reported that those working in-person had shorter sleep times and worse mood, while those with longer sleep times had improved mood (Conroy DA, et al. *J Clin Sleep Med.* 2021;17[2]:185). Even prior to COVID-19, many trainees were facing issues with sleep deprivation and burnout (Sharp M, et al. *Chest.* 2021;159[2]:733).

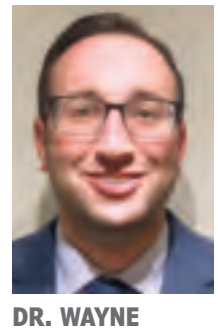

DR. STEWART

One year into the pandemic, we continue to face a unique set of hardships, exacerbating underlying sleep disorders such as insomnia, feelings of burnout, and mental health problems. An international team led by Dr. Joel Goh calculated the cost of burnout and its economic impact on the nation's health care system and estimated this at $4.6 billion per year (Han S, et al. *Ann Intern Med.* 2019;170[11]:784). National medical organizations, including the National Academy of Medicine and the American Medical Association, have also placed greater emphasis on clinician well-being and resilience. Practical frameworks for creating wellness during the pandemic exist; however, senior-level executive champions are critical for implementation (Adibe B, et al. *N Engl J Med Catalyst*. Jun 2020). While the long-term impact remains unknown, the current state of sleep and mental health problems and the cost of burnout should be a warning to health systems and institutions to implement remedial interventions now. ("Taking action against burnout: A systems approach to professional well-being," National Academies of Sciences, Engineering, and Medicine, October 2019).

Nancy H. Stewart, DO, MS,
Steering Committee Member

Thoracic oncology

Impact of COVID-19 on lung cancer screening


DR. WAYNE

Lung cancer is the leading cause of cancer-related death worldwide and COVID-19 is making this worse. Prior to the COVID-19 pandemic, despite evidence of improved mortality, the uptake of lung cancer screening (LCS) was quite low with only 4% of those eligible having undergone screening in 2015 (Jemal A, et al. *JAMA Oncol*. 2017;3[9]:1278).

As the COVID-19 pandemic unfolded, health

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CRITICAL CARE COMMENTARY

Reclaiming patient-centered care from the grip of COVID-19

BY SARA HEGAB, MD

Over a year has passed since the first case of COVID-19 was reported in the United States, with over 114 million cases now reported worldwide, and over 2.5 million deaths at the time of this writing (Dong E, et al. *Lancet Infect Dis.* doi: 10.1016/S1473-3099[20]30120-1). While our vaccination efforts here in the United States have provided a much-needed glimmer of hope, it has been bittersweet, as we recently surpassed the grim milestone of 500,000 COVID-19-related deaths.

The infectious nature of SARS-CoV-2, coupled with the lack of adequate PPE early in the pandemic, led to radical changes in most hospital visitor policies. Rather than welcoming families into the care setting as we have been accustomed, we were forced to restrict access. While well-intentioned, the impact of this on patients, their families – and as we later learned, ourselves – has been devastating. Patients found themselves alone in an unfamiliar environment, infected with a disease there was no effective treatment for, hearing dismal news regarding inpatient and ICU mortality rates on news networks, and families could not see for themselves how their loved ones were progressing in their hospital course.

The impact on patient-centered care

The impact of this pandemic on patients and health care providers alike cannot be overstated. Arguably, one of the greatest challenges created by COVID-19 has been its direct assault on the core values of patient-centered care that we have spent decades striving to promote and embody.

DR. HEGAB

Since its identification as a quality gap by the Institute of Medicine in 2001, the definition of patient-centered care has been tweaked over the past 20 years (Institute of Medicine (IOM). Crossing the Quality Chasm: A New Health System for the 21st Century. Washington, D.C: National Academy Press; 2001). Most frameworks include the active participation of patients and their families as part of the health care team, encouraging and facilitating the presence of family members in the care setting, and focusing on patients' physical comfort and emotional well-being as fundamental tenets of patient centeredness (NEJM Catalyst: What is Patient-Centered Care? Explore the definition, benefits, and examples of patient-centered care. How does patient-centered care translate to new delivery models? January 1,2017).

Families, the "F" in the ABCDEF Bundle, have been recognized as an integral part of care in the ICU setting (Ely EW. *Crit Care Med.* 2017;45[2]:321). While engagement of family members began with our recognition of their role in emotionally supporting patients and efforts to improve communication, we have also seen the impact of family participation on reducing ICU delirium through frequent re-orientation and encouragement of early mobility (McKenzie J, et al. *Australas J Ageing.* 2020;39:21). In fact, a recent study has suggested that family members could play an even more active role in detecting and assessing ICU delirium using objective assessment tools (Fiest K, et al. *Crit Care Med.* 2020;48[7]:954). Post-ICU PTSD has been well described in both ICU survivors as well as in their family members, with evidence that family participation in care of patients during their ICU stay leads to its reduction (Amass TH, et al. *Crit Care Med.* 2020[Feb];48[2]:176).

The emotional toll

Comforting patients and families in times of distress and suffering is something that comes naturally to many in critical care, and our training further improves our ability to do this effectively. No amount of training, however, could have prepared us for the degree and volume of suffering we bore witness to this past year and the resulting moral injury many are still dealing with. We were present for families' most intimate moments, holding phones and tablets up to patients so their families could say their goodbyes, listening to the "I love yous," "I'll miss yous," "I'm sorrys," and "Please don't gos." Nurses held patients' hands as they took their last breaths so they wouldn't die alone and worked to move husbands and wives into the same room so they could be together in their final moments. Entrenched in each of our identities is the role of healer, and we found ourselves questioning our effectiveness in rising to meet suffering on a scale we had never seen before. Little did we understand that while our paradigms were reinforcing the benefits of patient-centered care for patients and their families, that framework was also serving to facilitate our role as healers – that without it, we all suffer.

Rising to the challenge

These unprecedented circumstances led to creative efforts to bridge some of these barriers. Health systems created photo lanyards that providers wore over their PPE so patients could identify their health care team and connect with them on a more human level. Video conferencing technology was brought to the patient bedside using smartphones and tablets to assist them in communicating with their families. Doctors and nurses coordinated multiple calls throughout the day to ensure families felt included in the care plans and were always abreast of any new developments.

All these initiatives were our way of attempting to alleviate some of the suffering we were witnessing, and in some ways felt complicit in. It is in hindsight that we can look back and question if we could have done things differently. We treated family as visitors, when in fact, they are fundamental members of the care team who play an active and critical role in patient care. This was, in part, driven by national unpreparedness when it came to PPE supplies, in addition to misinformation and inconsistent messaging early in the pandemic with regards to the mechanism of transmission of dis-

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NETWORKS *Continued from previous page*

care resources were re-allocated to critically ill patients and areas, and nonurgent care was postponed. Therefore, LCS programs were halted (Mazzone PJ, et al. *Chest.* 2020;158[1]:406). This led to concerns that fewer patients would undergo screening and more patients would experience delays in cancer diagnosis.

DR. CARDENAS-GARCIA

Using population-based modeling, researchers in England estimated the COVID-19 pandemic will result in decreased lung cancer survival and a subsequent increase in avoidable cancer deaths (Maringe C, et al. *Lancet Oncol.* 2020;21[8]:1023). And in fact, investigators in Spain found fewer new lung cancer diagnoses during the COVID-19 pandemic compared with the same time-period pre-pandemic, and those that were diagnosed were later stage disease (Reyes R, et al. IASCL World Conference. 2020. A3700).

As we learn more about COVID-19 and communities become vaccinated, it becomes critical to both resume LCS programs and improve participation. While the pandemic has hampered efforts to screening patients, it has also facilitated the uptake of new technologies such as telemedicine. In March 2020, due to the COVID-19 pandemic, the Centers for Medicare and Medicaid Services relaxed the rules for telehealth, and now covers shared decisions making (SDM) virtual visits for LCS (Centers for Medicare & Medicaid Services, "Telehealth Services." ICN MLN901705, March 2020). This new tool, amongst others, could increase access to LCS, facilitate more widespread adoption of screening, and ultimately improve lung cancer outcomes.

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ease from various health organizations. While we did our best given the circumstances, we must not allow this experience to lead us away from the tenets we know to be essential to patient, family, and health care provider well-being.

All in health care met the call to action – nurses, physicians, advanced practice providers, respiratory therapists, nutritionists, pharmacists, physical therapists, patient transporters, environmental service workers, and all others who kept our hospitals and patient care facilities open through this pandemic and embarked on what amounted to a collective, global, ongoing "code-blue alert," resuscitating patient after patient, hotspot after hotspot, region after region, and country after country. We expanded hospital bed capacities, created ICU beds where there were none, developed novel process protocols, and learned in real time what seemed to help (or not) in treating this novel disease, all while participating in incredible international scientific collaboration and information sharing that has contributed in getting the collective "us" through this first year of the pandemic. We did what we were trained and called to do.

Preparing for the future

There will inevitably be another public health crisis, and we must advocate for better preparedness next time, insisting on overall stronger public health systems and pandemic preparedness. We must address our PPE stores and supply chains. We must have disaster preparedness plans that go beyond the scope of mass casualty events and bioterrorism. Beyond physical recovery, we must tend to the factors that impact patients' long-term recovery, with attention to emotional and psychological well-being. We must advocate for all of this now, while the memories are fresh and before the impact of this collective suffering begins to fade. It can never again be acceptable to exclude families from the health care setting. We must advocate for our patients and for the resources, systems, processes, and support that will allow us to do better.

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CHEST Foundation looks to the future with 25th anniversary

With the confidence that comes from 25 years of strong guidance and inspired leadership, the CHEST Foundation is ready to step into a new role as conversation starters, access granters, and change makers. The Foundation will spend this anniversary year celebrating the past and sharing the bold future ahead with our community.

Leaders of the past

Founded on the promise of delivering grants and branching into education and outreach, the Foundation's accomplishments are endless:

- Creating engaging tobacco cessation and educational programming.
- Launching the "Beyond Our Walls" campaign to support CHEST's Simulation Center.
- Partnering with the Popovich family to secure a substantial ILD endowment.
- Providing COVID-19 microgrants aimed at community outreach.
- Launching a Listening Tours campaign to address health disparities.
- Producing a complimentary oxygen toolkit for patients across the United States.

Trailblazers of the future

The CHEST Foundation is rising to a new level of philanthropic work by – creating premier patient education tools, aggressively tackling health disparities in marginalized communities, awarding millions in community grants, and partnering with physicians to offer better resources to patients.

While we remember the journey here, it's now time to blaze into the future. We hope you'll join us by learning more about our anniversary, attending our virtual events, and getting involved with the Foundation.

Visit chestfoundation.org/25th-anniversary to learn more.

Share Our Story on Social Media

Follow the hashtag #CHESTFoundation25 on Twitter, Instagram, and Facebook. We'll be asking questions every month and would love to hear from you!

Looking to Orlando for CHEST Annual Meeting 2021

Thinking about best option for attending CHEST 2021 – in-person or online? There are advantages to both.

For attendees who can't travel because of restrictions, you will have access to all the learning that will take place from Oct 17-20 at CHEST 2021. You can view the sessions through live streaming and access them on demand. CHEST is building an even better delivery platform based on the highly successful online conference last year. Compete in the Players Hub and take part in simulations. We watched last year as participants shared images on social media, showing how they joined the conference. If online is the best option for you, CHEST 2021 will deliver all the learning whenever you can attend.

Joining us in Orlando provides you the opportunity to network with your colleagues, discuss and learn informally, stop by the poster presentations, and visit with exhibitors to hear what's new to help you in your clinical practice.

Conference center and hotels

CHEST 2021 will be held at the Orange County Convention Center, which has 1.1 million square feet of meeting and exhibition space. This means ample room for social distancing and the ability to adhere to CDC safety protocols. We anticipate there will be changes in guidelines as vaccinations roll out across the country, but CHEST is planning based on procedures currently in place.

Courtesy Orange County Convention Center

And we are taking full advantage of all the square footage with wider pathways in the exhibit hall. The Orange County Convention Center is surrounded by hotels, four of them connecting directly to the convention center. Hilton Orlando will serve as the official conference hotel.

Visiting local attractions

You don't go to Orlando without having a few destinations in mind. If you are planning to visit Disney World, Universal Studio, or SeaWorld, reservations are required. Each park has implemented a reservation system requiring guests and pass members to secure a specific day for their visit in advance. All ticket holders – including single day visitors, multi-day ticket holders, group ticket holders, complimentary ticket holders, seasonal and annual pass members and Fun Card holders – are required to make a reservation at each park before they visit. This is to limit the total number of people in the parks at one time. Same-day reservations may be possible but should not be counted on if visiting the parks is high on your list of things to do.

When it comes to dining and shopping, International Drive – which encompasses the Orange County Convention Center – has a diverse selection of restaurants and entertainment options, ensuring something for everyone. Whether it's eating at the AAA Four Diamond restaurants at Rosen Shingle Creek or going casual and enjoying the authentically prepared and internationally inspired foods at the Wheelhouse in ICON Park, you'll find something that satisfies.

Looking for something different? Try an airboat ride across the wetlands of central Florida. See alligators, turtles, birds, and more in their natural environment. Trips include day tours and night adventures. Or take a guided cruise through three of the seven lakes and two narrow canals on the tranquil Winter Park chain.

And, if a few hours in the sunshine chasing a little white ball are to your liking, just down the road from the convention center is a newly redesigned championship golf course by Arnold Palmer Design Company, the Shingle Creek Golf Club. Bring your clubs or rent them at the course.

Grab your friends and colleagues for some fun and try out a few of these places. Maybe even invite the family to join you before or after the conference, and enjoy the getaway.

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