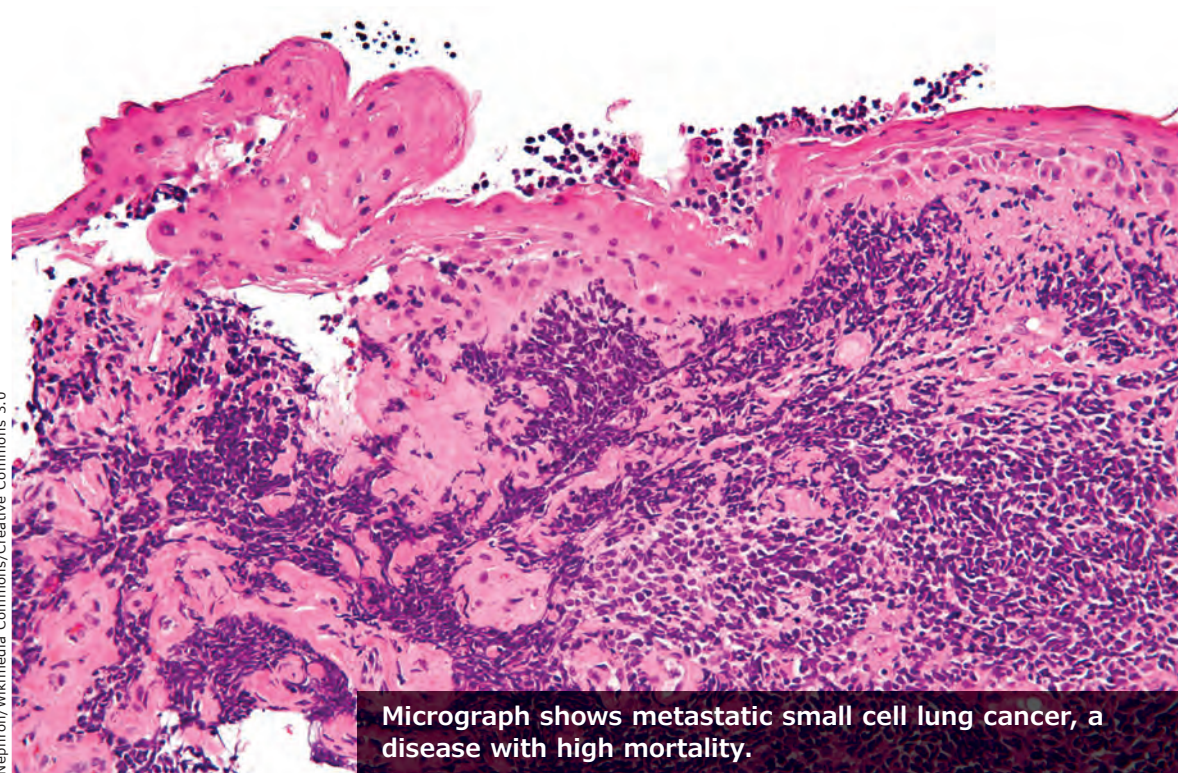




CHEST Physician®



Micrograph shows metastatic small cell lung cancer, a disease with high mortality.

Nephron/Wikimedia Commons/Creative Commons 3.0

Nasal swab test helps identify malignant lung nodules

BY ROXANNE NELSON, RN, BSN

A simple nasal swab may help in the diagnosis of lung cancer in smokers who have undergone CT screening and had lung nodules detected on the scan.

Only about 5% of the nearly 1.6 million lung nodules identified as incidental findings on low-dose CT screening tests will turn out to be malignant. The new test helps to distinguish between benign and malignant nodules, say researchers reporting a validation study.

The results show that the test identified those at low risk for cancer with a sensitivity of 96.3% and specificity of 41.7%, as well as identifying those as high risk, with a specificity of 90.4% and sensitivity of 58.2%.

The Percepta nasal swab is a first-of-its-kind genomic test, says the manufacturer Veracyte.

It is based on “field of injury” technology, which examines genomic changes in the lining of the respiratory tract for evidence of active cancer cells, coupled with a machine learning model that includes factors such as age, gender, and smoking history.

SWAB TEST // continued on page 6

Urine metabolites could predict end of life in lung cancer

BY LIAM DAVENPORT

Lung cancer patients could soon have their risk of dying over the following 3 months accurately predicted by analyzing their urine samples, which could allow them to better prepare for their end of life, say U.K. researchers.

Seamus Coyle, PhD, a consultant in palliative medicine at the Clatterbridge Cancer Centre, Liverpool, and colleagues studied urine samples from more than 100 lung cancer patients, deriving a model for end of life based on their metabolite profile.

This model allowed the patients to be divided into high- and low-risk groups for dying over

the following 3 months, with an accuracy of 88%.

The model “predicts dying ... for every single day for the last 3 months of life,” Dr. Coyle said.

“That’s an outstanding prediction,” Dr. Coyle added, “based on the fact that people actively die over 2 to 3 days on average,” while “some die over a day.”

He continued: “It’s the only test that predicts dying within the last 2 weeks of life, and that’s what I’m passionate about: the earlier recognition of dying.”

The research was presented at the 2021 American Society of Clinical Oncology Annual Meeting.

END OF LIFE // continued on page 4

INSIDE HIGHLIGHT



NEWS FROM CHEST COVID-19 Sleep Issues

Detailed guidance provided by the American Academy of Sleep Medicine

Page 21

CHEST 2021
ANNUAL MEETING | OCTOBER 17-20

We are in person again!
Join us in Orlando, FL, or online

LEARN MORE AT chestmeeting.chestnet.org

Images are for promotional purposes only. See website for CHEST 2021 safety guidelines.



POSTAGE PAID PERMIT 500 HARRISBURG, PA

CHANGE SERVICE REQUESTED

CHEST PHYSICIAN
10255 W Higgins Road,
Suite 280
Rosemont, IL 60018

'Promising and important pilot study'

Nathan Pennell, MD, PhD, an ASCO expert, told this news organization that "predicting the actual 'time' someone has left is more of an art than a science."

He added that, "For people who

may be closer to death, this would potentially allow more focus on supportive care and allow families and patients to plan more accurately for supporting their loved one through the dying process."

He continued that, "While this is a promising and important pilot

study, there is more work to be done before this could be used in practice."

"If someone has a high risk score for dying, could medical intervention to treat an infection or some other modifiable action change that 'fate'?"

For example, the treatment status of the patients was not clear.

"Were these patients all in hos-

This advertisement is
not available for the digital edition.

... or were some undergoing treatment which, if effective, could 'rescue' them from their poor prognostic state?"

Dr. Pennell continued: "Would measuring kidney function be just as good? Is this something that could be intervened upon?"

"For example, if someone has a high risk score for dying, could

medical intervention to treat an infection or some other modifiable action change that 'fate'?"

Death 'difficult' to predict

Dr. Coyle began by saying that, while for him recognizing that a patient is dying is the start of good end-of-life care, "recognizing dying accurately, when someone is in the

last days of life, is difficult."

He noted that the 2019 National Audit of Care at the End of Life found that people were recognized to be dying at median of 34 hours before death, with 20% recognized in the last 8 hours.

Moreover, by the time their condition was recognized, 50% of people who are dying "are unconscious and

unable to be involved in any conversation that [is] pertinent to them."

In an attempt to better predict the onset of dying, the researchers conducted a prospective, longitudinal study in which 424 urine samples were collected from 162 lung cancer patients from six centers.

Of those, 63 patients gave a sample within the last 28 days of life, and 29 within the last week of life.

Urine samples were analyzed using a liquid chromatography quadrupole time-of-flight mass spectrometer for 112 patients, who had a median age of 71 years and a range of 47-89 years, and 40.2% were female.

The most common diagnosis was non-small cell lung cancer, in 55.4%, while 19.6% had small cell lung cancer.

More than 50% of the patients who were designated in the highest-risk group died within 1 week of their urine sample being taken, and 100% had died within 3 weeks.

By performing Cox Lasso regression analysis on the "hundreds of metabolites" identified in the urine samples, the team were able to develop an End of Life Metabolome (ELM) profile that predicted an individual's risk of dying over the following 3 months, according to the researchers.

Kaplan-Meier analysis allowed the patients to be divided into five risk groups based on their ELM ($P < .001$ for trend), which showed that all patients in the lowest-risk group were still alive after more than 2 months following the urine sample.

In contrast, more than 50% of the patients who were designated in the highest-risk group died within 1 week of their urine sample being taken, and 100% had died within 3 weeks.

Calculating the area under the receiver operating characteristic curve revealed that the ELM was able to predict the risk of dying for every day for the last 3 months of life with an accuracy of 88%.

ELM is being validated in a new cohort of lung cancer patients and it is being assessed in multiple cancers.

The study was funded by the Wellcome Trust UK and North West Cancer Research UK. No relevant financial relationships were declared.

chestphysiciannews@chestnet.org

This advertisement is
not available for the digital edition.

 **CHEST**™ Physician
THE NEWSPAPER OF THE AMERICAN COLLEGE OF CHEST PHYSICIANS

Veracyte hopes to begin to make the test available to a select number of sites in the second half of 2021. “The test is intended to be performed in the physician’s office on patients referred with suspicious lung nodules found on CT scans,” said Giulia C. Kennedy, PhD, chief scientific officer and chief medical officer at Veracyte. “This could include patients with nodules found through screening programs, as well as incidentally.”

“It will be made available as a laboratory developed test in the U.S. through Veracyte’s centralized CLIA laboratory,” she said in an interview. “In global markets, we will offer the test as an IVD product that can be performed on the nCounter instrument by laboratories locally. Outside of the United States, the test will require a CE mark, which we are equipped to support.”

Results with the test were presented during the American Society of Clinical Oncology 2021 Annual Meeting, which was held virtually this year.

It was first tested in a training set, which consisted of more than 1,100 patients. All were current or former smokers who had a lung nodule detected on chest CT scanning and were followed for up to 1 year or until a final diagnosis of lung cancer or benign disease.

Brushings of the nasal epithelium were prospectively collected in patients with lung nodules from multiple cohorts.

A total of 502 genes were used in the classifier, and performance was evaluated in an independent clinical validation set consisting of 249 patients.

The test identified true benign patients as low risk with 41.7% specificity and 96.3% sensitivity, resulting in a negative predictive value of 97.1% in a population with a cancer prevalence of 25%. The risk of malignancy for patients in this low-risk group was less than 3%, and for this group, clinical guidelines recommend surveillance.

Patients with true malignancies were identified as high risk, with 58.2% sensitivity and 90.4% specificity, resulting in a positive predictive value of 67.0% in a population with 25% cancer prevalence.

The risk of malignancy for patients deemed to be high risk by the classifier was 67.0%, which exceeds the current guideline threshold for consideration of surgical resection or other ablative therapy if a staging evaluation confirms early-stage disease, the authors point out.

The remaining patients, who did not meet the stringent cut-offs for low or high risk, were identified as intermediate risk. In this population, the prevalence of malignancy for patients identified as intermediate risk was 20.7%, which is consistent with guidelines that provide a range for intermediate-risk patients as between 5% and 65% for whom diagnostic biopsy is recommended.

Help guide decisions, more data needed

Approached by this news organization for independent comment, Alexander Spira, MD, PhD, medical oncologist, Virginia Cancer Specialists, Fairfax, explained that the study provides an interesting way to look at a common finding and lung nodules and to predict whether further workup should be done.

“This could provide a role in reassurance that patients who fall into the low-risk category could be observed with serial imaging rather than proceeding to immediate biopsy,” he said. “It falls in under the ‘field of injury’ principle.”

Dr. Spira noted that although the low-risk group appears to have a negative predictive value of >90%, it doesn’t mean that the patient would require no further workup. “It would require CT surveillance rather than proceeding to immediate biopsy, and at this point it does appear promising, but I would want further follow-up in terms of outcomes,” he said.

“This does not apply to nonsmokers, which is of increasing prevalence, but with the increased use of CT screening for patients with a history of tobacco use, it may indeed have a role.” He also pointed out that while the idea is to avoid biopsies, the smaller lesions are the ones that are concerning.

“They are often tough to get at, and it would also depend on patient choice and anxiety as well, given the chance of being in that low percentage that the test misses,” said Dr. Spira. “Lastly, many pulmonologists are ordering PET scans in lieu of a biopsy, and this may also help.”

The bottom line is that this may help guide clinical decisions, but more data are needed. “Even in the low-risk category, 9.4% of patients had a malignancy, which is still a high miss rate,” he added.

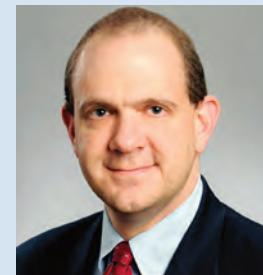
The study was funded by Veracyte. Dr. Kennedy is employed by Veracyte. Dr. Spira has reported no relevant financial relationships.

chestphysiciannews@chestnet.org

BOARD MEETING REPORT – JUNE 2021 // 20

CHEST PHYSICIAN IS ONLINE

CHEST Physician is available at chestphysician.org.



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

CHEST Physician®

THE NEWSPAPER OF THE AMERICAN COLLEGE OF CHEST PHYSICIANS

AMERICAN COLLEGE OF CHEST PHYSICIANS (CHEST)

EDITOR IN CHIEF

David A. Schulman, MD, MPH, FCCP

PRESIDENT

Steven Q. Simpson, MD, FCCP

EXECUTIVE VICE PRESIDENT & CEO

Robert Musacchio, PhD

PUBLISHER, CHEST

Nicki Augustyn, CAE

MANAGER, EDITORIAL RESOURCES

Pamela L. Goorsky

SECTION EDITORS

Corey Kershaw, MD, FCCP

Pulmonary Perspectives®

Angel Coz, MD, FCCP

Critical Care Commentary

Michelle Cao, DO, FCCP

Sleep Strategies

EDITORIAL ADVISORY BOARD

A. Christine Argento, MD, FCCP

Abbie Begnaud, MD, FCCP

David L. Bowton, MD, FCCP

Mary Cataletto, MD, FCCP

Carolyn D'Ambrosio, MD, FCCP

Mary Jo S. Farmer, MD, PhD, FCCP

Jacques-Pierre Fontaine, MD, FCCP

Sachin Gupta, MD, FCCP

Jonathan Ludmir, MD

Mangala Narasimhan, DO, FCCP

Michael E. Nelson, MD, FCCP

Daniel Ouellette, MD, FCCP

Brandon M. Seay, MD

Shyam Subramanian, MD, FCCP

E-mail: chestphysiciannews@chestnet.org

©Copyright 2021, by the American College of Chest Physicians

FRONTLINE
MEDICAL COMMUNICATIONS.

FRONTLINE MEDICAL COMMUNICATIONS SOCIETY PARTNERS

EXECUTIVE EDITOR Kathy Scarbeck, MA

INTERIM EDITOR Mark S. Lesney, PhD

CREATIVE DIRECTOR Louise A. Koenig

DIRECTOR, PRODUCTION/MANUFACTURING
Rebecca Slebodnik

DIRECTOR, BUSINESS DEVELOPMENT

Monique Michowski,
973-206-8015, cell 732-278-4549,
mmichowski@mdedge.com

RECRUITMENT SALES REPRESENTATIVE

Linda Wilson 973-290-8243,
lwilson@mdedge.com

SENIOR DIRECTOR OF RECRUITMENT SALES

Tim LaPella, 484-921-5001,
tlapella@mdedge.com

CHEST PHYSICIAN, the newspaper of the American College of Chest Physicians, provides cutting-edge reports from clinical meetings, FDA coverage, clinical trial results, expert commentary, and reporting on the business and politics of chest medicine. Each issue also provides material exclusive to CHEST members. Content for CHEST PHYSICIAN is provided by Frontline Medical Communications Inc. Content for News From Chest is provided by the American College of Chest Physicians.

The statements and opinions expressed in CHEST PHYSICIAN do not necessarily reflect those of the American College of Chest Physicians, or of its officers, regents, members, and employees, or those of the Publisher. The American College of Chest Physicians, its officers, regents, members, and employees, and Frontline Medical Communications Inc. do not assume responsibility for damages, loss, or claims of any kind arising from or related to the information contained in this publication, including any claims related to products, drugs, or services mentioned herein.

POSTMASTER: Send change of address (with old mailing label) to CHEST PHYSICIAN, Subscription Services, 10255 W Higgins Road, Suite 280, Rosemont, IL 60018-9914.

RECIPIENT: To change your address, contact Subscription Services at 1-800-430-5450. For paid subscriptions, single issue purchases, and missing issue claims, call Customer Service at 1-833-836-2705 or e-mail custsvc.chph@fulcoinc.com

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.

EDITORIAL OFFICES 2275 Research Blvd, Suite 400, Rockville, MD 20850, 240-221-2400, fax 240-221-2548

ADVERTISING OFFICES 7 Century Drive, Suite 302, Parsippany, NJ 07054-4609 973-206-3434, fax 973-206-9378

FRONTLINE MEDICAL COMMUNICATIONS

Corporate

VP, SALES Mike Guire

VP, MEMBER MARKETING & DIGITAL

PRODUCTION Amy Pfeiffer

PRESIDENT, CUSTOM SOLUTIONS JoAnn Wahl

CIRCULATION DIRECTOR Jared Sonners

DIRECTOR, CUSTOM PROGRAMS Patrick Finnegan

VICE PRESIDENT, PROPRIETARY CONFERENCES, MEDSCAPE LIVE David J. Small, MBA

Conflicting medical opinions: black lungs, big coal, and bias

BY DONAVYN COFFEY

In 2008, the U.S. Department of Labor paid for Tony Adams, a 48-year-old coal miner, to have a chest x-ray. His doctor found stage I black lung disease. Yet Mr. Adams' claim for medical benefits was denied. This was because the insurance group that represented his employer hired a different – more credentialed – doctor as its medical expert. That doctor said he saw no such evidence. The judge ruled in favor of the mining company on the basis of the latter's "expertise."

Before he died 5 years later, at age 53, Mr. Adams went through this process again. In fact, he did it four more times. Each time, his doctor found evidence of black lung, but the company's medical expert did not. He died without receiving benefits. Among the causes of death listed on his autopsy were cardiovascular arrest and coal worker's pneumoconiosis (CWP): black lung.

Since his death in 2013, two judges have awarded Mr. Adams' benefits to his widow, Linda. Both times, the mining company appealed the decision, most recently in December 2020. She's not giving up. "Two weeks before he died, he told me, 'I'm going to die of black lung,'" Linda recalled. "But I don't want you to give up on black lung. There are too many people screwing these miners out of what they deserve."

There has long been suspicion among miners and their advocates that doctors used by coal companies to fight claims like Mr. Adams's are in the pocket of "Big Coal." At the very least, some say these physicians are swayed by their client's preference when reading a coal miner's chest x-ray. A recent study published in *Annals of the American Thoracic Society* provides empirical evidence that these doctors' conflicts of interest – namely, that parties representing coal companies hired them – appears to influence their medical opinion (doi: 10.1513/AnnalsATS.202010-1350OC).

Proof of a 'broken system'

The *Annals* study examined 63,780 radiograph classifications made by 264 physicians – all certified as B-readers, a certification by the National Institute for Occupational Safety and Health for physicians who demonstrate proficiency in classifying radiographs of pneumoconiosis. The results showed that doctors hired by miners identified

black lung 49% of the time; those hired by coal companies identified black lung only 15% of the time.

The study also found that B-readers contracted by employers read results differently for different clients.

The same doctors

were significantly less likely to say a miner's lungs were negative for CWP when they were hired by the DOL (77.2%) than when they were hired by a coal company or its insurers (90.2%).

The bias does appear to work both ways: B-readers hired by miners and miners' attorneys were more likely to find evidence of black lung when they worked with plaintiffs. However, a much higher number of doctors appeared to be biased in favor of the companies. "There were 3X more B-readers providing 8X more classifications among those affiliated with employers compared to those affiliated with miners," the study concluded.

The authors suggest that one reason for this was the difference in pay. Some company-hired doctors made as much as \$750 per reading, about 10 times what miner-hired doctors were paid.

"We knew [about the potential bias] from our work over the decades taking care of these guys," said Robert A. Cohen, MD, a pulmonologist and the study's senior author. "But then you see it with *P* values that are incredibly statistically significant ..."

The study finally put numbers to a problem that many working with black lung claims had always assumed. Those within the system

Doctors hired by miners identified black lung 49% of the time; those hired by coal companies identified black lung only 15% of the time.

Continued on following page



CHEST 2021

ANNUAL MEETING | OCTOBER 17-20

We are in person again!

Join us in Orlando, FL, from October 17-20.

At CHEST 2021, you'll have access to high-value, instructive experiences, including:

- Expert faculty presentations
- Simulated learning
- Educational games
- Team-focused education

We're adhering to strict health policies to bring our community back together safely.

Can't come to Orlando?

CHEST 2021 will be presented as a livestreamed event, delivering the CHEST-branded education you know to expect.

**IN-PERSON.
LIVESTREAMED.
ON DEMAND.**

LEARN MORE AT
chestmeeting.chestnet.org

Images are for promotional purposes only. See website for CHEST 2021 safety guidelines.

are accustomed to seeing names of the same doctors on documents and reports, with little to no overlap between those hired by the defense and the plaintiffs.

“The vast majority of the time, we know what a report will say based on the doctor’s name,” said Evan Smith, JD, advocacy director at AppalReD Legal Aid, in Prestonsburg, Ky. It is far more surprising, he said, when a defense-hired doctor agrees with a miner-hired doctor.

Over the years, Katherine DePonte, MD, a radiologist and B-reader in West Virginia, has often seen an “almost textbook appearance” of CWP, only to later learn that “another radiologist read it as negative.” She explained, “They would use some other term, like ‘old granulomatous disease.’”

Employer-hired doctors often do acknowledge the same lung damage on the radiograph as miner-hired docs; they simply don’t attribute it to coal dust. Common “alternative diagnoses” include chronic obstructive pulmonary disease or histoplasmosis. “I know a number don’t believe this disease of coal worker pneumoconiosis exists [at all],” Dr. DePonte said.

What’s inarguable is that, even as coal mining in Appalachia is on the decline, black lung disease is on the rise. NIOSH now estimates that it affects over 20% of long-term (25+ years) coal workers in central Appalachia. That’s the highest prevalence in a quarter of a century.

Mr. Smith said that at its most basic level, these doctors’ conflicts of interest “lead to people who have the disease that these benefits are for, having them denied.” People like Tony Adams. Whether the doctors involved are complicit or just conservative, critics say they have become a fixture of a broken system.

Financial bias or difference of opinion?

Broken system or not, evidence suggests that the problem can’t be blamed solely on medical experts. Dr. DePonte primarily reads for the DOL and miners. “Not that I necessarily chose that,” she said. “You get pigeonholed.”

Some say that the bias demonstrated by the Annals study is at least partially driven by the litigation process itself. It is an adversarial system. As such, attorneys on both sides are naturally inclined to seek out doctors who will best support their clients’ cases. Doctors with a legitimately conservative perspective on what constitutes black lung are more sought after by the

coal companies’ attorneys.

“It can often be impossible to tell whether the money is driving a change in the behavior or if the behavior is causing them to be sought out,” said Matt McCoy, PhD, a medical ethicist who specializes in conflicts of interest at the University of Pennsylvania, Philadelphia.

Although some believe that certain doctors are driven purely by fi-



This human lung is shriveled and hardened from black lung disease, often associated with mining.

ancial incentive and offer a specific reading to secure repeat business, B-readers can end up working exclusively for companies because of other reasons. Wes Addington, JD, an attorney at the Appalachian Citizens’ Law Center, Whitesburg, Ky., said some doctors appear to have an authentically different – often antiquated – view of the disease.

Perhaps the most extreme example is Paul Wheeler, MD, a highly credentialed Johns Hopkins radiologist who was exposed for false medical testimony in Chris Hamby’s 2013 Pulitzer Prize reporting. In 1,500 readings, Dr. Wheeler never diagnosed a single case of severe black lung. And yet, Dr. Cohen, Mr. Addington, Mr. Smith, and other experts all agree that Dr. Wheeler appeared to wholeheartedly believe that his view of black lung was accurate. That made him a valuable asset to mining companies.

Since Dr. Wheeler’s exposure, there has been a greater sense of accountability among B-readers, said John Cline, JD, a West Virginia-based attorney who represents miners with federal black lung claims. “Radiologists were thinking, ‘Somebody could be watching me.’ Even if they thought they were doing this in the shadows, it made people more cautious,” he said.

The data used in the Annals study

predate Mr. Hamby’s investigation, going back to 2000. Thus, it is possible that, as Mr. Cline argues, things may be different now. However, Lee S. Friedman, PhD, associate professor at the University of Illinois at Chicago, who is the lead author of the study, remains skeptical.

“While the Wheeler case might have dampened some physicians [who were] completely skewing

than they actually do.

Because the dataset used in the study is from the Federal Black Lung Program (FBLP), it includes only readings that made it to court. Dr. Adcock said he reads approximately 2,000 radiographs a year, although only a few of his readings appeared in the study’s dataset, according to a search by Dr. Friedman. This difference is likely because the study evaluated only readings between 2000 and 2013, the year Dr. Adcock started B-reading.

“I think it’s important to get a message that, to a certain extent, contravenes this paper. Yes, we should have some reservations about the conclusions,” Dr. Adcock explained. “There are people out there attempting to do the best job they could do.”

Law firms shopping for the reading they want and censoring the ones they don’t might alter the FBLP data, but experts say that doesn’t change the underlying problem. “In any case like this, where you’re looking at individuals going up against corporations,” Dr. McCoy said, “[corporations] are able to marshal their resources and hire more officials in a way claimants can’t, and that’s a baseline concern here.”

Battling bias

Admitting bias is notoriously difficult; thus, it isn’t surprising that many doctors involved refuse to believe they are influenced by money, incentives, or other biases. Dr. DePonte said she’s not swayed by money, nor does she actively take a pro-miner stance. She views herself as more of an advocate for accuracy. However, she did say that it has traditionally been far more difficult for miners to prove their cases, a problem that has improved with new regulations in recent years.

In Colorado, Dr. Adcock’s approach is to stay as far removed from the litigation process as possible. He said he has limited understanding of how his reports are used or how claims are filed and awarded. He leans heavily on his initial – almost instantaneous – impression of a chest x-ray.

Dr. DePonte and Dr. Adcock were both hired as experts on Tony Adams’ case. In 2008, Dr. DePonte read his chest x-ray as positive for early-stage black lung (1/0). Dr. Adcock also read two of Adams’ four chest x-rays, one in 2009 and the other in 2013. He read them as negative. When asked about the case, which autopsy confirmed as black lung, Dr. Adcock explained that positive histopathology doesn’t mean the radiograph reading was wrong, only

NATIONAL ARCHIVES/WIKIMEDIA COMMONS/PUBLIC DOMAIN

that the disease didn't show on that radiograph. He said his "highest ambition" is to be "an objective finder of fact" and that he trusts the process to work out the truth.

That process didn't work in time for Tony Adams. Dr. Friedman argues that people who provide expert testimony have an ethical responsibility to know how their testimony is being used; to do otherwise, he says, is "willful ignorance." Still, the Annals study authors, along with Dr. DePonte, Mr. Cline, and West Virginia attorney Sam Petsonk, say that the process is getting fairer, thanks to new policies developed over the past 5 years by the DOL.

"The DOL has worked very hard to reconcile the final award rate (around 30%) with the incidence of disease in the population (between 20% and 25%)," Mr. Petsonk said. Although the study calls into question the integrity of the system and the doctors within it, it's critical for miners to know that the system is working and that they can get benefits, he explained. Many fear that cynicism about the system drives miners away and causes them to resort to Social Security or long-term disability.

Fixing what's broken

The Annals study's authors propose some solutions to the problems they quantified. The first is a sort of "super panel" that collectively evaluates readings. Although a completely unbiased panel would be nice, such impartiality is likely unsustainable, Mr. Smith said. He believes that over time the panel would become vulnerable to politics and would work in favor of the companies.

Even without a panel, a method to provide greater transparency could be a great start, some suggest. The DOL could make the entire FBLP database public and analyze it annually. The authors also propose a flat fee for readings. Even now, Dr. Adcock said he doesn't make anywhere close to the upper limit of \$750 per readings. "My understanding is around \$125 is a pretty characteristic fee [for reading a chest x-ray]," he elaborated. "Everyone I've had a conversation with is within 25 bucks [of that]."

That said, Dr. Adcock is not currently listed among the heavy readers who appear in the data used for the study; it's possible that his experience is not representative. Some readers who were included in that dataset read more than 10 times the average number of classifications per reader – the average was 242 classifications – and read 95% of

chest x-rays as negative, according to Dr. Friedman. This news organization obtained the names of two doctors whose readings were 95% negative on a high volume of cases. Neither agreed to an interview.

It's possible that, if the dataset had included readings from more recent years, Dr. Adcock would have appeared more frequently,

given his personal estimates. That's why the study authors recommend that the DOL conduct this kind of analysis annually in order to get an accurate picture of who is contributing to these cases, in what way, and how often.

By doing so, readers who appear biased could be identified and addressed with more regularity,

according to Dr. Friedman.

Even if the rate were more consistent and the data were more frequently analyzed, the very nature of the adversarial system will put any potential solution at risk. "I'm not sure there's a foolproof system that can be devised that can't be corrupted in time," Mr. Cline said.

chestphysiciannews@chestnet.org

This advertisement is
not available for the digital edition.

 **CHEST**[™] Physician
THE NEWSPAPER OF THE AMERICAN COLLEGE OF CHEST PHYSICIANS



The NetWorks Challenge is BACK!

Go head-to-head with other CHEST NetWork participants in a **virtual 25k race** in celebration of the **CHEST Foundation's 25th anniversary**. All proceeds this year will support community service initiatives to address health disparities across the United States as well as provide travel grants to CHEST Annual Meeting 2021.

Visit chestfoundation.org/NWC21 for more information and **don't get left in the dust!**



PRACTICE MANAGEMENT

OSHA: COVID-19 safety rules for health workers

BY SHEILA MULROONEY
ELDRED

The U.S. Occupational Safety and Health Administration issued its long-awaited Emergency Temporary Standard (ETS) for COVID-19 on June 10, surprising many by including only health care workers in the new workplace safety rules.

“The ETS is an overdue step toward protecting health care workers, especially those working in long-term care facilities and home health care who are at greatly increased risk of infection,” said George Washington University, Washington, professor and former Obama administration Assistant Secretary of Labor David Michaels, PhD, MPH. “OSHA’s failure to issue a COVID-specific standard in other high-risk industries, like meat and poultry processing, corrections, homeless shelters, and retail establishments is disappointing. If exposure is not controlled in these workplaces, they will continue to be important drivers of infections.”

With the new regulations in place, about 10.3 million health care workers at hospitals, nursing homes, and assisted living facilities, as well as emergency responders and home health care workers, should be guaranteed protection standards that replace former guidance.

The new protections include supplying personal protective equipment and ensuring proper usage (for example, mandatory seal checks on respirators); screening everyone who enters the facility for COVID-19; ensuring proper ventilation; and establishing physical distancing requirements (6 feet) for unvaccinated workers. It also requires employers to give workers time off for vaccination. An antiretaliation clause could shield workers who complain about unsafe conditions.

“The science tells us that health care workers, particularly those who come into regular contact with the virus, are most at risk at this point in the pandemic,” Labor Secretary Marty Walsh said on a press call. “So following an extensive review of the science and data, OSHA determined that a health care-specific safety requirement will make the biggest impact.”

But questions remain, said James Brudney, JD, a professor at Fordham Law School in New York and former chief counsel of the U.S. Senate Sub-

committee on Labor. The standard doesn’t amplify or address existing rules regarding a right to refuse unsafe work, for example, so employees may still feel they are risking their jobs to complain, despite the antiretaliation clause.

And although vaccinated employees don’t have to adhere to the same distancing and masking standards in many instances, the standard doesn’t spell out how employers should determine their workers’ vaccination status – instead leaving that determination to employers through their own policies and procedures. (California’s state OSHA office rules specify the mechanism for documentation of vaccination.)

The Trump administration did not issue an ETS, saying OSHA’s general duty clause sufficed. President Biden took the opposite approach, calling for an investigation into an ETS on his first day in office. But the process took months longer than promised.

“I know it’s been a long time coming,” Mr. Walsh acknowledged. “Our health care workers from the very beginning have been put at risk.”

While health care unions had asked for mandated safety standards sooner, National Nurses United, the country’s largest labor union for registered nurses, still welcomed the rules.

“An ETS is a major step toward requiring accountability for hospitals who consistently put their budget goals and profits over our health and safety,” Zenei Triunfo-Cortez, RN, one of NNU’s three presidents, said in a statement June 9 anticipating the publication of the rules.

The rules do not apply to retail pharmacies, ambulatory care settings that screen nonemployees for COVID-19, or certain other settings in which all employees are vaccinated and people with suspected or confirmed COVID-19 cannot enter.

The agency said it will work with states that have already issued local regulations, including two states that issued temporary standards of their own, Virginia and California.

Employers will have 2 weeks to comply with most of the regulations after they’re published in the Federal Register. The standards will expire in 6 months but could then become permanent, as Virginia’s did in January.

chestphysiciannews@chestnet.org

Obstructive sleep apnea linked to COVID-19 risk

BY JIM KLING

Greater severity of obstructive sleep apnea (OSA) is associated with a higher risk of contracting COVID-19, and positive airway pressure (PAP) treatment may counter that risk, according to a retrospective analysis from the records of Kaiser Permanente Southern California.

OSA patients often worry that PAP therapy might increase risk of severe COVID-19, said Dennis Hwang, MD, who presented the study at the American Thoracic Society's virtual international conference (Abstract A1108).

But the findings should be reassuring. "If you have obstructive sleep apnea, and you're supposed to be using PAP, we recommend that you continue using PAP. It's good for your overall wellness and reducing the risk of cardiovascular disease, but as it relates to COVID-19, it's possible that it could protect. And there doesn't appear to be any risk of increased severity of illness (with use of PAP)," Dr. Hwang said in an interview. He is medical director of sleep medicine for Kaiser Permanente San Bernardino County and cochair of sleep medicine for Kaiser Southern California.

He noted that the retrospective nature of the study makes it difficult to pin down whether PAP therapy is truly protective, "but I think there's enough that we've been able conceptually to understand, to suggest that a direct causative relationship is possible," said Dr. Hwang.

The results may imply that OSA patients should pay special attention

to their OSA when there's concern about exposure to an infectious agent like SARS-CoV-2. "The intermittent hypoxia at night, which can linger over to the day as increased sympathetic activity, increased heart rate. All of these are stresses to the body. So if you're going to get infected, you want to start at a healthier



Dr. Hwang

level. You want to eliminate your sleep apnea to help reduce your risk of morbidity," said Esra Tasali, MD, who was asked to comment on the study. Dr. Tasali is associate professor of medicine at the University of Chicago, and director of the Sleep Research Center there.

During the Q&A session after the talk, audience members asked about the timing of PAP use during COVID-19 infection, for example how often it was used during the asymptomatic phase of infection and if PAP has a positive effect. The data were not available, but "I think that the way to go is to understand this chronology," said Dr. Tasali.

The researchers examined records between 2015 and 2020, using sleep study data, remotely collected daily PAP data, and electronic health records, all from Kaiser Permanente Southern California. Included subjects were adults who had enrolled before Feb. 1, 2020, and had sleep diagnostic or PAP data on record by March 1, 2020. The researchers analyzed PAP adherence between March 1, 2020, and the time of COVID-19 diagnosis, or until the study ended on July 31, 2020.

Patients were defined as being untreated (< 2 hours/night PAP), moderately treated (2-3.9 hours/night), or

well treated (4 or more hours/night). Apnea hypopnea index (AHI) was used to determine severity. The analysis included 81,932 patients (39.8% were women, mean age was 54.0 years, 9.9% were Black, and 34.5% were Hispanic). A total of 1.7% of subjects without OSA experienced COVID-19 infection, compared to 1.8% with OSA; 0.3% with OSA were hospitalized and 0.07% underwent intensive care or died.

There were some differences between the two groups. The non-U.S. population was younger (mean age 47.0 vs. 54.5 years), was less likely to be men (44% vs. 60.3%), had a lower mean body mass index (30.4 vs. 34.3), had fewer comorbidities according to the Charleston Comorbidity Index (1.3 vs. 2.0), and were less likely to have hypertension (5.6% vs. 12.4%; $P < .0001$ for all).

Infection rates were higher in patients with more severe OSA. The rates in untreated mild, moderate, and severe OSA were 2%, 2%, and 2.4%, respectively. The rate among all treated patients was 1.4% ($P < .0001$). Infection rates also dropped with better treatment: untreated, 2.1%; moderately treated, 1.7%; and well treated, 1.3% ($P < .0001$).

Not having OSA was associated with a lower infection risk than was having OSA (odds ratio [OR], 0.82; 95% confidence interval, 0.70-0.96). Compared to untreated patients, there was lower infection risk in the moderately treated (OR, 0.82; 95% CI, 0.65-1.03) and well treated (OR, 0.68; 95% CI, 0.59-0.79) groups. Higher infection rates were associated with obesity, higher Charlson Comorbidity score (> 2; OR, 1.29; 95% CI, 1.09-1.53), Black (OR, 1.51; 95% CI, 1.24-1.84) and Hispanic

(OR, 2.23; 95% CI, 1.96-2.54) ethnicities, and Medicaid enrollment. Increasing age was associated with lower risk of infection, with each 5-year increment linked to reduced risk (OR, 0.88; 95% CI, 0.86-0.90). Dr. Hwang suggested that the age association may be because older individuals were more likely to follow social distancing and other precautions.

A multivariate analysis found that OSA was associated with infection risk according to OSA severity, including mild (OR, 1.21; 95% CI, 1.01-1.44), and moderate to severe (OR, 1.27; 95% CI, 1.07-1.51). There was no association between hospitalization rate or ICU admission/death and presence of OSA or PAP adherence in the data presented, but Dr. Hwang said that an updated analysis suggests that OSA may be associated with a risk of greater COVID-19 severity.

The control group was composed of individuals who had undergone sleep testing, but found to not have OSA. Still, they aren't necessarily representative of the general population, since symptoms likely drove them to testing. A high percentage were also obese, and the average BMI was 30. "It's certainly not a 'normal population,' but the advantage of what we did in terms of using this control group is that they underwent sleep testing, so they were proven to have no obstructive sleep apnea, whereas if we used a general population, we just don't know," said Dr. Hwang.

The study received technical and data support from Somnoware, and was funded by Kaiser Permanente. Dr. Tasali has no relevant financial disclosures.

chestphysiciannews@chestnet.org

OSA: Heart rate change may signal CPAP benefit

BY JIM KLING

Some nonsleepy patients with coronary artery disease and obstructive sleep apnea (OSA) may receive cardiovascular benefit from continuous positive airway pressure (CPAP) therapy, according to a post hoc analysis of the RICCADSA clinical trial. That study found no benefit among patients overall, but the new analysis found that patients whose heart rate increases (delta heart rate, or dHR) more than average during apnea or hypopnea experienced fewer cardiovascular or cerebrovascular events during apnea or hypopnea when treated with CPAP.

Although RICCADSA showed no benefit, an analysis of the Multi-Ethnic Study of Atherosclerosis

(MESA) and the Sleep Heart Health Study (SHHS) cohorts found that elevated pulse rate response to respiratory events was associated with greater risk of cardiovascular disease (CVD) morbidity and mortality. But the effect was seen only in nonsleepy patients. "We hypothesized that pulse rate response to apneas would predict which patients with OSA may most benefit from CPAP treatment. Now, our study suggests that there is, in fact, a subgroup of nonsleepy patients with OSA for whom CPAP could provide a reduction in risk, specifically those with a higher pulse rate response to their respiratory events," Ali Azarbarzin, PhD, said in an interview.

Dr. Azarbarzin presented the study at the American Thoracic Society's virtual international

conference (Abstract A1103). He is in the division of sleep and circadian disorders at Brigham and Women's Hospital, and is assistant professor of medicine at Harvard Medical School, both in Boston.

The study is in line with recent efforts to subgroup OSA patients to determine which are at higher risk of cardiovascular events and other complications, and which are most likely to respond to treatment, according to Esra Tasali, MD, of the University of Chicago, who moderated the session where the study was presented. "The field is really urgently in need of coming up with new methods, and I think this study is getting a handle on that," said Dr. Tasali in an interview.

Continued on page 16

Avoiding excess O₂ in mechanically ventilated patients

BY DOUG BRUNK

The respiratory therapists at Mount Sinai Beth Israel, New York, know when Lina Miyakawa, MD, starts a week in the ICU, because she turns down the fraction of inspired oxygen (FiO₂) levels if patients tolerate it.

“Hyperoxia in mechanical ventilation is a topic that’s near and dear to my heart,” Dr. Miyakawa, a pulmonary and critical care medicine specialist at Mount Sinai Beth Israel, said during SHM Converge, the annual conference of the Society of Hospital Medicine. “You can always find ‘wean down FiO₂’ in my consult notes.”

While it is believed that humans have built up evolutionary defenses against hypoxia but not against hyperoxia, medical literature on the topic of hyperoxia with supplemental oxygen is fairly young. “In medical school we were taught to give oxygen for anybody with chest pain and concern about acute coronary syndrome,” she said. “This was until recent data suggested harm from liberal oxygen use.”

A single-center trial of 434 critical care patients with an ICU length of stay of 72 hours or longer, examined the effects of a conservative protocol for oxygen therapy versus conventional therapy on ICU mortality (JAMA. 2016;316[15]:1583-9). The trial was stopped because the patients who were assigned to receive conservative therapy had a significantly lower mortality than the ones who received usual care ($P = .01$).

“The study was not perfect, and the premature stoppage likely exaggerated the effect size,” said Dr. Miyakawa, who was not affiliated with the trial. “However, subsequent retrospective studies continue to support a benefit with conservative oxygen use, especially in different groups of patients. One of note is hyperoxia following cardiac arrest. There’s something called a two-hit model that speaks to worsening ischemia with reperfusion injury after the initial hypoxic event from the cardiac arrest itself.”

In a multicenter cohort study that drew from

the Project IMPACT critical care database of ICUs at 120 U.S. hospitals between 2001 and 2005, researchers led by J. Hope Kilgannon, MD, tested the hypothesis that postresuscitation hyperoxia is associated with increased in-hospital mortality (JAMA. 2010;303[21]:2165-71). The study population consisted of 6,326 patients who were divided into three groups: the hypoxic group (a PaO₂ of less than 60 mm Hg); the normoxic group (a PaO₂ of 60-299 mm Hg), and the hyperoxic group (a PaO₂ of over 300 mm Hg). The mortality for the hyperoxic group was 63%, the hypoxic group at 57%, and the normoxic group at 45%.



Dr. Miyakawa

More recently, the ICU-ROX Investigators and the Australian and New Zealand Intensive Care Society Clinical Trials Group evaluated conservative versus liberal approaches in providing oxygen to 965 patients who were mechanically ventilated between 2015 and 2018 at 21

ICUs (N Eng J Med. 2020;382:989-98). Of the 965 patients, 484 were randomly assigned to the conservative oxygen group (defined as an SpO₂ of 97% or lower) and 481 were assigned to the usual oxygen group (defined as having no specific measures limiting FiO₂ or the SpO₂). The primary outcome was the number of ventilator-free days from randomization until day 28, while the secondary outcome was mortality at 180 days. The researchers also performed a subgroup analysis of patients at risk for hypoxic-ischemic encephalopathy.

No significant differences were observed in the number of ventilator days between the two groups (a median of 21 days in the conservative oxygen group versus 22 days in the usual oxygen group, respectively; $P = .80$) nor in mortality at 180 days (35.7% vs. 34.5%). However, in the subgroup analysis, patients with hypoxic-ischemic encephalopathy were noted to have more ventilator-free days (21 vs. 0 days), improved 180-day mortality (43% vs. 59%), and less functional impairment (55% vs. 68%) in the conservative-oxygen group.

“The results of this study suggest that conservative oxygen therapy has no additional advantage over standard oxygen therapy, but there may be

benefits in those vulnerable to hyperoxia, which warrants further investigation,” Dr. Miyakawa said. “There are a few points to note on this topic. First, many of the previous studies had more liberal oxygen strategies than the ones used in this study, which could be the reason why we are seeing these results. In addition, O₂ titration relies on imperfect approximations. PaO₂ cannot be measured continuously; we really depend on the SpO₂ on a minute-by-minute basis. Critically ill patients can also undergo episodes of hypoperfusion and shock state minute-by-minute. That’s when they’re at risk for hypoxemia. This would not be captured continuously with just O₂ saturations.”

Dr. Miyakawa also highlighted the Liberal Oxygenation versus Conservative Oxygenation in Acute Respiratory Distress Syndrome trial (LOCO₂) a prospective, multicenter, randomized, open-label trial involving patients with ARDS. It was carried out at 13 ICUs in France between June 2016 and September 2018 in an effort determine whether conservative oxygenation would reduce mortality at 28 days compared with the usual liberal oxygen strategy (N Eng J Med. 2020;382:999-1008). The researchers detected a signal of increased mortality in the conservative oxygen group (34% vs. 27%), which led to a premature stoppage of the trial. “I’d like to postulate that the higher incidence of proning in the liberal oxygenation group compared to the conservative oxygen group (51% to 34%) may be the reason for the difference in mortality,” said Dr. Miyakawa, who was not affiliated with LOCO₂. “This is supported from the 2013 PROSEVA Study Group, which reported that prone positioning in ARDS significantly decreases 28- and 90-day mortality” (see N Engl J Med. 2013; 368:2159-68).

She said that future trials on this topic “will have to address how a particular [oxygenation] target is both set and achieved in each group of patients, particularly those with specific organ injuries. In the meantime, in my opinion, avoiding excess oxygen seems sensible.”

Dr. Miyakawa reported having no financial disclosures.

chestphysiciannews@chestnet.org

Continued from page 11

“I think that this is really pointing toward a new area that the whole (sleep field) is moving toward, which is better phenotyping of sleep apnea so that we can come up with more personalized treatments,” said Dr. Tasali.

The patients who appeared to gain a cardiovascular benefit from CPAP represented about 16% of trial participants. Dr. Azarbarzin refrained from making clinical recommendations, citing the need for more data. The team next plans to reproduce the findings in additional, larger trials such as the SAVE

and ISAACC trials. “Ultimately, our goal is to confirm our findings in a future randomized controlled trial of CPAP by enrolling participants based on their pulse rate response,” said Dr. Azarbarzin.



Dr. Tasali

The RICCADSA study was a single center randomized, controlled trial with 226 patients with coronary artery disease and OSA who were randomized to CPAP or no CPAP treatment. In the overall population, CPAP

treatment was not associated with a statistically significant change in repeat revascularization, myocardial infarction, stroke, or cardiovascular

mortality (hazard ratio, 0.79; $P = .435$). That study assumed that the effect of OSA on CVD is similar across all subgroups of dHR.

The mean increase in heart rate was 7.1 beats per minute (BPM; standard deviation, 3.7). Each standard deviation increase in dHR was linked to greater CVD risk (HR, 1.45; $P = .029$). For each standard deviation decrease in dHR, treatment with CPAP decreased the CVD risk (HR, 0.54; $P = .043$).

For patients with a low dHR of 4 BPM, the hazard ratio for CVD was 0.8 with no CPAP treatment and 1.2 for CPAP treatment. For those at the mean value of 7 BPM, the HRs were 1.1 and 0.9, respectively. For those with a high dHR, (10 BPM), the HR

was 1.6 without treatment and 0.7 with CPAP.

“We modeled delta heart rate interaction with CPAP, which was significant. What this means is that for someone with a mean delta heart rate of 7 beats per minute, the risk reduction [with CPAP] is similar to what RICCADSA reported. But if you look at those with high delta heart rate, the risk reduction was significantly larger. It was actually a more than 50% reduction of risk with CPAP treatment,” said Dr. Azarbarzin.

Dr. Azarbarzin has consulted for Somnifix and Apnimed and has received grants from Somnifix. Dr. Tasali has no financial disclosures.

chestphysiciannews@chestnet.org

Telemedicine is poised to drive new models of care

BY TED BOSWORTH

Telemedicine has been proposed as a solution for an array of health care–access problems over decades of gradual growth. The ramping up of telemedicine during the COVID-19 pandemic greatly expanded the evidence of its feasibility and what appears to be its inevitable incorporation into models of care, according to an update at the Health Policy and Advocacy Conference (HPAC) sponsored by the American College of Chest Physicians.

“The cat is out of the bag,” said Jaspal Singh, MD, FCCP, professor of medicine, Atrium Health, Charlotte, N.C. Due to changes in access and reimbursement to telemedicine driven

by the pandemic, he said, “we now have permission to explore new models of care.”

Prior to February 2020, telemedicine was crawling forward at a leisurely pace, according to Dr. Singh. After March 2020, it broke into a run due to enormous demand and met by a rapid response from the U.S. Congress. The first of four legislative bills that directly or indirectly supported telemedicine was passed on March 6.

The Centers for Medicare & Medicaid Services (CMS) responded in kind, making modifications in a number of rules that removed obstacles to telehealth. One modification on April 6, for example, removed the requirement for a preexisting relationship between the clinician and patient, Dr. Singh said. The CMS also subsequently modified reimbursement policies in order to make telemedicine more tenable for physicians.

Given the risk of contagion from face-to-face encounters, telemedicine in the early days of the pandemic was not just attractive but the only practical and safe approach to medical care in many circumstances. Physicians and patients were eager for health care that did not require in-office visits even though many critical issues for telemedicine, including its relative effectiveness, had not yet been fully evaluated.

Much has been learned regarding the feasibility and acceptability of telemedicine during the pandemic,

but Dr. Singh noted that quality of care relative to in-person visits remains weakly supported for most indications. Indeed, he outlined a sizable list of incompletely resolved issues, including optimal payment models, management of privacy concerns, and how to balance advantages to disadvantages.

For patients and physicians, the strengths of telemedicine include greater convenience made possible by the elimination of travel and

waiting rooms. For the health care system, it can include less infrastructure and overhead. For many physicians, telemedicine might be perceived as more efficient.

On the other hand, some patients might feel that a clinical encounter is incomplete without

a physical examination even when the physician does not feel the physical examination is needed, according to Dr. Singh. He cited a survey suggesting nearly half of patients expressed concern about a lack of connection to health care providers following a virtual visit.

In the same 2020 National Poll on Healthy Aging 2020 survey conducted by the University of Michigan, 67% of respondents reported that the quality of care was not as good as that provided by in-patient visits, and 24% expressed concern about privacy.

However, at the time the poll was taken in May 2020, experience with telemedicine among many of the respondents may have been limited. As telemedicine is integrated into routine care, perceptions might change as experience increases.

A distinction between telemedicine in routine care and telemedicine as a strategy to respond to a pandemic is important, Dr. Singh indicated. Dr. Singh was the lead author for a position paper on telemedicine for the diagnosis and treatment of sleep disorders from the American Academy of Sleep Medicine 5 years ago (*J Clin Sleep Med.* 2015;11:1187-98), but he acknowledged that models of care might differ when responding to abnormal surges in health care demand.

The surge in demand for COVID-19–related care engen-

dered numerous innovative solutions. As examples, Dr. Singh recounted how a virtual hospital was created at his own institution. In a published study, 1,477 patients diagnosed with COVID-19 over a 6-week period remained at home and received care in a virtual observation unit (VCU) or a virtual acute care unit (VACU) (*Ann Intern Med.* 2020;174:192-9). Only a small percentage required eventual hospital admission. In the VACU, patients were able to receive advanced care, including IV fluids and some form of respiratory support.

It is unclear how the COVID-19 pandemic will change telemedicine. Now, with declining cases of the infection, telemedicine is back to a walk after the sprint required during the height of the pandemic, according to Dr. Singh. However, Dr. Singh thinks many physicians and patients will have a different perception of telemedicine after the widespread exposure to this type of care. In terms of the relative role of in-patient and virtual visits across indications, “we do not know how this will play out, but we will probably end

up toggling between the two.”

This is an area that is being followed closely by the CHEST Health Policy and Advocacy Committee, according to Kathleen Sarmiento, MD, FCCP, director, VISN 21 Sleep Clinical Resource Hub for the San Francisco VA Health Care System. A member of that Committee and moderator of the session in which Dr. Singh spoke, Dr. Sarmiento called the effort to bring permanent coverage of telehealth services “the shared responsibility of every medical society engaged in advocacy.”

She cautioned that there might be consequences that require analysis to develop policies that are in the best interests of effective care. The “ACCP [CHEST], along with its sister societies, does have a role in supporting the evaluation of the impact of these changes on both patients and providers in the fields of pulmonary medicine, critical care, and sleep medicine.”

Dr. Singh reports a financial relationship with AstraZeneca. Dr. Sarmiento reports no relevant financial relationships.

chestphysiciannews@chestnet.org

Many physicians and patients will have a different perception of telemedicine after the widespread exposure to this type of care.



CHEST[®]
Board Review
2021

SLEEP MEDICINE August 13-15	CRITICAL CARE MEDICINE August 13-16	PULMONARY MEDICINE August 18-21
---------------------------------------	---	---

Prepare for your certification exams with the leader in chest medicine board review.

Don't let ABIM certification exams sneak up on you—save your seat for Board Review 2021 now. Register for an online, exam-focused review in pulmonary, critical care, and/or sleep medicine.

Register to receive:

- Course content that mimics the ABIM exam blueprint
- The opportunity to ask questions and learn from top names in the field
- Dedicated time to study for your boards and to put your knowledge to the test

REGISTER NOW: bit.ly/BoardReview2021

NetWorks

Eosinophils in COVID-19. Long COVID-19. Sedation practices post-pandemic. Establishing NIV clinics. More. . .

Airways Disorders

Eosinophils in COVID-19

Using peripheral blood eosinophilia (PBE) as a treatable biomarker of airway inflammation in patients with COPD has become an area of controversy in pulmonary medicine.

The proponents find a role for PBE testing in initiation and withdrawal of inhaled corticosteroids (ICS) and as a target for monoclonal antibodies in future studies.¹ Post hoc analyses showed that variable doses of ICS/LABA combination compared with LABA alone in COPD patients were associated with much higher exacerbation reduction in patients with eosinophils counts of $\geq 2\%$ and magnitude of effect proportionally increased



Dr. Abbas

from 29% to 42% with increasing eosinophil count from $\geq 2\%$ to $\geq 6\%$ suggesting a dose-response relationship.² A post hoc analysis of the WISDOM trial showed increased risk of exacerbation after ICS discontinuation in COPD patients with high eosinophils (≥ 300 cells/mcL or $\geq 4\%$) while exacerbation risk was not increased in patients with low eosinophils (< 150 cells/mcL or $< 2\%$).³

The opponents of eosinophil-guided therapy object that the level of evidence is weak as this is based on the post hoc analyses of randomized control trials on patients with increased exacerbation risk at baseline, which in itself is an independent predictor of future exacerbations.⁴ Some observational studies failed to find increased risk of exacerbation with higher eosinophil count while others found that higher eosinophil count was associated with increased survival and better quality of life.^{5,6} Anti-eosinophilic biologics have failed to show consistent benefit in exacerbation reduction in COPD patients so far, despite showing a reduction in the PBE.⁷⁻⁹

The GOLD COPD Guidelines support the use of ICS in patients with eosinophils > 300 cells/mcL especially with a history of exacerbation and recommend against ICS in patients with eosinophils < 100 cells/mcL.¹⁰

Farrukh Abbas, MD
Steering Committee
Fellow-in-Training
Allen J. Blaivas, MD, FCCP
NetWork Chair

References

1. Wade RC and Wells JM. *Chest*. 2020;157(5):1073-5.
2. Pascoe S et al. *The Lancet Respir Med*. 2015;3(6):435-42.
3. Watz H et al. *The Lancet Respir Med*. 2016;4(5):390-8.
4. Criner GJ. *Chest*. 2020;157(5):1075-8.
5. Shin SH et al. *Respir Res*. 2018;19(1):134.
6. Casanova C et al. *Eur Respir J*. 2017;50(5):1701162.
7. Pavord ID et al. *N Engl J Med*. 2017;377(17):1613-29.
8. Criner GJ et al. *N Engl J Med*. 2019;381(11):1023-34.
9. Mycroft K et al. *J Allergy Clin Immunol Pract*. 2020 Sep;8(8):2565-74.

10. Global Initiative for Chronic Obstructive Lung Disease 2021 Report (<https://tinyurl.com/23sb7y6a>).

Clinical Research

Long-COVID: COVID-19 disease beyond the pandemic

There are increasing reports of persistent multi-organ symptoms following COVID-19 infection.

In December 2020, the National Institute for Health and Care Excellence (NICE) developed guidelines, based primarily on expert opinion, to define and manage ongoing symptomatic COVID-19 (symptoms for 4-12 weeks after infection) and post-COVID syndrome (symptoms present for > 12 weeks without alternative explanation) (www.nice.org.uk/guidance/ng188). Subsequently, the National Institutes of Health (NIH), released in February 2021 an initiative to study Post-Acute Sequelae of SARS-CoV2 infection (PASC) (<https://tinyurl.com/92kpfwsn>). Symptoms can include, respiratory (cough, shortness of breath), cardiac (palpitations, chest pain), fatigue and physical limitations, and neurologic (depression, insomnia, cognitive impairment) (*Lancet* 2020 Dec 12;396[10266]:1861). The majority of patients with post-COVID syndrome have microbiological recovery (PCR negative), and often have radiological recovery. Risk factors include older age, female sex, and comorbidities (Raveendran AV. *Diabetes Metab Syndr*. 2021 May-June;15[3]:869-75).

Diagnosis and access to care pose significant challenges for post-COVID syndrome, and it is difficult to estimate exactly how many are affected – one report from Italy found that up to 87% of discharged hospitalized patients had persistent symptom(s) at 60 days (Carfi A. *JAMA* 2020 Aug;324[6]:603-5). Thus far, management recommendations include a multidisciplinary approach to evaluation, symptomatic treatment, organ specific treatment (for example, consideration of corticosteroids for persistent inflammatory interstitial lung disease) (Myall KJ. *Ann Am Thorac Soc*. 2021 May;8[5]:799-806), physical/occupational therapy, and psychological support. Many institutions have established, or are working to establish post-COVID clinics (*Aging Clin Exp Res*. 2020 Aug;32[8]:1613-20). Currently, the NIH is offering funding opportunities and there are many clinical trials across the world actively recruiting patients.

Ankita Agarwal, MD
Steering Committee Fellow-in-Training
Bharat Bajantri, MD
Steering Committee Member
Aravind Menon, MD
Steering Committee Fellow-in-Training

Critical Care

Sedation practices in the ICU: Moving past the COVID-19 pandemic

The COVID-19 pandemic brought unprecedented change to critical care practice patterns, and

sedation practices in the intensive care unit are no exception. In a large cohort analysis of over 2,000 adults with COVID-19 (Pun BT, et al. *Lancet Respir Med*. 2021;9[3]:239-50), 64% of patients received benzodiazepines (median of 7 days), and patients were deeply sedated. More than half of the patients were delirious, with benzodiazepine use associated with increased incidence of delirium.



Dr. Cable

RR, et al. *JAMA*;2009;301[5]:489-99).

As COVID-19 case counts begin to improve in many of our communities, we have the opportunity to refocus on best sedation practices and build on a growing body of recent evidence. The MENDS2 trial, completed pre-COVID-19, assigned mechanically ventilated patients with sepsis to either propofol or dexmedetomidine and showed no difference in delirium or coma in this cohort of lightly sedated patients (Hughes CG, et al. *N Engl J Med*. 2021;384[15]:1424-36). Furthering this point, Olsen et al. found no difference in outcomes when mechanically ventilated patients were randomized to no sedation vs light sedation (Olsen HT, et al. *N Engl J Med*; 2020;382[12]:1103-11).

While the evidence surrounding sedation strategies in the critically ill continues to grow, one thing is certain: promoting lighter sedation targets and reengaging in sedation-related best practices following the COVID-19 pandemic will continue to play a vital role in improving both short- and long-term outcomes for our critically ill patients.

Casey Cable, MD, MSc
Steering Committee Member
Kyle Stinehart, MD
Steering Committee Member

Home Mechanical Ventilation

How to initiate a chronic respiratory failure clinic

Noninvasive ventilation (NIV) is an established treatment for chronic hypercapnic respiratory failure from neuromuscular disorders, COPD, obesity hypoventilation syndrome (OHS), and restrictive thoracic disorders. Previously, hospital admission was considered essential for setup of chronic NIV but with advances in the modes of ventilation and remote monitoring, hospital admission has become less justifiable, especially in countries with centralized medical systems and presence of centers of excellence for home ventilation (Van Den Biggelaar

Continued on following page

Continued from previous page

RJM, et al. *Chest*. 2020;158[6]:2493-2501); Duiverman ML, et al. *Thorax*. 2020;75:244-52). In the United States, where centralized health care is atypical, management of NIV has been disparate with no clear consensus on practice patterns. Thus, we hope to provide some guidance toward the establishment of such clinics in the U.S.



Dr. Sahni

Prior to developing an NIV clinic, establishing a referral source from neuromuscular, rehabilitation/spinal cord injury, bariatric surgery, and COPD programs is important. After this, col-

laboration with a respiratory therapist through durable medical equipment is essential to building a robust care team. These companies are also important for assisting in remote monitoring, providing overnight pulse oximetry/CO₂ monitoring, mask fitting, and airway clearance. Clinicians are encouraged to develop protocols for initiation and titration of NIV and mouthpiece ventilation. Clinics should provide spirometry, maximal inspiratory pressure, transcutaneous CO₂, and/or blood gas testing. Additionally, in this patient population, wheelchair scales are necessary. Clinical workflow should include a review of NIV downloads, identify asynchronies and troubleshoot it in timely and reliable manner (Blouet S, et al. *Int J Chron Obstruct Pulmon Dis*. 2018;13:2577-86). Lastly, effort should be made

for an adequate assessment of the home situation including layout of home along with family support utilizing social worker and palliative care team. Due to patient mobility, we encourage continued availability of telehealth for these patients.

In summary, strong clinical infrastructure, a robust care team, and an efficient, secure, reliable telemonitoring system are key to provide better care to this vulnerable patient population.

Ashima S. Sahni, MD, MBBS, FCCP
NetWork Member
Amen Sergew, MD
Steering Committee Member

Interstitial and Diffuse Lung Disease Treatment for pulmonary hypertension secondary to interstitial lung disease

The development of pulmonary hypertension (PH) in patients with interstitial lung disease (ILD) (PH-ILD) is associated with increased supplemental oxygen requirements, reduced functional status, and decreased survival (King CS, et al. *Chest*. 2020;158[4]:1651).



Dr. Shifren

An inhaled formulation of treprostinil (Tyvaso) is the first treatment option approved by the FDA for patients with PH-ILD, including those with idiopathic pulmonary fibrosis, connective tissue disease-associated ILD, and combined pulmonary fibrosis and emphysema ([www.tyvaso.com/pdf/TYVA-](http://www.tyvaso.com/pdf/TYVA-SO-PI.pdf)

SO-PI.pdf). Approval was based on results from the INCREASE trial (Waxman A, et al. *N Engl J Med*. 2021;384[4]:325), a phase III multicenter, randomized, double-blinded study comparing the inhaled formulation to placebo in 326 patients over a 16-week period. Participants in the treatment arm were given up to 12 breaths of the formulation per session, four times per day. Subjects treated with this inhaled formulation met the primary study endpoint, an increase in 6-minute walk distance (6MWD) from baseline to week 16, walking 21 m farther than placebo-treated control subjects. Furthermore, patients receiving the new formulation had a decrease in NT-proBNP levels (compared with increases in the placebo arm) and a reduction in clinical worsening (23% of inhalation formulation-treated vs. 33% of placebo-treated subjects). This formulation of treprostinil was well-tolerated with a safety profile consistent with common prostacyclin-related adverse events, including cough, headache, dyspnea, dizziness, nausea, fatigue, and diarrhea. Its approval will dramatically alter the ILD treatment landscape. It now necessitates the use of PH screening in this patient population. However, care will need to be exercised in appropriate patient selection for treatment, using the study inclusion and exclusion criteria as a starting point. Appropriate use of this formulation will hopefully help mitigate the negative outcomes impacting patients with PH-ILD.

Rebecca Anna Gersten, MD
Adrian Shifren, MD
Steering Committee Members

NetWorks Challenge

Get active while funding CHEST Foundation microgrants

The NetWorks Challenge 2021 is kicking off in July with a 25k to celebrate the Foundation's 25th anniversary. This year, we're asking each NetWork to participate in a physical challenge, virtually. Make your way to 25k by walking, running, biking – or any activity that suits you.

Through the challenge, you can engage in friendly competition while supporting the goals of the Foundation. This year, money raised will directly help us in addressing health disparities through our microgrants program and will support travel grants for doctors-in-training looking to attend CHEST 2021.

With your help, by participating in the NetWorks Challenge, we can fund grants that aim to lend a hand to those who need it the most. Expanding research capabilities, improving patient care, and giving access to medical equipment are just a few ways microgrants from the CHEST Foundation have been used in the past.

Salim Surani, MD, MSc, FCCP, is a long-time supporter of the Net-

Works Challenge and the Foundation's grants program. "Whatever the Foundation pays in terms of grants and awards not only impacts the recipient but also the community as a whole ... For me, it was a no-brainer to get involved in an organization that actually raises funding to support community, education, and research," Dr. Surani said.

With your support, during the NetWorks Challenge, we can provide grants to more clinicians looking to make a difference in chest medicine. Encourage your NetWork members to join you in the race to 25k.

"When you work within the NetWorks and join together, and work along with the CHEST Foundation, the impact is much more powerful. I always believed that it is a privilege for us that we have the outlet at the CHEST Foundation to provide grants," Dr. Surani said.

To learn more about this initiative and this year's NetWorks Challenge, visit the CHEST Foundation's website at <https://foundation.chestnet.org/>.

Enhance Your Exam Review With On-the-Go Content

PULMONARY | CRITICAL CARE | SLEEP

CHEST

Written by experts in the chest medicine field, the CHEST SEEK™ Library features case-based questions with detailed feedback. Subscribe to the library to:

- Prep for certification exams with timed mock exams.
- Review at your convenience with your mobile device and computer.
- Claim CME/MOC/CE in topic-based modules based on content categories from the ABIM exam blueprints.

Learn More and Subscribe
seeklibrary.chestnet.org

Comprehensive CHEST SEEK Library Collection:

\$449 CHEST member/\$649 nonmember

Pulmonary, Critical Care, or Sleep Medicine Collections:

\$399 CHEST member/\$549 nonmember



FROM THE BOARD OF REGENTS

In person board meetings resume – June 2021

BY DAVID A. SCHULMAN, MD, MPH, FCCP

The CHEST Board of Regents met in mid-June for its first in-person meeting in more than a year. It served as a lovely reminder that not only are in-person meetings a more effective way to conduct the business of the College, but that the members of the board have really missed seeing each other without an intervening screen and webcam.

First on the agenda was a recap by the CHEST Presidents of their recent strategic retreat. Most relevant to the organization was a recommendation that we revise the manner by which the CHEST strategic plan is set.

If the last year has taught us anything, it is that planning for the future is essential, but we must also allow for flexibility when external forces change what the future holds.

Accordingly, we will be replacing the former 5-year planning cycle with a more nimble annual review. From a member's standpoint, this means that you will see more frequent revisions of those plans (Strategic Plan, American College of Chest Physicians, <https://www.chestnet.org/About/Overview/Strategic-Plan>).

Over the last year, the CHEST Foundation has sponsored a series of "listening tours," which has allowed our members and leaders to hear from many of our patients who feel disenfranchised from the medical system because of struggles with communication, finances, and access, among other issues.

The willingness of our patients to share their struggles with us has inspired the Foundation to try to make inroads into these, better navigating these barriers.

In direct response to what we've heard, the team is designing programs to help our caregivers focus on the psychological, social, environmental, and personal factors that impact our patients' ability to obtain the critical health care that

all need and deserve.

Our ability to execute and deliver such programs is contingent on successful fundraising efforts. Ian Nathanson, who is the President of the CHEST Foundation, reviewed fundraising progress with the board.

Over these long months, donors, participants, and friends of the Foundation have participated in virtual events that were designed to foster engagement as well as comradery through this difficult time.

This June, we held a virtual and in-person Belmont Stakes event that has shown that we can adapt to challenging times and that our membership is still incredibly supportive of the Foundation's mission.

Thank you to all of you who participated in or donated to the CHEST Foundation over the last year!

The last 18 months have had a marked impact on our ability to provide the live, interactive learning experiences for which CHEST is known, but all of the efforts in the remote learning space have yielded impressive increases in both the number of remote learning opportunities available and the breadth of our members who are taking advantage of them.

As one example, the number of CHEST podcast views quadrupled last year compared with those in 2019.

Although CHEST reopened its headquarters for live learning opportunities this summer, and we are looking to move significantly back toward "business as usual" with CHEST 2021 in Orlando this October, we will also be carefully considering how best to incorporate the lessons learned in the remote offering space as the world reopens in the coming year.

At the board meeting, Neil Freedman, who is the chair of CHEST's Health Advocacy and Policy Committee (HPAC), presented a review of the committee's accomplishments since its inception just over 1 year ago.

In addition to putting together a multi-society Technical Expert Panel on the use and coverage of non-invasive ventilation, HPAC worked with 18 other societies in drafting a response to the Agency for Healthcare Research and Quality's draft on coverage for CPAP therapy for obstructive sleep apnea.

For members who are interested in getting more involved in CHEST's advocacy efforts, we are seeking self-nominations for members of several working groups (nominations to open soon). In addition, there will

be sessions offered during CHEST 2021 focused on our advocacy efforts and how you can participate in them, as well as best practices in the advocacy space.

Several months ago, the Exeter

Group was asked by the board to analyze how CHEST can expand our organizational efforts in diversity, equity, and inclusion (DEI). Representatives from the Exeter Group joined the meeting to provide board members with preliminary data.

Limited interviews with both members and staff have begun to provide a picture of where CHEST has already made some progress in this space, and where our ongoing challenges and opportunities for improvement still exist; it is clear that there is a wide range of opinions on these complicated issues.

As our consultants are only 1 month into this 6-month phase of the project, we expect a great deal more information to come, with a plan for ongoing surveys of and focus groups for our members; when you receive one of these requests, please make every effort to complete it as candidly as possible, regardless of your viewpoint.

The consulting work will culminate with a final presentation to the board just before the annual meeting in the fall, with specific recommendations on organizational actions that will be used to implement a multiyear DEI plan.

The Governance Committee, represented by Stephanie Levine, made several recommendations to

revision of the CHEST Foundations bylaws.

Specifically, the new bylaws permit Trustees of the Foundation to be re-elected to positions on the board beyond the current 6-year maximum term after several years away from the position.

The position of President-Designate of the Foundation will also be eliminated, allowing for a 2-year term for the President-Elect of the Foundation and a 2-year term for the President of the Foundation.

One of the main challenges for an organization of 19,000 people is to ensure that we can engage as many of our members as possible. The NetWorks structure has historically been the primary mechanism for members to pursue

initial leadership opportunities within the College.

CHEST Past-President Stephanie Levine previously established a working group to revisit NetWork structure in an effort to ensure ample opportunities for engagement within CHEST.

The final agenda item at this board meeting was a discussion about restructuring the CHEST NetWorks to create mechanisms that will help us balance the needs of the College with the energy of the volunteers to maximize productivity and engagement of all parties. The plan would increase the number of leadership positions available within the NetWork structure.

While the final nomenclature and distribution of NetWorks amongst the pillars has yet to be finalized, the board was supportive of this modification and expects implementation in the next 12 months, with details to be provided to the membership as they are fleshed out.

After a full day's agenda, CHEST President Steve Simpson adjourned the board meeting.

The Board of Regents will meet again remotely in August (the summer call has always been a remote meeting) and again in Orlando in October.

If the last year has taught us anything, it is that planning for the future is essential, but we must also allow for flexibility.

For members who are interested in getting more involved in CHEST's advocacy efforts, we are seeking self-nominations for members of several working groups.

SLEEP STRATEGIES

Updates on COVID-19 guidance for sleep medicine

BY IAN LEE, MD, AND
SHANNON S. SULLIVAN, MD

Background

Well into its second year, the worldwide COVID-19 pandemic continues to pose substantial challenges for health care access and delivery. Regulatory agencies such as the Centers for Disease Control and Prevention (CDC) do not currently have guidance related to COVID-19 specific to sleep centers and laboratories. In March 2020, within days of the World Health Organization pandemic declaration, the American Academy of Sleep Medicine (AASM) posted detailed guidance on mitigation strategies for sleep medicine practices (COVID-19 Resources, available at aasm.org/covid-19-resources/).

This initial guidance has been previously reported in this publication (Sullivan S, Gurubhagavatula I. *CHEST Physician* 2020 May 8), and the guidance has been periodically updated during the pandemic. It was restructured in mid-2020 to include sections summarizing CDC recommendations germane for sleep practices; additional sleep medicine-specific guidance from the AASM COVID-19 Task Force (TF); and a frequently asked questions (FAQ) section. The last major update from the task force occurred on Jan. 18, 2021, though subsequent posts – especially related to recent CDC changes in masking guidelines – were made in May 2021. The purpose of this article is to summarize these updates and to call attention to areas of ongoing interest to sleep medicine. Notably, the AASM Task Force guidance is nonbinding and offered as a framework for considering best practices in this evolving situation, acknowledging the importance of weighing local factors, conditions, and regulations, as well as the interests of and risks to the patient, staff, and providers.

Key updates

Data on exposure and transmission risks specific to sleep medicine
Measures for reducing viral transmission have been central to managing the spread of the virus in clinical settings. In its last major update, the AASM TF noted that no known outbreaks of COVID-19 related to sleep center exposure have been re-

ported. A perspective and data published in the *Journal of the American Medical Association* concluded that hospital transmission of the virus “in the setting of universal masking is likely rare, even during periods of high community prevalence.” It also concluded that hospital-based outbreaks are more likely to occur in



Dr. Lee



Dr. Sullivan

small workrooms and during mealtime when staff are less adherent to masking and physical distancing (Richterman A, et al. *JAMA*. 2020;324[21]:2155-6). The TF elaborated on considerations to reduce transmission, which include not just telework and foundational infection control practices, but also broader workplace considerations such as optimizing ventilation, taking advantage of outdoor spaces (eg, for breaks and eating), scheduling to reduce interactions between personnel from different teams, minimizing contact in meeting/break rooms, removing tables and chairs from lounge areas, and following CDC guidance for effective facility operations.

Vaccination

In the January update, the AASM COVID-19 TF stated that, “sleep facility leaders should encourage staff and patients to be vaccinated in accordance with CDC guidance.” The role of the sleep medicine community in encouraging healthy sleep habits before and after vaccination was emphasized, pointing to evidence linking sleep and immunity, specifically between sleep duration and vaccination response (Healthy sleep and immune response to COVID-19 vaccination. 2021 Jan. aasm.org/healthy-sleep-and-immune-response-to-covid-19-vaccination/).

In an FAQ update from March 26, 2021, considering whether continued COVID-19 testing was needed following full vaccination, the AASM advised testing prior to potential aerosol-generating proce-

dures should be made on the basis of a risk-benefit assessment by the sleep clinician. Several considerations were highlighted, including recent COVID-19 infection, vaccination status of contacts, local prevalence of newer variants, and whether individuals are receiving positive airway pressure therapy. The TF focused on the vigilance for residents and staff in long-term care facilities, which have been associated with a number of outbreaks.

Masking in the context of the COVID-19 vaccine

The most significant change in recommendations is the recent relaxation of masking guidance by the CDC in the setting of the approval and distribution of COVID-19 vaccinations. In May, the CDC stated that fully vaccinated individuals can resume activities without masking or physically distancing except in scenarios of travel and where required by laws, regulations, and local businesses, due to the efficacy of the vaccines, increasing evidence of reduced asymptomatic carriage and transmission after vaccination, and anticipated increased uptake of vaccination. However, the CDC also noted that these updates did not apply to health care facilities, where the recommendation remains that patients and visitors should continue to mask throughout their stay. Additionally, fully vaccinated health care workers should continue to practice infection control measures while working with patients. On May 14, the AASM TF provided a detailed FAQ acknowledging the CDC’s new guidance, emphasizing that masking guidance in health care facilities remains unchanged, and encouraging individuals to follow CDC guidance regarding vaccination, noting that emergence of newer variants continues to be monitored, and existing vaccines still appear to induce neutralizing antibodies even if to a somewhat lower degree. The situation for pediatric sleep centers has been highlighted in particular because the potential risk posed by newer variants to children remains under investigation, and children under age 12 are not approved for vaccination (COVID-19: FAQs for Sleep Clinicians. AASM. aasm.org/covid-19-resources/covid-19-faq/).

Important caveats to discussions

around vaccination status are the lack of a centralized method to identify vaccinated individuals, the unknown duration of immunity, and reports of the use of fake vaccine cards. At this time, in health care settings, vaccination status should not exempt mask usage for any individual.

Sleep medicine care for those with COVID-19

Regarding the duration of isolation and precautions for adults with COVID-19, the TF highlighted the CDC’s symptom-based strategy, rather than test-based strategy, for ending isolation of these patients, availing them of sleep medicine services in person.

In line with the CDC guidance, this approach indicates that scheduling in-person care such as polysomnography for a COVID-19-positive patient may be appropriate at least 10 days after symptom onset (or after a positive test if the patient never developed symptoms); or at least 20 days after symptom onset if the illness was severe; or if at least 90 days have elapsed since symptom onset, consider preappointment COVID-19 screening. In the context of immunocompromised individuals, involvement from infectious disease specialists may be needed to help guide decisions.

Patient communications

For many, a repercussion of the pandemic has been delaying care or avoiding addressing medical issues, including sleep disorders. The AASM encouraged practices to consider communicating with patients that delaying needed care can increase health risks; COVID-19 transmission to patients in health care settings has been low; effective safety procedures are in place; and whether remote/telehealth services are available.

Disparities in care

In addition to the specific guidance above, there are ongoing concerns regarding disparities in care resulting from a variety of sources and becoming more evident during the pandemic. Complex factors, ranging from economic, geographic, contextual, occupational, and others contribute to disparities that health care systems – and sleep medicine – have

Continued on following page



2021 COURSES

CHEST Global Headquarters | Glenview, IL

July 23-24 July 24-25	Critical Skills for Critical Care: A Case-Based Approach
August 6	Bronchoscopy and Chest Tubes in the ICU With Cadavers
August 7	Therapeutic Bronchoscopy for Airway Obstruction With Cadavers
August 26-27 August 28-29	Ultrasonography: Essentials in Critical Care
September 3 September 4	Mechanical Ventilation: Critical Care Management
September 9-10 September 11-12	Difficult Airway Management
September 16-17 September 18-19	Comprehensive Bronchoscopy With Endobronchial Ultrasound
September 23-24 September 25-26	Advanced Critical Care Echocardiography
November 4-5 November 6-7	Ultrasonography: Essentials in Critical Care
November 12	Comprehensive Pleural Procedures With Cadavers
November 13	Advanced Airway Management With Cadavers
November 19 November 20 November 21	Critical Care Ultrasound: Integration Into Clinical Practice
December 2-3 December 4-5	Ultrasonography: Essentials in Critical Care
December 10 December 11	Extracorporeal Support for Respiratory and Cardiac Failure in Adults
December 7 December 14 December 16	LIVESTREAM 5 -7 PM Virtual Advanced Critical Care Echocardiography Board Review Exam Course

REGISTER TODAY: chestnet.org/livelearning

Calendar subject to change. For most current course list and more information, visit chestnet.org/livelearning.

This month in the journal CHEST®

Editor's picks

BY PETER J. MAZZONE, MD, MPH, FCCP

Editor in Chief

Hormone replacement therapy and development of new asthma.

By Dr. E. Hansen et al.

Sex and gender omic biomarkers in men and women with COPD: Considerations for precision medicine.

By Dr. D. Demeo.

Pulmonary function and radiological features in survivors of critical covid-19: A 3-month prospective cohort.

By Dr. F. Barbe et al.

Characteristics and prevalence of domestic and occupational inhala-

tional exposures across interstitial lung diseases.

By Dr. C. Lee et al.

Identification and remediation of environmental exposures in patients with interstitial lung disease: Evidence review and practical considerations.

By Dr. M. Salisbury et al.

How we do it: Creating an organizational culture for the chest physician.

By Dr. J. Stoller et al.

Proposed quality metrics for lung cancer screening programs: A national lung cancer roundtable project.

By Dr. P. Mazzone et al.



Continued from previous page

not been able to adequately address (Jackson CL and Johnson DA. *J Clin Sleep Med.* 16[8]:1401-2). More specific differences may include internet access, reduced access due to socioeconomic barriers, transportation limitations, medical mistrust, and membership in a medically vulnerable group such as children, the elderly, and those with high acuity needs. For example, in pediatric patients there exist few evidence-based alternatives and guidelines to in-lab testing and care, which may have negatively impacted access to needed sleep medicine services (Sullivan S et al. *J Clin Sleep Med.* 2021 Mar 1;17[3]:361-2).

Economics in the COVID-19 pandemic

The economic effects of COVID-19 on medical institutions and in sleep medicine is a story that continues to unfold. Reductions in patient visits and elective procedures, infection control measures limiting capacity, increased costs to maintain such measures, and variability of responses by payer and region are just a few of the issues. The Centers for Medicare & Medicaid Services has employed waivers to increased flexibility and promote safe and

effective care, including the use of telemedicine during the public health emergency, but the future of these waivers remains uncertain. Alarming, a sizeable portion of sleep practices reported financial solvency concerns related to the pandemic (Ramar K. *J Clin Sleep Med.* 2020;16[11]:1939-42).

Conclusion

As the COVID-19 pandemic and related public health guidance continues to evolve, sleep medicine practices continue to adapt. Vaccination, new variants, changes in mask guidance, new outbreaks around the globe, financial and staffing uncertainties, as well as addressing disparities in care and outcomes that may be augmented by the pandemic remain salient areas of ongoing development.

Dr. Lee is a Postdoctoral and Pediatric Pulmonary Fellow, Department of Pediatrics, Division of Pulmonary, Asthma, and Sleep Medicine, Stanford University School of Medicine; Dr. Sullivan is Clinical Professor, Department of Pediatrics, Division of Pulmonary, Asthma, and Sleep Medicine, and by courtesy, Division of Sleep Medicine, Department of Psychiatry, Stanford University School of Medicine, Palo Alto, CA.

Get ready for the FUN at CHEST Annual Meeting 2021 with CHEST games

This year's CHEST Annual Meeting will push the envelope of fun through various educational games and experiences for those attending on-site and online.

CHEST is supercharging the escape room experience with the

To build off the futuristic hands-on experiences, CHEST will be debuting intubation procedural simulations using state-of-the-art virtual reality technology.

expansion of two unique on-site escape scenarios to solve, First Contact and Shuttle Crash.

In escape rooms, small teams work against the clock to solve a medical puzzle and unlock the final challenges. Those attending online can take a break and join the excitement with First Contact, a

mission to Jupiter led by our space lieutenant, William Kelly, MD, FCCP, and faculty and staff game fleet.

To build off the futuristic hands-on experiences, CHEST will be debuting intubation procedural simulations using state-of-the-art virtual reality technology.

If you prefer to join the fun using your mobile device, CHEST is releasing daily task-based missions that you can track and complete using your phone.

These missions will include a variety of social activities designed around the conference halls, hotels, clinic, and your own home that are sure to get you moving and working as a team.

During the 4 days of the annual meeting, CHEST will also host an exclusive event called "Play With the Pros." You can test your knowledge and play alongside annual meeting cochairs, Chris Carroll, MD, FCCP, and David Zielinski, MD, FCCP, for the chance to win



a grand prize. As an added bonus, CHEST is offering daily prize drawings for players and social media recognition to those who top the leaderboards in the CHEST Player Hub. The Player Hub hosts more than 10 bite-sized mobile games and is available on demand with your CHEST ID.

Additionally, live game breaks hosted by our faculty between education sessions will give you the chance to unwind and play in real time with your peers and colleagues.

On-site, CHEST invites you to shoot hoops, drive remote-controlled cars, and shuffle across the gameboard floors. From your couch or desk, you can tune in to test your knowledge in our livestreamed trivia or sign up for the

chance to receive a trivia question phone call from our faculty, which is tied to a grand prize.

The opportunities to play and learn during CHEST Games are endless at CHEST 2021!

INDEX OF ADVERTISERS

AstraZeneca	
Breztri	12-15
Biomerieux	
BioFire	24
Genentech USA, Inc.	
Esbriet	2-5
Koninklijke Philips N.V.	
RespirTech	9
Sanofi and Regeneron Pharmaceuticals, Inc.	
Dupixent	20a-20f



Progressive Fibrosing Interstitial Lung Diseases

This publication was funded by Boehringer Ingelheim Pharmaceuticals, Inc.

Insights gained over the past two decades about idiopathic pulmonary fibrosis (IPF) and other interstitial lung diseases (ILD) have greatly advanced our understanding of these conditions and have helped facilitate earlier diagnosis and intervention and improvements to patient care. Recently, the concept of progressive fibrosing ILD has emerged, as many patients with fibrosing ILDs show rapid deterioration similar to IPF, thereby requiring close monitoring.

This publication explores fibrosing ILDs, in recognition of the need for further education about these conditions.

Neither the editors of *CHEST® Physician* nor the Editorial Advisory Board nor the reporting staff contributed to this content.

mledge.com/bi-ipf

**This advertisement is
not available for the digital edition.**

