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THE NEWSPAPER OF THE AMERICAN COLLEGE OF CHEST PHYSICIANS

JON HILLENBRAND

Recent clinical trials shaped important revisions to the Surviving Sepsis Campaign's guidelines, said Dr. Jeffery S. Vender, FCCP (left).

Revised Severe Sepsis Guidelines Unveiled

BY MITCHEL L. ZOLER
Elsevier Global Medical News

The revised guidelines for managing severe sepsis and septic shock published by the Surviving Sepsis Campaign early this year updated and changed the group's 2004 guidelines, and introduced a new system for assessing the evidence behind the guidelines.

Two notable changes contained in the revised guidelines were lowering to a "weak recommendation" the grade for using intravenous hydrocortisone to treat adults with septic shock who are poorly responsive to fluid resuscitation and vasopressor therapy, and lowering to a "weak recommendation" the grade for treating adult patients with sepsis-induced organ dysfunction and an Acute Physiology and Chronic Health Evaluation (APACHE) II score of 25 or greater with recombinant human activated protein C (rhAPC) (Crit. Care Med. 2008;36:296-327).

These two revisions were the major changes, said Dr. Jeffery S. Vender, FCCP, who represented the American College of Chest Physicians on the guidelines writing committee, and is professor of anesthesiology and critical care medicine at Northwestern University, Chicago.

In both cases, these downgrades occurred because data from recent trials raised questions about efficacy and also suggested a risk of hemorrhage

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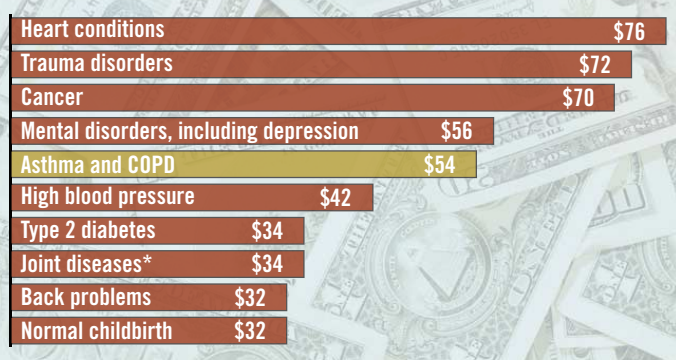
VITAL SIGNS

Top 10 Most Expensive Health Conditions

(in billions of dollars)



*Includes osteoarthritis.
Note: Based on 2005 data for visits to doctors' offices, clinics, and emergency departments, and for hospital stays, home health care, and prescription drugs.
Source: Agency for Healthcare Research and Quality

ELSEVIER GLOBAL MEDICAL NEWS

Higher PEEP, Low Tidal Volume Didn't Lower Mortality

But strategy did improve oxygenation.

BY HEIDI SPLETE
Elsevier Global Medical News

A strategy of high positive-end expiratory pressure combined with low tidal volume ventilation failed to improve mortality rates, although it improved oxygenation and reduced the need for rescue actions in patients with acute lung injury, based on results from a randomized, controlled trial published in JAMA.

Although mechanical ventilation is essential to keep lung injury patients alive, the ventilation process can worsen this condition, and previous studies have explored the effectiveness of various mechanical ventilation protocols. In patients with acute lung injury (ALI) and acute respiratory distress syndrome (ARDS) who have increased lung weight due to edema, studies have shown that a higher positive-end expiratory pressure (PEEP) can help keep the lung from collapsing, but at the risk of further damaging the lung. Conversely, a PEEP that is too low can increase the risk for hypoxemia and the need for rescue procedures.

In the multicenter study, Dr. Maureen O. Meade of McMaster University in Hamilton, Ont., and her colleagues enrolled 985 adult patients with ALI and ARDS at 30 intensive care units in Canada, Australia, and Saudi Arabia to receive two PEEP protocols to evaluate the impact on all-cause hospital mortality (JAMA 2008;299:637-45).

The experimental group was treated with a "lung open ventilation" strategy, which included recruitment maneuvers, a target tidal volume of 6 mL/kg of predicted body weight, and plateau airway pressure not to exceed 40 cm H_2O. The control group was treated with a target tidal volume of 6 mL/kg of predicted body weight and plateau airway pressure not exceeding 30 cm H_2O. Recruitment maneuvers were not used in the control

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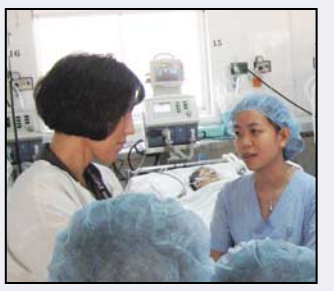

New Lung Cancer Staging System Coming

BY TIMOTHY F. KIRN
Elsevier Global Medical News

An update of the lung cancer staging system probably was long overdue because the old system was based on patients treated with surgery alone.

And with greater numbers of patients with which to make staging classifications, the process of developing the staging system "has changed irrevocably," according to Dr. Peter Goldstraw at the annual meeting of the Society of Thoracic Surgeons.

The current edition of the TNM Classification of Malignant Tumors has not updated lung cancer staging since 1997, and even then, the changes made were minor. Moreover, the stagings in the initial edition were based on only 5,319 total cases, all of which were treated with surgery alone, and some of the subsets were established based on fewer than 100 cases.

The new, proposed system, which is scheduled to be published in 2009, made use of data collected from more than 100,000 cases, including some who got chemotherapy alone and some who got radiotherapy alone. Moreover, the sheer number of patients allowed for about 17,000 cases to be used to establish the new, revised system and 9,000 cases to validate it, said Dr. Goldstraw, the head of the thoracic surgery section at the Royal Brompton Hospital, London, who chaired the Staging Committee of the International Association for the Study of Lung Cancer, the group that developed the revisions.

"Such intensive validation has

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Staging Changes

Lung Cancer • *from page 1*

only been [made] possible by the enormous size of the database and the international spread of the contributions to this project from the lung cancer community," Dr. Goldstraw wrote recently (J. Thorac. Oncol. 2007;2:706-14).

A number of changes in the revision will reassign patients, and some of the descriptors have been moved within stage grouping. Some of these changes will affect clinicians and make clinical decisions more difficult at first, Dr. Goldstraw said in an interview.

"The movement of large tumors to T2b and even T3 means that when resection is undertaken for node-negative cases, they will fall into stage IIA and IIB, respectively, and not IB as at present," he said.

Adjuvant chemotherapy has not been shown to benefit stage I cases, but it does benefit stage II cases. So, clinicians will be faced with deciding whether these newly reassigned, large, but node-negative cases will warrant adjuvant chemotherapy after complete resection. The question will be answered only with future, randomized trials, Dr. Goldstraw said.

Though the revisions are necessary, "established treatment algorithms will be challenged," he said in the interview. "Ultimately, where cases move from one category, TNM subset, or stage grouping to another, trials will be needed to verify whether treatment decisions should be altered to follow this reassignment or remain as is."

One shortcoming of the new revision is that most of the patients were treated before the use of fluorodeoxyglucose-PET, which does detect more previously missed nodal disease, Dr. Goldstraw stated. But PET will be accounted for in the prospective data set being collected for future revision.

"PET will show more patients to have more subtle degrees of N2 disease, but a portion of these will come back around after induction chemotherapy to have resection," he added.

PEEP Protocol

Mortality • *from page 1*

group. PEEP levels in both groups were adjusted according to patients' fraction of inspired oxygen levels.

A total of 475 patients who received the experimental ventilation and 508 who received the control ventilation were included in the primary analysis. One patient in each group withdrew consent. The average age of the patients in the experimental group was 55 years, and the average age of patients in the control group was 57 years. There were no significant demographic differences between the two groups.

All-cause hospital mortality was not significantly different between the two groups, although it was lower in the experimental group than in the control group (36% vs. 40%). The researchers found no association between baseline injury severity and a patient's response to either treatment.

A total of 53 experimental patients and 47 controls developed barotrauma, and this difference was not significant.

But the experimental group's rates of refractory hypoxemia and death with refractory hypoxemia were half those of the control group: 5% vs. 10%, and 4% vs. 9%, respectively. The differences were statistically significant.

A total of 366 patients in the experimental group received at least one recruitment maneuver, and 81 of these (22%) developed a complication as a result. The three most common complications included a mean arterial pressure lower than 60 mm Hg (4.5%), oxygen saturation less than 85% (4.2%), and brachycardia or tachycardia (1.8%).

The use of cointerventions was similar in both groups, and the most common interventions were sedative or narcotic infusion, vasopressors, and neuromuscular blockades. However, the overall use of rescue therapies (including prone ventilation, inhaled nitric oxide, high-frequency oscillation jet ventilation, or extracorporeal membrane oxygenation) was significantly lower in the experimental group than in the control group (8% vs. 12%).

The study might have been limited by insufficient power to show a small mortality reduction, the researchers noted, and by the fact that the greatest benefits of the higher PEEP strategy might have been to an undefined subgroup.

They added, however, that the absence of significant harm or increased barotrauma in this study supports findings from previous research that justify a higher PEEP for the benefits of better oxygenation in patients with ALI and ARDS. "The 'open-lung' strategy appeared to improve oxygenation, with fewer hypoxemia-related deaths and a lower use of rescue therapies by clinicians," the investigators said.

But the question of which PEEP protocol is best for patients remains controversial. Although patients who have increased lung weight due to edema could benefit from a higher PEEP, a higher level of PEEP will be useless if edema is not present in an injured lung, Dr. Luciano Gattinoni and Dr. Pietro Caironi of the University of Milan wrote in an accompanying editorial (JAMA 2008;299:691-3).

"Ideally, the direct assessment of lung recruitability by a dynamic lung imaging technique would allow the best physiological titration of PEEP," they said. The lack of benefit from higher PEEP in this study and other clinical trials contrasts with findings from several experimental studies, they added, and suggests that future studies should take care to identify patients with greater lung injury and lung edema.

Until such a technique becomes widely available, however, the results suggest that PEEP "at the highest level compatible with a plateau pressure of 28 to 30 cm H_2O and a tidal volume of 6 mL/kg of predicted body weight seems to be a reasonable alternative," they noted.

None of the investigators reported any financial conflicts.

Smoking, Age-Related Macular Degeneration Linked

Smoking might raise the odds of developing age-related macular degeneration over the long term by nearly 50%.

Smoking also appeared to be associated with the cumulative progression of AMD, according to Dr. Ronald Klein and his associates in the Beaver Dam Eye Study.

The population-based study involved nearly 5,000 residents of Beaver Dam, Wis. A total of 3,508 subjects were included in the substudy of AMD and smoking. At baseline, 21% of the men and 18% of the women were current smokers, said Dr. Klein and his associates at the University of Wisconsin, Madison.

During 15 years of follow-up, current smoking at baseline was associated with a 47% increase in the odds of developing early AMD. Current smokers also had a younger age at onset of AMD (69.2 years), compared with former smokers (72.3 years) and people who had never smoked (74.4 years).

Smoking also was associated with progression of AMD over time (Arch. Ophthalmol. 2008;126:115-21).

—Mary Ann Moon

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CHEST PHYSICIAN

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Hospital Pay-for-Performance Project Cut Costs, Mortality

Median hospital cost per patient dropped by $1,000 in the first 3 years; median mortality rate fell 1.9%.

BY ALICIA AULT
Elsevier Global Medical News

Hospitals participating in a Medicare-sponsored, pay-for-performance demonstration project continue to sustain initial gains in quality improvement and have seen a huge decline in costs and mortality for selected conditions over the first 3 years of the project, according to data released by Premier Inc., a hospital performance improvement alliance.

Overall, the median hospital cost per patient dropped by $1,000 in the first 3 years, and the median mortality rate dropped by 1.87%. The project has 250 participating hospitals, and more than 1 million patient records were analyzed.

Premier, which is managing the Centers for Medicare and Medicaid Services–funded Hospital Quality Incentive Demonstration project, estimated that if every hospital in the United States achieved the same benchmarks, there would be 70,000 fewer deaths each year and hospital costs would drop by as much as $4.5 billion a year.

At a briefing to release the results, Mark Wynn, Ph.D., director of payment policy demonstrations at CMS, said that the hospital project is considered one of the agency's primary arguments in favor of value-based purchasing.

CMS has been pushing that policy as the most effective way to restructure Medicare reimbursement to reward efficiency and value.

Dr. Wynn acknowledged that the financial incentives have been very small, but even so, there has been significant improvement.

"Relatively modest dollars can have huge impacts," he said.

Dr. Evan Benjamin, chief quality officer for Baystate Health System in Springfield, Mass., agreed that even small financial carrots have an effect.

Dr. Benjamin was the lead author of a study looking at earlier data from the improvement project. He and his colleagues found that quality was higher among the 250 hospitals that were given incentives than it was in control hospitals that were required to report their data publicly but were not given pay-for-performance incentives (N. Engl. J. Med. 2007;356:486-96).

There's room for even more improvement, Dr. Benjamin said at the briefing, noting that most of the hospitals started at a relatively high level of quality and that larger financial incentives might push greater gains.

The Hospital Quality Incentive Demonstration project began in October 2003; the data released covered every quarter through June 2007.

Hospitals were given aggregate scores for each of five conditions—acute myocardial infarction, heart failure, coronary artery bypass graft, pneumonia, and hip and knee replacement—based on reporting for 27 process measures.

Hospitals with fewer than eight cases per quarter were excluded, and all the data were adjusted using the All Patient Refined–Diagnostic Related Groups (APR-DRG) methodology created by 3M Information Systems.

Overall, hospitals improved by an average 17% on a composite quality score used by the project. Improvements were largest in pneumonia and heart failure. For instance, only 70% of patients were receiving appropriate pneumonia care at the start, but by June 2007, 93% were. For heart failure, the numbers rose from 64% to 93% of patients getting quality care. Savings were also greatest for heart failure, at about $1,339 per case.

There was a continuing downward trend in performance variation among the hospitals, with all moving toward the ideal, said Richard Norling, president and CEO of Premier Inc.

For the hospitals that were on target 100% of the time with 100% of patients, costs and mortality were lowest, he said. For instance, the mortality rate for coronary artery bypass graft patients was close to 6% at hospitals that met appropriate care benchmarks in only half the patients or fewer. Mortality was just under 2% for facilities that met those benchmarks in 75%-100% of the patients, Mr. Norling said.

Attaining the goals of the demonstration project required huge cultural shifts and large investments in information systems, according to two hospital executives whose facilities participated in the project.

Before the project, the Aurora Health Care system was reactive and was achieving only incremental quality improvement, despite having a culture and leadership that focused on better care, said Dr. Nick Turkal, president and CEO of the Milwaukee-based nonprofit system.

Participation in the demonstration has changed the mind-set to "a pursuit of perfection," Dr. Turkal said at the briefing. The system's 13 hospitals have 100,000 admissions annually. Data on meeting the pay-for-performance goals are given to employees every 60 days, and are updated regularly on the system's Web site for the public to see. Mortality and costs are down significantly across the system, but "we're not done yet," he said.

Improvements are possible regardless of facility size or location, said Dr. Mark Povroznik, director of quality initiatives at United Hospital Center, Clarksburg, W.Va. The 375-bed facility has about 15,000 admissions a year and is facing a large and growing uncompensated care burden, he said at the briefing.

The facility has gone from being among the top 20% in two conditions during the first year to being on track to hitting that mark for four conditions in the upcoming year, said Dr. Povroznik. The payout has been tiny, with an estimated $143,000 in bonuses due for 2007, but the rewards are large in quality improvement, he said.

For instance, the hospital was struggling to meet a "door-to-balloon" time for acute myocardial infarction. Initially, the hospital was hitting a 2-hour mark for only 71% of cases. Now, 100% of eligible cases are given angioplasty within a recommended 90-minute target, he said.

The demonstration project has proved that incentives can work, said Dr. Wynn. CMS is tinkering slightly with the project, however. Starting this year, there will be incentives not just for improvement over baseline and for hitting the top 20%, but also for hospitals that show the greatest improvement. A total of $12 million will be available, he said. ■

Dr. Mark L. Metersky, FCCP, comments: *These data demonstrate that relatively small financial incentives can play a role in improving quality of care, in a group of motivated hospitals. While it seems likely that the noted improvements led to improved patient outcomes and lower costs, the magnitude of benefit claimed must be viewed with caution, as these improvements were seen during a time when hospital length of stay and mortality rates for many conditions are declining, independent of the Premier Project.*

Thoracic Surgeon to Lead Center for Medicare Management

BY ALICIA AULT
Elsevier Global Medical News

Dr. Jeffrey Rich is trading in his scalpel for a bureaucrat's pen in the hope that he'll give Medicare a strong and credible push into a future that will reward those who deliver high-quality care at the best cost. The cardiothoracic surgeon took over as director of the Center for Medicare Management in February.

Dr. Rich, who serves on the board of directors for the Society of Thoracic Surgeons, has delved deeply into restructuring reimbursement to reward quality care through his work with the National Quality Forum, the Hospital Quality Alliance, the Surgical Quality Alliance, and the AQA alliance, among other organizations.

He also helped launch the Virginia Cardiac Surgery Quality Initiative, which was one of the initial participants in CMS's Hospital Quality Incentive Demonstration project.

Dr. Rich is currently chairman of the board of directors for the Virginia initiative and is also a member of the quality committee.

On three occasions, Dr. Rich has testified before Congress on how the federal government could construct a payment system to reward quality.

He also gave a congressional briefing on pay for performance.

Even so, he's often felt like an outsider, trying to get policy makers' attention. Now, Dr. Rich will be on the inside.

AFTER SPENDING YEARS 'KNOCKING ON DOORS,' DR. RICH WILL 'GET A CHANCE TO OPEN A DOOR INSTEAD OF KNOCKING ON IT.'

"I get a chance to open a door instead of knocking on it," Dr. Rich said in an interview, noting that he's been "knocking on doors for years."

As director of the Center for Medicare Management, he will lead several federal initiatives, such as instituting competitive bidding for durable medical equipment, implementing the Medicare Administrative Contractor program, and overseeing the development and promulgation of rules pertaining to inpatient, outpatient, and physician payments.

But his top priority is guiding the center's value-based purchasing initiative.

The Virginia Cardiac Surgery Quality Initiative ably combined the CMS administrative claims database with the Society of Thoracic Surgery registry, said Dr. Rich, adding that he'd like to do something similar while at CMS.

"My hope is that we do create a value-based purchasing system with credible data and that will engender trust with providers," he said.

The key will be to use "market-based approaches, not mandates," Dr. Rich said.

Although he's excited about his opportunities with CMS, Dr. Rich has some sadness about his forced retirement from surgery.

"It didn't feel good to resign from my practice," he said. Dr. Rich was a surgeon with a group cardiothoracic surgery practice based at Sentara Heart Hospital in Norfolk, Va.

Government ethics rules dictated that he quit, said Dr. Rich, although he added that he will be able to keep his hand in surgery by occasionally taking call when he returns home to Norfolk on the weekends after a work week split between Washington and CMS's Baltimore headquarters. That light duty has been cleared by the feds.

And, most likely, he'll be back to the operating room early next year.

As with all presidential appointees, the law requires that he resign his position by the time the next president is sworn in on Jan. 20, 2009.

Although he could be kept on, Dr. Rich said, "I'm not anticipating being there more than a year." ■

FDA Warns of Depression, Suicide Risk With Varenicline

BY TIMOTHY F. KIRN
Elsevier Global Medical News

The Food and Drug Administration is evaluating postmarketing adverse event reports of serious neuropsychiatric symptoms—including agitation, depressed mood, and suicidal ideation and behavior—in people taking the smoking-cessation drug varenicline (Chantix), the agency said last month in a public health advisory.

The FDA asked varenicline's manufacturer, Pfizer Inc., to make this information more prominent on the medication label's warnings and precautions section. Pfizer had updated the drug's label in January.

In announcing the advisory, FDA officials said that evidence was accumulating that some patients taking varenicline may become susceptible to mood changes, depression, and erratic behavior.

Agency officials said they believe that these symptoms are caused by the drug itself, rather than by nicotine withdrawal.

In some of the cases, the patients had still been smoking during treatment with varenicline, and thus were not withdrawing from nicotine, said Dr. Bob Rappaport, director of the division of anesthesia, analgesia, and rheumatology products for the FDA.

"We've become increasingly concerned as there are a number of compelling cases that truly look as if they are the result of the exposure to the drug and not to other causes," Dr. Rappaport said at a press briefing announcing the FDA action.

There have been 39 reported suicides and 491 reports of patients considering or attempting suicide while being treated with varenicline, FDA officials said at the briefing.

EVIDENCE SHOWED THAT SOME PATIENTS TAKING THE DRUG MAY BECOME SUSCEPTIBLE TO MOOD CHANGES, DEPRESSION, AND ERRATIC BEHAVIOR.

"We've seen cases of patients who had a history of depression and we have seen cases of people who had no history of depression," he added. "These events are occurring sporadically, and at times in people who had no history of psychiatric disease or changes in behavior in the past."

FDA estimates that about 5 million people have been prescribed the drug.

In addition to reporting neuropsychiatric symptoms, patients should be advised to call their health care provider immediately if they experience vivid, unusual, or strange dreams.

The warning also notes that patients with serious psychiatric illness, such as schizophrenia, bipolar disorder, or major depressive disorder, may experience a worsening of symptoms with the drug. Patients with psychiatric illness were not included in the clinical trials that supported FDA approval of varenicline.

In response to questions about reports of violent behavior in people taking varenicline, FDA officials said that they are taking the reports seriously but are trying to proceed cautiously, noting that the drug has been a useful smoking-cessation tool.

"This is an extremely important drug and a very effective drug in treatment to allow patients to quit smoking," Dr. Rappaport said.

Dr. Celia Winchell, of the FDA's Center for Drug Evaluation and Research, noted that it is not clear how the drug might be causing the adverse neuropsychiatric symptoms, because it is thought to bind only to the same brain receptor as nicotine.

She also said that the symptoms were not noted in any of the 4,000 persons treated with the drug in the clinical trials that led to approval.

Withdrawal from the drug also may be associated with the symptoms, Dr. Rappaport noted.

The FDA has received some reports of patients who began having symptoms after stopping the drug; the agency is investigating those reports.

Varenicline, a selective nicotinic acetylcholine receptor partial agonist, was approved by the FDA following a priority review in 2006.

The drug reportedly reduces craving for tobacco and blocks much of the pleasurable effect of nicotine when tobacco is smoked.

In one of the studies conducted for approval, patients were followed for 1 year after receiving 12 weeks of treatment with the drug, given at a dose of 1 mg twice daily. At 52 weeks, 23% of the patients treated with varenicline had been smoke free since the ninth week of the study, compared with 15% of patients treated with bupropion and 10% of those treated with placebo (JAMA 2006;296:56-63). ■

Trio of New Strains Chosen For 2008-2009 Flu Vaccine

BY HEIDI SPLETE
Elsevier Global Medical News

GAITHERSBURG, MD. — All three virus strains in the influenza vaccine for the 2008-2009 season will differ from this year's vaccine, based on a majority vote by an advisory committee to the Food and Drug Administration.

The Vaccines and Related Biological Products Advisory Committee members voted to accept the choices recommended by the World Health Organization for next year's trivalent vaccine: an A/Brisbane/59/2007 (H1N1)–like virus, an A/Brisbane/10/2007 (H3N2)–like virus, and a B/Florida/4/2006–like virus.

THE CHOICES REPRESENT A NOTABLE DEPARTURE FROM RECENT FORMULAS, WHICH REPEATEDLY INCLUDED THE SOLOMON ISLANDS STRAIN OF INFLUENZA A.

These choices represent a notable departure from the flu vaccine formulas of recent years, which have included repeat appearances by the Solomon Islands strain of influenza A.

The change was prompted in part by the rise of the A/Brisbane/10/2007–like strain, which accounted for 82% of the influenza A (H3N2) isolates characterized by the Centers for Disease Control and Prevention between October 2007 and January 2008.

According to the most recent data available from the CDC, the H3N2 strain of influenza A has become the dominant strain for this year's flu season.

Although influenza A is causing most of the illness, the well-publicized mismatch between the influenza B virus chosen for this year's flu vaccine and the currently circulating B virus is drawing extra attention. But the lengthy process of developing the flu vaccine and the challenges to produce it in volume and on schedule remain the same each year.

Two types of influenza B circulate every year, and one committee member compared the choice of B virus for each year's vaccine with flipping a coin.

An influenza B virus from the Victoria group was chosen for the 2007-2008 vaccine, but the strain chosen for 2008-2009 is of the Yamagata lineage. The most recent data from the CDC for the 2007-2008 flu season (as of Feb. 9, 2008) showed that 93% of the circulating influenza B viruses in the United States were of the Yamagata lineage, while 7% of the viruses were of the Victoria lineage. "But we have both groups [of influenza B virus] circulating worldwide," noted Nancy Cox, Ph.D., director of the influenza division at the CDC.

The committee members also discussed the possibility of tailoring future flu vaccines to different populations. Unlike previously vaccinated adults who have been exposed to both types of influenza B over time, children would likely benefit from a vaccine that contains strains from both B virus lineages, noted Dr. Robert Couch, a professor of molecular virology and microbiology at Baylor College of Medicine, Houston. ■

England Reports Rise in Numbers of Smokers Who Quit

BY JONATHAN GARDNER
Elsevier Global Medical News

Nearly 28% more English smokers quit in mid-2007 than during the same period the previous year, a change that shows the impact of a government ban on lighting up in public indoor spaces, the National Health Service reported Jan. 29.

The NHS said 164,711 smokers who set a quit date between April and September 2007 had self-reported successfully quitting at 4 weeks, compared with 128,868 during the same period in 2006, a 27.8% increase.

"This follows the news last week that a smaller proportion of adults now smoke—22 percent, down from 24 percent. We are well on track to meet our target to reduce the proportion of smokers in England to 21 percent by 2010," Public Health Minister Dawn Primarolo said in a written statement.

"It's not easy to overcome a nicotine addiction, so it's clear that the NHS Stop Smoking Service is providing a vital service. And these figures are confirmation that the £56 million we invested into the service last year was money well spent," she said.

According to a department report, the government spent about £164.38 for every quitter who reached the 4-week benchmark in April-September 2007, compared with £160.25 in fiscal 2006-2007.

England instituted a ban on smoking in pubs, restaurants, and other public indoor spaces on July 1, 2007.

The report did not include any statistics on successful quit rates past 4 weeks.

Among its other findings:

- Forty-eight percent of smokers using nicotine replacement therapy and 53% of those taking bupropion made the 4-week benchmark between April and September 2007, while 47% using both nicotine replacement therapy and bupropion did so.
- Sixty-four percent of patients using varenicline had quit at 4 weeks.
- Forty-nine percent of those using no pharmacotherapies had quit at 4 weeks.
- Forty-seven percent of pregnant women setting a quit date reported they had successfully quit at 4 weeks; 33% had not; and 20% were lost to follow-up. ■

Dr. Philip Marcus, FCCP, comments: *Finally, a bright light appears on the horizon. However, the true test of any intervention will be continuous abstinence at 12 weeks, and more importantly at 1 year.*

Once again, we also see that different interventions produce different results. Prior studies have shown that nicotine replacement therapy does better than placebo, and that varenicline produces the greatest effects on abstinence rates.

It will also be important to see if the new warnings concerning the neuropsychiatric effects of varenicline will affect its use.

Intranasal CO_2 Shows Promise for Rhinitis

BY KATE JOHNSON
Elsevier Global Medical News

Two 1-minute treatments of intranasal carbon dioxide significantly reduced nasal symptoms of allergic rhinitis, according to a study in the January issue of the Journal of Allergy and Clinical Immunology.

"The rapid and sustained improvement in nasal symptoms … indicates that this novel treatment potentially has an important therapeutic role for this common condition," wrote Dr. Thomas Casale of Creighton University, Omaha, Neb. (J. Allergy Clin. Immunol. 2008;121:105-9).

The study included 89 patients, 60 of whom (63% female, median age 38 years) were randomized to carbon dioxide (CO_2) treatment, with the remaining 29 (76% female, median age 42 years) randomized to placebo (room air). The inclusion criterion was a positive skin prick test to common allergens. Exclusion criteria were asthma; use of intranasal, inhaled, or systemic steroids within 30 days of the study; use of concomitant medications that could affect study outcome; clinically significant nasal disorders; or a history of upper respiratory infection within the past 14 days.

At 60 minutes and 30 minutes before treatment, subjects evaluated the baseline intensity of four nasal symptoms: congestion, rhinorrhea, itching, and sneezing. A scoring system was used to calculate a total nasal symptom score (TNSS). A similar total nonnasal symptom score (TNNSS) was calculated based on eye itching, tearing, redness, and itching of the ears and palate.

The gases were then self-administered intranasally from large compressed gas cylinders. Two 1-minute dosings were administered, less than 5 minutes apart, with the flow rate at 10 mL/sec. Subjects were blinded to their randomization and received the treatment separately in private rooms. They avoided inhaling the gas by breathing through their mouths, allowing the gas to flow in one nostril, pass through the nose and sinus cavities, and pass out through the other nostril.

TNSS and TNNSS were reevaluated at 10, 20, 30, 45, and 60 minutes after treatment, as well as hourly until discharge at 4 hours after treatment. Subjects also were asked to record their symptoms at 6, 12, and 24 hours after treatment.

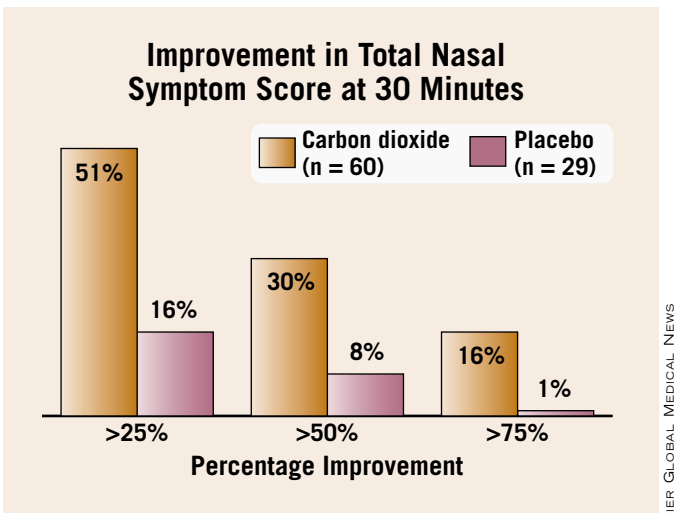
Compared with placebo, intranasal noninhaled CO_2 resulted in a significantly greater reduction in TNSS at 30 minutes after treatment, with symptom relief improving significantly from baseline as early as 10 minutes after treatment. TNNSS also improved from baseline, but the results were not significantly different from placebo.

Adverse events in the CO_2 group included moderate or severe nasal stinging and watery eyes in the majority of subjects. The events were limited to the duration of the gas administration, and often subsided before treatment was terminated.

"This is the first report to document the therapeutic potential of intranasal noninhaled CO_2 for the symptomatic treatment of allergic rhinitis," the authors wrote. "Future studies will have to determine the best dosing regimen, weighing efficacy against tolerability, and will have to define its application as acute treatment, chronic treatment, or both, of allergic rhinitis."

The authors noted the impractical nature of the large compressed gas cylinders used in the study. "A small handheld device has been used to examine the therapeutic effect of noninhaled intranasal CO_2 in migraine headache, and will be used in future allergic rhinitis studies," they wrote.

Capnia Inc. sponsored the study, and Dr. Casale disclosed consulting arrangements and grant support from Capnia. A study coauthor, Dr. Egilius L. H. Spierings, Harvard Medical School, Boston, also disclosed consulting arrangements with Capnia. ■



Study: Blacks May Process Nicotine Differently

BY KERRI WACHTER
Elsevier Global Medical News

Blacks appear to metabolize nicotine differently than whites do, a finding that may have implications for the way that nicotine exposure is measured and for smoking cessation efforts, based on the results of a study of almost 100 smokers.

"There was a decrease in a major pathway of nicotine metabolism among African American smokers, compared with whites," study investigator Jeannette Zinggeler Berg, an MD/PhD student at the University of Minnesota, Minneapolis, reported at a press briefing held in conjunction with the annual international conference of the American Association for Cancer Research.

Smokers adjust their level of smoking to maintain the level of nicotine in the blood, which is determined in part by rates of nicotine metabolism. Cotinine, the major metabolite of nicotine, "has been widely used as a measure of nicotine exposure both among smokers and nonsmokers exposed to environmental tobacco smoke," Ms. Berg said. Cotinine levels have been observed to be higher in black smokers. However, epidemiologic studies have shown that they do not smoke more cigarettes than their white counterparts do.

In this study of 51 black smokers and 42 white smokers, urinary and plasma metabolites were measured at baseline and on 3 consecutive days. To control the amount of nicotine, participants were not allowed to smoke and instead wore 21-mg nicotine patches.

The researchers looked at levels of glucuronides, which represent a pathway by which the liver metabolizes nicotine and cotinine in preparation for urinary excretion. A low blood level of glucuronide can indicate an inefficient excretion pathway for nicotine and cotinine.

Blacks had lower levels of cotinine in glucuronide form as a percentage of total cotinine in baseline 24-hour urine samples, compared with whites—64% vs. 83%. There was a similar difference in cotinine levels (in glucuronide form) while participants were wearing the nicotine patches—41% in blacks, compared with 62% in whites. The percentage of nicotine in glucuronide form as a percentage of total nicotine also was lower among blacks wearing the patches, compared with their white counterparts (16% vs. 30%). While on the nicotine patches, blacks had higher levels of free urinary cotinine (12.7 nmol/mL), compared with whites (9.5 nmol/mL).

"We think the main implication … is that cotinine doesn't tell the whole story. If you're looking at nicotine exposure, cotinine tells you a little bit about exposure, but it also tells you about metabolism," Ms. Berg said.

Lower levels of glucuronide, which helps break down cotinine, could explain higher levels of free urinary cotinine previously seen in blacks.

"Individual differences in nicotine metabolism matter. They may influence how much people smoke and how difficult it is for people to quit," she said. However, there are a number of factors in addition to race that likely play a role in nicotine metabolism, and smoking cessation could be more difficult in individuals who have higher nicotine levels as a consequence of slower glucuronidation. ■

Dr. Philip Marcus, FCCP, comments: *These findings indicated racial differences in nicotine handling, similar to that seen for many drugs. This is indicative of the importance of pharmacogenomics in explaining the effects of drugs in individuals, as well as the side effects and metabolic processes that determine most aspects of pharmacokinetics. How this will play out in terms of the effects of nicotine and applications to smoking cessation efforts needs to be worked out.*

FDA Clears 12-Virus Detection Test

BY ELIZABETH MECHCATIE
Elsevier Global Medical News

The Food and Drug Administration recently approved a nucleic acid–based test that simultaneously detects and identifies 12 respiratory viruses and viral subtypes.

This is the first test cleared for "infectious respiratory disease samples that use a multiplex platform, allowing several tests to be processed using the same sample," according to the FDA statement announcing the clearance in January. It is also the first test available for human metapneumovirus (hMPV).

In addition to hMPV, the panel detects adenovirus, influenza A (nonspecific subtype), influenza A H1, influenza A H3, influenza B, respiratory syncytial virus (RSV) A, RSV B, rhinovirus, and parainfluenza 1, 2, and 3. In clinical trials, sensitivity ranged from 78.3% to 100%, and specificity ranged from 91.3% to 100%, depending on the virus and viral subtype tested, according to Toronto-based Luminex Molecular Diagnostics.

In clinical trials, sensitivity for adenovirus was 78.3% and specificity was 100%; sensitivity for parainfluenza 3 was 84.2% and specificity was 99.6%. For the rest, sensitivity ranged from 91.5% to 100%, and specificity ranged from 95.9% to 100%, depending on the virus and viral subtype tested.

Luminex is the manufacturer of the test, which is called the xTAG Respiratory Viral Panel.

While viral cultures and rapid diagnostic tests for common respiratory viruses are available, "this is unique because it's an all-in-one test, and we can get the results back in a few hours," said Dr. Devang Doshi, director of pediatric pulmonology, allergy, and immunology at William Beaumont Hospital, Royal Oak, Mich. Using this test could enable clinicians to focus therapy and direct it toward the particular infection, which "should help us minimize the amount of antibiotics we're prescribing," added Dr. Doshi.

Having a test available for hMPV, which often causes wheezing in very young children, will provide useful information in young patients who present with wheezing and are RSV negative, he added.

One study of the xTAG panel was conducted at William Beaumont Hospital, but Dr. Doshi was not an investigator and had no financial conflicts to disclose.

Results using a single patient sample are available within a few hours. "Positive results do not rule out other infection or coinfection, and the virus detected may not be the specific cause of the disease or patient symptoms," according to an FDA statement. The panel should be used with x-rays, bacterial or viral cultures, and other diagnostic information, the FDA added. ■

Study Finds VTE Prophylaxis Falls Short Worldwide

BY NANCY WALSH
Elsevier Global Medical News

More than half of hospitalized patients worldwide are at risk for venous thromboembolism, and despite the availability of evidence-based guidelines, the rate of appropriate prophylaxis remains low, a new study has found.

With pulmonary embolism accounting for 5%-10% of deaths among hospitalized patients, venous thromboembolism (VTE) remains the most common preventable cause of in-hospital death, investigators reported in the Lancet.

To more fully appreciate the magnitude of this shortfall, Dr. Alexander T. Cohen of King's College Hospital, London, and colleagues enrolled 68,183 patients from 358 hospitals in 32 countries into the cross-sectional Epidemiologic International Day for the Evaluation of Patients at Risk for Venous Thromboembolism in the Acute Hospital Care Setting (ENDORSE) study.

Patients 40 years and older being treated in medical wards and those 18 years and older being treated on general surgical wards were assessed by chart review for risk for VTE according to the 2004 American College of Chest Physicians guidelines.

Among the 37,356 medical patients, 49% were women; the median age was 67 years. Among the 30,827 surgical patients, 48% were women; the median age was 59 years.

The researchers found that 15,487 medical patients (42%) were at risk for VTE, with the most common risk factors present before hospitalization being chronic pulmonary disease and heart failure.

They identified 19,842 surgical patients (64%) who were at risk, with obesity being the most common prehospitalization risk factor.

The most common postadmission risk factors among both medical and surgical patients were complete immobilization, immobilization with bathroom privileges, and admission to intensive or critical care units. Overall, 35,329 (52%) were at risk.

Further analysis determined that only half of these at-risk patients (17,732) received ACCP-recommended types of prophylaxis, which include low-dose unfractionated heparin, low-molecular-weight heparin, graduated compression stockings, and/or intermittent pneumatic compression devices. When prophylaxis was given, low-molecular-weight heparin was the agent most often used.

Not only was prophylaxis underused in at-risk patients, but the investigators also found that 34% of surgical patients and 29% of medical patients considered at low risk for VTE were given prophylaxis (Lancet 2008;371:387-94).

Overall, the proportion of hospital patients at risk for VTE ranged among countries from 36% to 73% and the proportion of patients receiving ACCP-recommended prophylaxis ranged from 2% to 84%, the investigators reported.

These differences could reflect factors such as physician awareness, availability of guidelines, and local resources. In the United States, 48% of at-risk medical patients and 71% of at-risk surgical patients received recommended prophylaxis, while in Thailand the corresponding figures were 4% and 0.2%.

They also noted that the use of prophylaxis was particularly low among medical patients, with only 37% of those hospitalized with active malignancy or ischemic stroke—among the highest risk groups—receiving recommended prophylaxis.

In an accompanying commentary, Dr. Walter Ageno and Dr. Francesco Dentali of the University of Insubria, Varese, Italy, noted that local programs such as electronic alerts for clinicians are effective and should be promoted. Before such tools can be effectively implemented, however, the prevalence of the problem must be more broadly appreciated and disagreements about benefits and risks resolved.

For example, the commentators wrote, "Different perceptions of the benefit-to-risk ratio of pharmacologic prophylaxis exist between ischemic stroke specialists, and some stroke guidelines do not recommend routine use of pharmacologic prevention strategies." Guidelines should be more comprehensively endorsed among medical and surgical societies, they wrote (Lancet 2008;371:361-2). ■

Index Helps Decide Which PE Patients Get to Go Home

BY PATRICE WENDLING
Elsevier Global Medical News

CHICAGO — The Pulmonary Embolism Severity Index provides clinicians with a useful tool for selecting patients with acute pulmonary embolism for outpatient therapy, Col. Lisa K. Moores, MC USA, FCCP, said.

Recent evidence suggests that many patients presenting in the emergency department with nonmassive pulmonary embolism (PE) can be safely treated as outpatients using low-molecular-weight heparins or discharged early. Based on this growing body of evidence, the British Thoracic Society now recommends outpatient treatment for clinically stable patients with PE.

The Pulmonary Embolism Severity Index (PESI) and Geneva score are two standardized prognostic models that have been recently developed to identify patients at low risk for PE. The PESI uses 11 clinical findings routinely available at presentation that were previously shown to be associated with mortality in patients with PE or other acute diseases, said Dr. Moores, assistant dean for clinical sciences at the Uniformed Services University of the Health Sciences, Bethesda, Md.

These variables include demographics (age and male sex), comorbid conditions (cancer, chronic heart failure, and chronic lung disease), and six signs, including a heart rate of 110 bpm or more, systolic blood pressure less than 100 mm Hg, respiratory rate of 30 bpm or more, temperature less than 36° C, altered mental state, and oxygen saturation less than 90%.

A score is calculated by using age, then adding points based on the various factors present. Patients are then stratified by their score into five severity classes of increasing risk of death and other adverse outcomes.

A validation study demonstrated that patients in PESI class I (no more than 65 points) and class II (66-85 points) had a 30-day mortality of 1.6% or less and 3.5% or less, respectively (Am. J. Respir. Crit. Care Med. 2005;172:1041-6). Nonfatal cardiogenic shock or cardiorespiratory arrest occurred in 1% or less in class I and 1.3% or less in class II, and no patient in these two classes had nonfatal bleeding or recurrent venous thromboembolism, Dr. Moores said at the annual meeting of the American College of Chest Physicians.

The Geneva score has been validated in two studies and uses six factors to stratify patients as low risk (up to 2 points) or high risk (3 points or more). Those factors are cancer, heart failure, previous deep vein thrombosis, systolic BP less than 100 mm Hg, arterial oxygen pressure less than 60 mm Hg, and deep vein thrombosis on ultrasound. Of 180 low-risk patients, only 4 (2%) had an adverse outcome, compared with 23 of 88 (26%) high-risk patients (Thromb. Haemost. 2000;84:548-52).

Dr. Moores acknowledged that the PESI model is "harder to get your hands around" than the Geneva model, but said some of the most intriguing data of 2007 suggests that the PESI is "more accurate and clinically useful." An independent, head-to-head comparison in which the models were retrospectively applied to a cohort of 599 patients with objectively confirmed PE, indicated a 30-day mortality in Geneva low-risk patients of 5.6%, compared with a mortality in PESI low-risk (class I and class II) patients of 0.9% (Chest 2007;132:24-30). The PESI classified significantly fewer patients as low risk than did the Geneva model (36% vs. 84%), but the area under the receiver operating characteristic curve was higher for the PESI (0.76 vs. 0.61).

"More patients can be classified via Geneva as low risk, but the difference in mortality rates between the two systems suggests doing it more safely with the PESI," Dr. Moores said. ■

Youth Abuse OTC Cough/Cold Meds

BY JOHN R. BELL
Elsevier Global Medical News

More than 3 million Americans aged 12-25 are thought to use over-the-counter cough and cold medication nonmedically in 2006, the Substance Abuse and Mental Health Services Administration estimates.

The estimates are based on results of the 2006 National Survey on Drug Use and Health (NSDUH), which was published in early January by SAMHSA. The NSDUH survey obtains information on several categories of illicit drug use, and this is the first time that the survey included questions about OTC medications. It included 44,819 persons aged 12-25.

In the survey, 5.3% of respondents reported ever having abused such a medication, and 1.7% reported doing so in the past year. The rate of abuse was significantly greater among those aged 18-25 years (6.5%) than among 12- to 17-year-olds (3.7%). In the younger group, girls were more likely than boys to report such abuse (4.3% vs. 3.0%), but in the older group, the young men reported more abuse than the young women (7.7% vs. 5.4%).

Whites were overall more likely to report having abused OTC medications (6.2%) than were African Americans (2.5%) or Hispanics (4.7%). Rates were not estimated for Asian Americans or Native Americans.

The most common medications reported among respondents who disclosed having abused an OTC cough/cold medicine were NyQuil (31%), Coricidin (18%), and Robitussin (18%). However, the largest group of respondents reporting prior abuse (39%) said they have used some other medication.

Dr. Robert L. DuPont, a psychiatrist who served as the first director of the National Institute on Drug Abuse, said in an interview that physicians can help prevent this type of abuse by reminding parents to think about the presence in the home of medications that could be abused.

"I think [physicians] need to be talking much more with young people and parents about young people's drug use and really to think about OTC abuse," he said. "One of the things that parents don't do is think about the alcohol around the house and think about the drugs around the house, including OTC [drugs]."

The findings also raise the larger question of access control and whether measures should be taken similar to those regulating purchases of pseudoephedrine-containing products.

He also noted the finding that nearly 82% of the ever-abusers of OTC cough or cold medication reported ever having used marijuana.

"The overlap with marijuana is very extensive, because marijuana is the most commonly used illegal drug among young people." Thus, some OTC cough and cold medications may be considered potential initiators into drug abuse in the same way as inhalants, Dr. DuPont said.

The NSDUH survey also looked at the use of illicit drugs among youth and young adults. It found that more than 22 million people, or 9% of the population aged 12 and older, had substance dependence or abuse in the past year based on DSM-IV criteria. It cited marijuana (4.2 million) as the illicit drug with the highest level of past year dependence or abuse in 2006. The use of marijuana was followed by cocaine (1.7 million).

More than half of Americans aged 12 or older said they were current users of alcohol (50.9%) in 2006. The report said that percentage translates to about 125 million people. A year earlier, about 126 million people in that age range reported using alcohol. ■

Cough/Cold Meds Fuel Thousands of Pediatric ED Visits

Every year an estimated 7,091 children under age 12 are treated in U.S. emergency departments for adverse events related to over-the-counter and prescription cough and cold medications, according to a study in the journal Pediatrics.

Almost two-thirds of these visits were due to unsupervised ingestions, reported Dr. Melissa K. Schaefer and her associates at the Centers for Disease Control and Prevention.

The estimate is based on emergency department (ED) visits for adverse drug events attributable to cough and cold medications, identified from a nationally representative sample of 63 emergency departments in 2004 and 2005. The 7,091 visits make up almost 6% of all ED visits related to all medications in this age group; 66% of the study visits were related to unsupervised ingestions. Hospital admission or extended observation was not needed in 93% of these cases, but 23% of patients had to undergo gastric decontamination.

The study appeared online on the journal's Web site (www.pediatrics.org/cgi/doi/10.1542/peds2007-3638).

—Elizabeth Mechcatie

Group Revises Evidence Grading

Severe Sepsis • *from page 1*

when treating patients with rhAPC. Corticosteroid use became a weak recommendation "in light of conflicting trial results," and use of rhAPC became a weak recommendation to bring its use "in line with current labeling from European and U.S. regulatory agencies," said Dr. R. Phillip Dellinger, FCCP, chairman of the guidelines writing committee.

Dr. Curtis N. Sessler, FCCP, agreed that these two changes are the most significant differences. Aside from the revisions in corticosteroid and rhAPC use, "most of the major recommendations are largely unchanged," said Dr. Sessler, professor of medicine at Virginia Commonwealth University, Richmond.

Other changes included strong recommendations for achieving a central venous oxygen saturation of 70% or greater, achieving glycemic control, using head-of-bed elevation for mechanically ventilated patients, placing a 6-hour target for verifying the source of infection, and allowing tidal volumes higher than 6 mL/kg of predicted body weight in ventilated patients when clinical problems arise from the 6 mL/kg target, added Dr. Dellinger, head of the division of critical care medicine at Cooper University Hospital in Camden, N.J.

Another substantial change in the revised recommendations is the use of a new system for grading and classifying the evidence that supports the guidelines.

"We recognized that criticism about the grading system used for the prior guidelines pointed to valid limitations," Dr. Dellinger said in an interview. "We were able to partner with the world's leading evidence-based medicine group, the GRADE Working Group, for the revision, and our new system is much better."

"We're generally happy with the scientific merit of the guidelines," commented Dr. David H. Ingbar, FCCP, president of the American Thoracic Society. Reviewers performed a scientific assessment of the guidelines on behalf of the ATS, and most of their initial concerns were resolved, added Dr. Ingbar, professor of medicine and director of the pulmonary, allergy, critical care, and sleep division of the University of Minnesota, Minneapolis.

The only unresolved ATS concerns focused on the strength of certain recommendations rather than the recommendations themselves. The ATS reviewers also raised conflict-of-interest concerns about the guidelines that ultimately led the ATS to withhold its endorsement.

"It's good that the guidelines made rhAPC a weak recommendation," commented Dr. Peter Q. Eichacker, head of the critical care section and senior investigator at the National Institutes of Health in Bethesda, Md. "Clearly there is an increased risk of bleeding in patients treated with rhAPC, especially when the drug is used outside of the very controlled setting of a clinical trial."

Dr. Eichacker also highlighted the uncertainty surrounding the recommendation to use central venous oxygen saturation to guide therapy, because the benefits of this approach were documented by only one randomized, controlled study done at a single medical center.

Other concerns about the revised guidelines include the recommendation of intravenous insulin to reduce blood glucose levels, because "the incidence of hypoglycemia is substantial" in patients with septic shock, Dr. Eichacker said in an interview. And he noted that there is controversy on how low the tidal volume should be for patients with severe sepsis who are on mechanical ventilation.

"The Institute for Healthcare Improvement says that the components of a treatment bundle [the format used in the sepsis guidelines] should have irrefutable evidence for their use. Treatments such as corticosteroids, rhAPC, and intensive insulin therapy are not backed with irrefutable evidence," Dr. Eichacker said. They are still undergoing study in clinical trials, yet they have been incorporated in the bundles, which is a shortcoming, he added. ■

Dr. Stephen M. Pastores, FCCP, comments: *The key challenges for these clinical management guidelines are to ensure that they are properly formulated and applied to improve the outcomes of patients with severe sepsis and septic shock. The process of formulating these guidelines should be transparent, avail of the most robust evidence-based methodology for evaluating the quality of evidence and strength of recommendations, and have no influence or funding from industry sources. In my opinion, the latest update of the SSC guidelines has fulfilled all of these important criteria. Clearly, as new interventions are tested and published, the guidelines will need to be regularly updated.*

Incidence of Sepsis Higher in Blacks, Lower in Hispanics

BY TIMOTHY F. KIRN
Elsevier Global Medical News

Blacks have a sepsis incidence rate much higher than that in whites, but Hispanics have a lower rate than do whites, according to a study of hospital discharge data from six states.

The finding could indicate that there are biological differences in susceptibility, though there are many factors that might explain the rates, investigators reported.

When the data were statistically adjusted to account for poverty and residence in an urban area, the investigators found that the rate ratio for blacks compared with whites was 1.44. For Hispanics, however, the rate ratio compared with whites was 0.91 (Am. J. Crit. Care Med. 2008;177:279-84).

To identify sepsis cases, the investigators combed hospital discharge data from 2001 that were obtained from Florida, Massachusetts, New Jersey, New York, Virginia, and Texas. They excluded patients with HIV, because one state did not provide discharge data on those patients, as well as those patients who were not clearly white, black, or Hispanic, wrote Dr. Amber E. Barnato, of the Center for Research on Health Care at the University of Pittsburgh, and colleagues.

The researchers then linked the hospital data to ZIP code and census data to account for sociodemographic status, because of its potential impact on sepsis rates and fatalities, Dr. Barnato said.

Among the more than 9 million hospitalizations in the six states, the investigators found 282,292 cases of severe sepsis, for a case rate of 3.97 per 1,000 people. The most common infections were pneumonia, bloodstream infections, and genitourinary tract infections; gram-positive infections accounted for 12% of cases.

Three-fourths of the cases were coded with a single organ dysfunction, and the hospital case fatality rate overall among severe sepsis patients was 25%. The fatality rate among those patients admitted to the intensive care unit was 30%.

The basic data showed that the rate of severe sepsis among blacks was 6.08 per 1,000. The rate among Hispanics was 4.06, while the rate among whites was 3.58.

However, when they adjusted the data for poverty and residential location, the investigators found the difference in rates between blacks and whites was reduced. After adjustment, Hispanics' rate was actually lower than that of whites.

Blacks in particular, and Hispanics somewhat, were more likely to be seen in a large, urban teaching hospital, and the data suggested either they tended to have more severe illness or their care at the large hospitals was not quite as good, Dr. Barnato wrote.

Among black patients with sepsis, the fatality rate was 26%, compared with 25% among Hispanic patients and 24% among white patients. Black patients were also less likely to receive ICU care (48%, compared with 50% for white patients) and more likely to die if they were admitted to the ICU (32%, compared with 29% for whites).

"Blacks do indeed have a higher rate of severe sepsis—almost double that of whites," Dr. Barnato wrote. "The difference in incidence was evident by age 20 and continued throughout the adult life span."

The investigators found no difference between the groups with regard to the characteristics of severe sepsis syndrome, such as the site of infection and the microbiologic etiology; neither did the number or types of organ dysfunction differ.

The investigators did observe that higher sepsis rates were associated with poverty, however, and that observation was consistent across the states, Dr. Barnato said. ■

Data Suggest Mortality Benefit From Sepsis Guidelines

BY MITCHEL L. ZOLER
Elsevier Global Medical News

The 2004 version of the Surviving Sepsis Campaign's clinical management guidelines is being applied to an ever-growing number of patients, and the campaign also has preliminary evidence that application of the guidelines led to a significant reduction in patient mortality.

As of January, more than 14,000 patients with severe sepsis or septic shock at about 250 hospitals in 30 countries worldwide had been treated according to at least some portion of the 2004 management guidelines, Dr. Mitchell M. Levy, FCCP, said at the annual congress of the Society of Critical Care Medicine. Most of the currently participating hospitals are community hospitals, he added.

In addition to having now written and published two sets of sepsis-management guidelines—in 2004 and then revised in 2008 (the International Sepsis Forum coordinated a precursor version in 2001)—the Surviving Sepsis Campaign (SSC) has also been active in recruiting and educating hospitals and health care providers in applying the guidelines and collecting data on their impact.

The data collection has been geared to documenting progress toward a goal set by the SSC in 2002 to reduce sepsis mortality worldwide by 25% within 5 years. Although the SSC has not yet shown that the goal was reached in 2007, it is planning on releasing within the next year comprehensive data on what the campaign has achieved.

Data collection from charts of patients who were treated at hospitals that had instituted at least part of the 2004 SSC guidelines began in earnest in January 2006. By September of last year, data on about 8,000 patients had been sent to the SSC, and during the next 4 months the number jumped by about 75%. By early February of this year, the SSC had data on more than 14,000 patients, reported Dr. Sean R. Townsend, associate director of the medical intensive care unit at Rhode Island Hospital.

THE MORTALITY RATE DROPPED BY AN ABSOLUTE 5% AND A RELATIVE 14% BETWEEN THE PERIOD BEFORE THE GUIDELINES AND WHEN THEY WERE IN PLACE.

An early glimpse of the SSC's effects was reported by Dr. Levy using data collected in about 40 hospitals in Spain that included about 2,500 patients. Some patients were treated during the 4-6 months before the 2004 guidelines were implemented. Following a 4-month educational period, data were again collected during the next 6 months, when the 2004 guidelines were in place.

The mortality rate dropped by an absolute 5% and a relative 14% between the period before the guidelines were instituted and the second period when they were in place, reported Dr. Levy, professor of medicine at Brown University and director of critical care services at Rhode Island Hospital, both in Providence. This reduction "is remarkably low considering how low the compliance rate [with the 2004 guidelines] is for many key indicators," he said. "The implication is that with higher compliance, we might achieve an even greater reduction in mortality."

The SSC has identified about 120 patients worldwide who have received treatment that was compliant with every single element of the management guidelines. Among these patients, the mortality rate was 11%.

Achieving improved compliance with the guidelines will clearly be a challenge for the SSC. Further data analysis from at least some of the first 14,000 patients captured by the follow-up study showed that most hospitals are unable to sustain 100% compliance or anything close to 100%. A more typical achievement is about 50% compliance, said Dr. Townsend.

The two guideline steps that seem consistently to have the lowest compliance so far are monitoring central venous pressure and central venous oxygen saturation.

Some physicians who are not affiliated with the SSC warned that caution must be used when interpreting changes in mortality that are compared with historical controls, and when ascribing mortality benefits to all of the elements included in a guideline's management bundles.

For example, a recent meta-analysis of six studies that each assessed the impact of bundled treatment guidelines on sepsis mortality showed that the only treatment element that was consistently linked with improved survival was early and appropriate treatment with intravenous antibiotics, commented Dr. Peter Q. Eichacker, head of the critical care section and a senior investigator at the National Institutes of Health in Bethesda, Md. When several management elements are used in concert, he explained, benefits may result from only certain items in the bundle.

The SSC plans to present an initial report on a complete review of its database through the middle of this year next September, followed by a second complete report on the data at the congress of the Society of Critical Care Medicine early next year, Dr. Levy said. ■

Industry Study: ESA Limits Could Hurt Blood Supply

BY MIRIAM E. TUCKER
Elsevier Global Medical News

WASHINGTON — Limiting the use of erythropoiesis-stimulating agents in patients with chemotherapy-induced anemia would greatly increase demand for blood products and impose considerable pressure on the available U.S. blood supply, according to an industry-funded study.

In November, the Food and Drug Administration approved major revisions to the boxed warnings and other safety-related changes in erythropoiesis-stimulating agents (ESA) labels, reflecting evidence associating ESAs with an increased risk of tumor progression and lower survival rates when used to treat patients with certain cancers.

More recently, similar data from two new studies—one involving women receiving chemotherapy for breast cancer, the other for cervical cancer—have prompted the FDA to return to the issue. A public advisory committee meeting was scheduled for March 13 to discuss the new data, and further regulatory action is possible

The study, by Francis Vekeman of Groupe d'analyse, Ltee., Montreal, and his associates, was funded by Ortho Biotech Clinical Affairs, L.L.C. It was presented in a poster at the annual Community Oncology Conference held the first weekend in February. The research modeled the impact of limiting and of discontinuing altogether the use of ESAs, which reduce the need for transfusions. Between 1989 and 2004, the margin between supply and demand of whole blood has fallen from 1.9 million U (13.9% of supply) to 0.9 million U (6.1% of supply). The situation is further exacerbated by procedures used for qualifying fully screened units: 240,000 U were rejected after screening in 2004, leaving a margin of only 648,000 U available (4.5% of the supply), they noted at the conference.

In 2004 (the most recent year for which data are available), an estimated 492,002 patients with chemotherapy-induced anemia received a total of 372,809 red blood units. Up to a third of the marginal U.S. blood supply would be required to cover the incremental demand for blood that would arise from a 25% decrease in ESA used (118,602 U). The proportion would rise to 37% if 50% of the ESA supply were reduced (237,203 U) and to 55% if 75% of ESA were removed (355,805 U), Mr. Vekeman and his associates said.

"This added pressure on the blood supply does not consider additional exacerbations due to regional and seasonal variation in the number of available units as well as donation frequency variations," they said in their poster.

CHEST PHYSICIAN and Community Oncology are both published by Elsevier. ■

Treat Sleep Apnea to Prevent Recurrent Atrial Fib

BY BRUCE JANCIN
Elsevier Global Medical News

SNOWMASS, COLO. — The association between obstructive sleep apnea and atrial fibrillation is now so firmly supported that prevention of recurrent atrial fibrillation can be added to the list of indications for treatment of the sleep disorder, Dr. Bernard J. Gersh said at a conference sponsored by the Society for Cardiovascular Angiography and Interventions.

"The correlation between obstructive sleep apnea and atrial fibrillation is so strong that, before I consider patients for pulmonary vein isolation and ablation, I make sure that they don't have sleep apnea," added Dr. Gersh, professor of medicine at the Mayo Clinic, Rochester, Minn.

He was a coinvestigator in a Mayo Clinic study that showed the risk of recurrence of atrial fibrillation in the year following direct current cardioversion of the arrhythmia in patients with obstructive sleep apnea (OSA) was cut in half by continuous positive airway pressure (CPAP) therapy (Circulation 2003;107:2589-94).

What has been unclear until recently is how much of the association between OSA and atrial fibrillation is due to the OSA and how much is due to obesity, hypertension, diabetes, and other comorbid conditions that are common in OSA patients.

An answer finally was provided by a recent retrospective cohort study of 3,542 Olmsted County, Minn., adults free of a history of atrial fibrillation when referred for diagnostic polysomnography. During a mean 4.7-year follow-up, the incidence of new-onset atrial fibrillation was 14%. Obesity and OSA proved to be independent risk factors for atrial fibrillation in persons aged 65 years or less. For each 0.5-U log decrease in nocturnal oxygen saturation at baseline—an important measure of OSA severity—the risk of developing atrial fibrillation climbed 3.3-fold. And for each 5-kg/m^2 increase in body mass index above normal weight, the risk of new-onset atrial fibrillation rose by 15% (J. Am. Coll. Cardiol. 2007;49:565-71).

Other independent predictors of new-onset atrial fibrillation in this Mayo Clinic study were male gender and the presence of coronary artery disease.

Atrial fibrillation is already the most common sustained cardiac arrhythmia, and the worsening obesity epidemic combined with the large number of individuals with undiagnosed and untreated OSA and the graying of the general population portends a dramatic increase in the atrial fibrillation problem, the cardiologist observed at the conference, cosponsored by the American College of Cardiology.

A few years ago when Dr. Gersh cochaired a National Heart, Lung, and Blood Institute workshop on the cardiovascular consequences of sleep-disordered breathing (Circulation 2004;109:951-7), a major unresolved issue was whether OSA is a cause of acute MI, stroke, and other cardiovascular events or simply a surrogate marker for the traditional cardiovascular risk factors. He cited two major studies that have since provided convincing evidence that OSA is an independent cardiovascular risk factor.

In one observational cohort study involving 1,022 consecutive patients who underwent polysomnography, investigators at Yale University, New Haven, showed that OSA at baseline was independently associated with a twofold increased risk of subsequent stroke or death from any cause after adjusting for numerous potential confounders, including hypertension, smoking and alcohol-consumption status, age, gender, atrial fibrillation, diabetes, BMI, and hyperlipidemia. The more severe the OSA as reflected in the apnea-hypopnea index, the greater the risk of the composite end point (N. Engl. J. Med. 2005;353:2034-41).

In the other key study, physicians at University Hospital, Zaragoza (Spain), followed more than 1,000 men with CPAP-treated or untreated OSA, 377 simple snorers, and 264 healthy men. During a mean 10.1-year follow-up, men with untreated severe OSA had roughly threefold greater risks of both fatal and nonfatal cardiovascular events than did the healthy controls. The CPAP-treated patients had cardiovascular event rates similar to those of controls (Lancet 2005;365:1046-53). ■

Sudden Cardiac Death Occurs At Night in Apnea Patients

BY BRUCE JANCIN
Elsevier Global Medical News

SNOWMASS, COLO. — Individuals with obstructive sleep apnea exhibit a striking alteration in the typical day-night pattern of sudden cardiac death, underscoring the sleep disorder's potency as a risk factor for nocturnal cardiovascular events, Dr. Bernard J. Gersh said.

It's well established that the peak hours of sudden cardiac death (SCD) in the general population are 6 a.m. until noon, and that the fewest such deaths happen from midnight to 6 a.m. However, this diurnal pattern is reversed in people with obstructive sleep apnea (OSA), Dr. Gersh, professor of medicine at the Mayo Clinic, Rochester, Minn., noted at a conference sponsored by the Society for Cardiovascular Angiography and Interventions.

THOSE WITH OSA HAD A 2.6-FOLD GREATER RISK OF SUDDEN CARDIAC DEATH BETWEEN MIDNIGHT AND 6 A.M. THAN IN THE DAY'S OTHER 18 HOURS.

He cited a study by his colleagues, Dr. Apoor S. Gami and coworkers at the clinic, who reviewed the death certificates and medical records of 112 Minnesotans who underwent polysomnography and later died suddenly from cardiac causes. SCD occurred between midnight and 6 a.m. in 46% of the 78 people with OSA, compared with 21% of those who didn't fulfill criteria for OSA. Persons with OSA had a 2.6-fold greater risk of SCD between midnight and 6 a.m. than in the other 18 hours of the day.

By comparison, a large meta-analysis of studies examining the morning excess of SCD in the general population showed that only 16% of SCDs occurred between midnight and 6 a.m. (Am. J. Cardiol. 1997;79:1512-6). And that 16% figure is surely an overestimate, since it included some individuals with undiagnosed OSA, Dr. Gersh noted at the conference, which was cosponsored by the American College of Cardiology.

In the Minnesota study, severity of OSA correlated directly with the relative risk of SCD occurring from midnight to 6 a.m. Individuals with an apnea-hypopnea index of 40 or more were 40% more likely to experience SCD between midnight and 6 a.m. than were those with mild to moderate OSA as reflected in an apnea-hypopnea index of 5-39 (N. Engl. J. Med. 2005;352:1206-14).

Dr. Gersh observed that OSA is associated with numerous pathophysiologic changes that provide potential mechanisms promoting arrhythmias and SCD during sleep. These include nocturnal hypoxemia, hypercapnia, a tremendous increase in sympathetic nerve activity, hypertensive surges, endothelial dysfunction, vascular oxidative stress, inflammation, hypercoagulability, and markedly elevated left ventricular wall stress.

In contrast, normal individuals experience decreased sympathetic activity during sleep. Their risk not only of SCD but also of onset of acute MI is at a nadir during the 6-hour period beginning at midnight. The peak in the incidence of these events from 6 a.m. until noon is believed to be related to increased coagulability and sympathetic drive.

Dr. Gersh noted that in a separate study by Dr. Gami and coworkers—presented last fall at the American Heart Association annual meeting—they reported that onset of acute MI in individuals with OSA followed the same pattern of increased incidence during the hours of sleep as did SCD. Onset of MI occurred between midnight and 6 a.m. in 32% of individuals known to have OSA and just 5% of those without OSA. ■

Endoscopic Procedures Effective for Staging Lung Cancer

BY BRUCE K. DIXON
Elsevier Global Medical News

In the right hands, newer minimally invasive endoscopic biopsy procedures are viable alternatives to mediastinoscopy for staging suspected lung cancer, according to a study published in JAMA.

When used together, endobronchial ultrasound fine-needle aspiration (EBUS-FNA) and endoscopic ultrasound-guided fine-needle aspiration (EUS-FNA) resulted in a 97% negative predictive value and 100% positive predictive value (JAMA 2008;299:540-6).

"In this study, this combination provided nearly complete staging of the mediastinum and was performed without procedural complications," the authors said, adding that the negative predictive value approached that of thoracotomy with mediastinal lymph node dissection.

While mediastinoscopy or thoracoscopy has been the diagnostic standard, less invasive methods have emerged as potential alternatives, according to the investigators. They pointed out that mediastinoscopy is best suited for sampling lymph nodes in the pretracheal and paratracheal regions, but has limited access to the inferior and posterior mediastinum and aortopulmonary window.

Although generally safe, mediastinoscopy has a 2% risk of major morbidity and a 0.08% risk of mortality, and is substantially more costly than EUS-FNA, the researchers said.

The combination of two minimally invasive procedures provided nearly complete staging.
DR. WALLACE

Endoscopic ultrasound and endobronchial ultrasound complement each other, because the former visualizes lymph nodes in the posterior chest and the latter visualizes those in the anterior chest, lead author Dr. Michael B. Wallace explained.

The study objective was to compare, separately and together, the diagnostic accuracy of three methods of minimally invasive endoscopic staging: EBUS-FNA, EUS-FNA, and transbronchial needle aspiration (TBNA), explained Dr. Wallace, professor of medicine at the Mayo Clinic in Jacksonville, Fla.

A total of 150 patients were enrolled between November 2004 and May 2007, and the follow-up period after the last enrollment was 6 months. The mean age of the cohort was 69 years, and the patient ratio of men and women was even.

Computed tomography (CT) and positron emission tomography (PET) were done separately in all patients before invasive staging, and images were interpreted by the study radiologist.

TBNA, EBUS-FNA, and EUS-FNA were performed blinded and as a single combined procedure in 150 patients under conscious sedation.

Study participants were evaluated for surgery on the basis of the American College of Chest Physicians guidelines (Chest 2007;132[Suppl]:202S-20S), which regard mediastinoscopy as the diagnostic standard.

All surgical procedures were performed within 3 months of the staging tests, and patients who were not candidates for surgical resection and who had negative cytologic results were followed up with chest CT about every 6-12 months.

Of the 138 patients who composed the final cohort, 51 (37%) had benign histologies. Of the 87 patients with positive tests, 38 showed adenocarcinoma, 16 were squamous cell carcinoma, and 13 were non–small cell lung cancer. Remaining histologies included sarcoidosis, lymphoma, bronchioalveolar cell carcinoma, carcinoid, and metastatic breast cancer.

Analysis showed that EBUS-FNA had a higher sensitivity than TBNA (69% vs. 36%, $P = .003$), detecting 29 of 42 malignant lymph nodes, compared with 15 for TBNA. The use of EUS-FNA and EBUS-FNA together identified 10 additional malignant lymph nodes, with sensitivity estimated to be 24% higher than either approach by itself.

"Our findings suggest that EUS plus EBUS may be a substitute for mediastinoscopy in some cases," the authors said. "If mediastinoscopy had been performed only when results from EUS plus EBUS were negative, this surgical procedure would have been avoided in 28% (39 of 138) of patients in this study," they said. If EUS plus EBUS had completely replaced mediastinoscopy, 97% would have been correctly labeled as negative.

The study was supported in part by a National Cancer Institute grant and by the James and Esther King Foundation of the Florida Department of Health. Grant support in the form of equipment was provided by Olympus Corporation, Center Valley, Calif.

Cardiac Surgeon Shortage Will Have Wide Fallout

BY BRUCE JANCIN
Elsevier Global Medical News

SNOWMASS, COLO. — The pipeline of future cardiac surgeons is "essentially nonexistent"—and that fact will have serious downstream consequences not only for the surgical specialty but for cardiologists and all others who provide care for patients with heart disease, Dr. Andrew S. Wechsler warned.

"When I began my cardiac surgical training there were roughly 10 applicants per available position. Today there are basically more positions than applicants. So anyone who has reasonable qualifications will be accepted by a program somewhere," said Dr. Wechsler, professor of cardiothoracic surgery at Drexel University, Philadelphia.

Indeed, last year there were only 97 applicants for the 130 U.S. training positions, and only 68 of them were graduates of American medical schools. The quality of the applicants has dropped off, he said at a conference sponsored by the Society for Cardiovascular Angiography and Interventions.

Last year, there were only 97 applicants for the 130 U.S. training positions.
DR. WECHSLER

The dramatic falloff in the applicant pool began about 4 years ago. It's a trend of particular concern because of the projected increasing demand for cardiac surgical services as the population ages, coupled with the fact that one-half of practicing cardiac surgeons are above age 53. Many are contemplating retirement as a consequence of decreasing reimbursement, mounting malpractice insurance costs, and declining job satisfaction.

Reimbursement for cardiac surgery today is, in real dollars, only about 30% of what it was 15 years ago. Cases have become far more complex, with a huge increase in the number of reoperations. The average yearly cost of malpractice insurance for cardiac surgeons practicing in Pennsylvania is $125,000. Surveys indicate only one-quarter of practicing cardiac surgeons would advise medical students to enter the field today, Dr. Wechsler said at the conference, cosponsored by the American College of Cardiology.

Cardiac surgery is currently performed at more than 1,400 U.S. hospitals, many of which have small-volume programs. Dr. Wechsler predicted that one consequence of the looming shortage of cardiac surgeons will be governmental pressure to reconsolidate cardiac surgical services to high-volume centers, with resultant closure of many smaller programs.

Cardiac surgical educators have launched a number of initiatives to address the predicted shortage. Paid internships are being offered to medical students in an effort to capture their attention early in their education. New integrated training programs have been approved, including a 6-year program in cardiac surgery beginning right out of medical school. It is no longer required that trainees complete the chief resident year and take the board exam in general surgery before entering cardiac surgical training. And vascular surgery is now accepted as a pathway to cardiac surgical training, noted Dr. Wechsler.

Late last year the ACC and Society of Thoracic Surgeons agreed on a joint educational initiative that will focus on three broad areas: defining criteria for the appropriateness of revascularization; development of hybrid interventional cardiology/cardiac surgery procedures; and treatment of structural heart disease.

"We interventional cardiologists are jumping into the area of structural heart disease with enormous enthusiasm, but how many interventional cardiologists have spent their career looking at the inside of hearts? That's where the surgeons live. So I think there are enormous opportunities for collaboration," said Dr. Spencer B. King III, the Fuqua Chair in Interventional Cardiology at the Fuqua Heart Center at Piedmont Hospital, Atlanta. ■

Dr. Robert G. Johnson, FCCP, comments: *The facts cited above are not in dispute, but the conclusion that there will be a shortage is, at best, calculated speculation. The dearth of trainees in thoracic surgery may be an appropriate adaptation to a future that will require fewer cardiac surgeons and cardiac operations, or their shrinking number may indeed result in insufficient numbers of skilled surgeons to meet future population needs. As in the Chinese word for "crisis," therein lies both danger and opportunity.*

Risk Factors for Prolonged Length of Stay Identified

BY KATE JOHNSON
Elsevier Global Medical News

Renal dysfunction and insulin dependency are the highest risk factors for prolonged length of stay following lobectomy for lung cancer, according to a database study of almost 5,000 operations.

"Following lobectomy for lung cancer, prolonged length of stay is a result of various operative and perioperative morbidities, and this is associated with higher overall morbidity and mortality compared to normal length of stay," said Dr. Cameron D. Wright, FCCP, of Massachusetts General Hospital, Boston. "These predictors can be used by [Society of Thoracic Surgeons] general thoracic surgeons who participate in the General Thoracic Database to provide risk-adjusted information to patients on their operative risk with lobectomy," he said in an interview.

The study, presented at the annual meeting of the Society of Thoracic Surgeons, used the STS General Thoracic Database to identify all patients who underwent a lobectomy for lung cancer between January 2002 and June 2006. Of the almost 5,000 lobectomy patients, 7% had a prolonged length of stay (PLOS), defined as more than 14 days. The mean length of stay for patients with PLOS was 26 days, compared with 6 days for patients without PLOS. Other factors linked to significantly higher risk included induction therapy, male gender, older age, and the forced expiratory volume in 1 second percentage.

The study provides the first risk model for the General Thoracic Database, thus validating STS members who participate in the database, Dr. Wright said. ■

Dr. Robert Cerfolio, FCCP, comments: *The STS national database is of vital importance. It allows us to use true multi-institutional data to stratify the risk of different patients so we can compare outcomes. Soon all our results will be in the public domain, on the Internet, for all to see. Risk assessment of our surgery patients is important to accurately interpret these outcome-driven data that patients and insurance companies are clamoring for.*

Novel Surgical Treatment May Help Severe COPD

BY MITCHEL L. ZOLER
Elsevier Global Medical News

HOLLYWOOD, FLA. — Physicians substantially boosted the exercise capacity of patients with severe chronic obstructive pulmonary disease by percutaneously creating an arteriovenous fistula, in a pilot study that has so far followed six patients at one center.

The idea behind this novel treatment is to shunt oxygenated blood from the aorta to the venous side, a strategy that sends oxygenated blood back to the lungs and eventually boosts the oxygen content of the patient's blood, Dr. Horst Sievert said at ISET 2008, an international symposium on endovascular therapy. The lost efficiency of blood circulation is naturally compensated by a boost in cardiac output. In other words, "cardiovascular reserve is used to overcome respiratory insufficiency," he explained. Because of this, the treatment is contraindicated for patients with heart failure.

In the first six people treated this way, exercise capacity measured by a 6-minute walk test rose from an average 152 m at baseline to 189 m at 3 months after treatment, and to 195 m at 6 months after treatment, an increase of 43 m. Among patients with severe chronic obstructive pulmonary disease (COPD), "a 50-m increase is considered a great success," said Dr. Sievert, professor of medicine and director of the cardiovascular center at Sankt Katharinen Hospital in Frankfurt, Germany.

In at least some treated patients, the fistula eliminated the need for supplemental oxygen at rest, and substantially cut the need for supplemental oxygen during exercise.

The patients treated so far have not had any adverse effects, and no adverse effects are anticipated from the treatment, Dr. Sievert said in an interview.

Additional patients will be treated both in Frankfurt and at other collaborating centers. After the first 30 patients receive fistulas, investigators will analyze the results and decide whether to continue to the next stage of clinical development, he said.

The study enrolled patients with end-stage, oxygen-dependent COPD. Patients also were in a pulmonary rehabilitation program for less than 12 months, and on a stable medical regimen for at least 1 month. All patients had to be able to walk more than 50 m during a 6-minute test. After bronchodilator therapy, their forced expiratory volume during the first second (FEV_1) had to be less than 50% of predicted, and their ratio of FEV_1 to forced vital capacity had to be less than 70% of expected.

In some treated patients, the fistula eliminated the need for supplemental oxygen at rest.
DR. SIEVERT

The site for placing the arteriovenous fistula is just above the aorta-iliac bifurcation, where the aorta is proximal to the inferior vena cava. Simultaneous arterial and venous angiograms were used to plan the vessel crossing point. A 4 French catheter was used for arterial access and a 6 French catheter for venous access. The fistula was created by a puncture from the vein into the aorta, and a nitinol stent was placed through the aorta and into the vena cava and secured by balloon dilatation to create a 5-mm window between the two vessels. The stent has stabilization arms on both the arterial and venous sides.

Dr. Sievert presented details from one case, a 57-year-old man who was severely disabled by COPD and unable to leave his home without oxygen. At 3 months after treatment, his cardiac output increased by 1.44 L/min, compared with baseline. The partial oxygen pressure in his arterial blood rose from 57.6 mm Hg before treatment to 60.6 mm Hg after treatment, and the partial carbon dioxide pressure in his arterial blood fell from 52.0 mm Hg before treatment to 49.8 mm Hg.

His 6-minute walk distance without oxygen increased from 420 m before treatment to 540 m after treatment, and he no longer needed oxygen at rest. His score on the St. George's Respiratory Questionnaire improved by 4 points, Dr. Sievert said.

The stent used to create the fistula and the delivery catheters are made by Rox Medical Inc., a California-based company. Dr. Sievert is a consultant to and receives travel expenses and study honoraria from Rox Medical. ■

Pulmonary Perspectives

Recent Actions by the FDA Regarding New Inhaled Drugs: Important Implications for Patient Care

The number and type of inhaled drugs available for patients with asthma and COPD have increased.

The inventory of inhaled drugs available for clinical use is undergoing a remarkable transformation.

The change most apparent to clinicians and patients has been the withdrawal of albuterol metered-dose inhalers formulated with chlorofluorocarbon propellants, which has been mandated by the US Food and Drug Administration (FDA).

Albuterol is one of the most commonly used products in the United States, and the transition to albuterol metered-dose inhalers formulated with hydrofluoroalkane propellants has affected a wide group of patients. The FDA is now considering withdrawing other products formulated in chlorofluorocarbon propellants.

However, in addition to these changes, the FDA has recently approved several interesting, new inhaled products, a new inhaled corticosteroid (ICS), a new long-acting inhaled β_2-agonist bronchodilator (LABA), and a previously available LABA reformulated for nebulization. The FDA has also approved significant changes to the labels of two ICS that have been commercially available for years.

Physicians and other health-care professionals who care for patients with asthma and COPD should be aware of these FDA activities, because they have important implications for patient care.

In January 2008, the FDA approved ciclesonide (Alvesco Inhalation Aerosol; Nycomed; Zurich, Switzerland) for use as a maintenance treatment of asthma. Ciclesonide is formulated in a metered-dose inhaler as a solution with hydrofluoroalkane as the propellant. The emitted aerosol spray of this solution formulation has a small particle size distribution.

Ciclesonide comes in two strengths, 80 μg and 160 μg per actuation. The recommended dosing range of ciclesonide varies from 80 μg bid (160 μg/d) to 320 μg bid (640 μg/d). The dose can be administered as a single puff bid.

Ciclesonide has been shown to effectively control asthma in patients 12 years and older who had previously been treated with bronchodilators alone or another ICS.

Bateman et al performed a study (*Chest* 2006; 129:1176) in patients with severe asthma who required oral corticosteroids, which confirmed that ciclesonide was significantly more effective than placebo in facilitating tapering of the oral corticosteroid dose.

In that study, a higher dose of ciclesonide, 640 μg bid (1,280 μg/d) provided marginally but not significantly better effects in terms of oral corticosteroid dose tapering than the dose of 640 μg/d, but the higher dose was not approved.

Surprisingly, ciclesonide was not approved for use in children because clinical trials in patients 4 to 11 years of age did not confirm efficacy.

The safety profile of ciclesonide described in the label was generally similar to that seen with other ICS. Skoner and colleagues (*Pediatrics* 2008; 121:e1-14) performed a growth study in children 5 to 8 years of age but these data were not included in the label because of concerns by the FDA about compliance with study drug use.

THE FDA HAS RECENTLY APPROVED A NEW INHALED CORTICOSTEROID, A NEW LABA BRONCHODILATOR, AND AN AVAILABLE LABA REFORMULATED FOR NEBULIZATION.

Systemic effects of ciclesonide were assessed in adults by measuring changes in 24-h urinary cortisol production after treatment for 29 days with either 640 μg or 1,280 μg per day. No differences were found in the systemic effect between these two doses of ciclesonide and placebo.

Sepracor has entered into a marketing arrangement with Nycomed for inhaled ciclesonide, intranasal ciclesonide (Omnaris Nasal Spray, Nycomed), and any future combination products that include ciclesonide.

In 2007, arformoterol tartrate (Brovana; Sepracor; Marlborough, MA) was approved by the FDA for the long-term maintenance treatment of COPD, including both chronic bronchitis and emphysema.

Arformoterol is the (R,R)-enantiomer of formoterol and is formulated as a nebulized solution. Arformoterol tartrate comes in a single unit dose strength, 15 μg, and the recommended dose is 15 μg bid.

Arformoterol is an effective bronchodilator with increases in FEV_1 occurring within minutes of use. The bronchodilator effects of arformoterol, though, appear to wane with repeated use over 12 weeks.

Tachyphylaxis is known to occur with the regular use of β_2-agonist bronchodilators. The safety profile for arformoterol was characteristic of β_2-agonist bronchodilators. An extensive cardiac evaluation with 24-h Holter monitoring did not indicate an arrhythmogenic effect with regular use of this drug.

Also approved by the FDA in 2007 for the long-term maintenance treatment of COPD, including both chronic bronchitis and emphysema, was formoterol fumarate in a nebulized solution (Perforomist Inhalation Solution; Dey, LP; Napa, CA). Formoterol nebulized comes in a single unit dose, 20 μg, and the recommended dose is 20 μg bid. It also is an effective bronchodilator, with a rapid onset of effect.

Interestingly, the bronchodilator effect of formoterol nebulized was sustained with regular use over 12 weeks.

Formoterol nebulized had an adverse event profile similar to other β_2-agonist bronchodilators. Serial studies with 24-h Holter monitoring indicated no arrhythmogenic or QT prolongation effects with regular use of formoterol nebulized.

Two ICS options that have been available commercially for several years have had important label changes.

Mometasone furoate (Asmanex Twisthaler; Schering Corporation; Kenilworth, NJ) was approved in January 2008 for use in children 4 to 11 years of age. This product had previously been approved only for adults and adolescents over the age of 12.

This product is formulated in a dry powder inhaler. Mometasone comes in two different strengths, 110 μg per actuation (delivering 100 μg) and 220 μg per actuation (delivering 200 μg). Recommended dosing range for mometasone is 220 μg once daily in the evening to 440 μg bid (880 μg/d) for patients older than 12.

Although efficacy studies in children (described in the product label) assessed various dosing regimens of mometasone, including doses given only in the morning, only in the evening, and bid, the only approved dose for children 4 to 11 years of age was 110 μg once daily in the evening. The safety profile of mometasone in children paralleled that of other ICS.

A growth study (described in the product label) was performed over 1 year in children age 4 to 9 treated with different doses of mometasone and placebo. Although an effect on growth with mometasone treatment was not clearly seen, the dosing regimens used in this study did not include the eventually approved 110 μg once daily in the evening dose.

Budesonide (Pulmicort Flexhaler; AstraZeneca LP; Wilmington, DE) replaced the previous dry powder inhaler formulation available in the Turbuhaler in 2007. Budesonide comes in two different strengths, 90 μg per actuation (delivering 80 μg) and 180 μg per actuation (delivering 160 μg).

Along with the change in inhalation device, an important change in the label is that budesonide is no longer approved for once daily dosing. The recommended dosing range for adults 18 and older is 180 μg bid (360 μg/d) to 720 μg bid (1,440 μg/d). For children age 6 to 17, the recommended dosing range is 180 μg bid (360 μg/d) to 360 μg bid (720 μg/d).

Clinicians who care for patients with asthma and COPD and patients with these diseases should appreciate that both the number and type of inhaled drugs available for use have increased. There are multiple ICS and LABAs on the market, and previously available ICS have had important labeling changes. There are new molecules and new formulations now available.

Although the new drugs and devices provide a wider range of treatment options, understanding the differences among various ICS and LABAs and ensuring that patients can understand how to use these new products correctly will be a challenge. Unfortunately, with the proliferation of products, the risk for abuse and misuse of inhaled ICS and LABA also increases.

The admonition that health-care providers should review their patients' inhaled drug portfolio and administration technique during outpatient visits is especially true during this period of dynamic change. ■

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Dr. Colice has been either a consultant, speaker, or member of an advisory board for the following companies: Teva, GSK, BI, Pfizer, Lilly, Altana, Nycomed, Adams, Almirall, Dey, and Critical Therapeutics.

Clarification

Dr. Nicholas Gross, FCCP, author of the Pulmonary Perspectives article in the January 2008 issue, acts as a consultant to Dey LP.

AMERICAN COLLEGE OF CHEST PHYSICIANS

NEWS FROM THE COLLEGE

PRESIDENT'S REPORT

A Memorable Visit With ACCP Staff

Over the many years that I have been involved with the ACCP, I have marveled at the enthusiasm and work ethic of the ACCP staff. Since I became President, I am even more appreciative of the staff.

In November 2007, I attended the yearly ACCP holiday party in Northbrook (a wonderful party), and one of the senior staff members suggested that I meet individually with each of the staff when I next visited Northbrook. This would be a unique experience, he said, never done before by an ACCP President. After some thought, I realized that it was a great idea! Over the years, I had met many of the staff and recognized many more faces, but I really did not know how each person fit into the organization. So, on January 10 and 11, 2008, before attending the Program Committee Meeting for CHEST 2008, I met with each ACCP staff member—by department—usually in groups of four to six.

BY DR. ALVIN V. THOMAS, JR., FCCP

The ACCP has 79 employees, of which 12 are executive staff (vice presidents). There are nine divisions, including the Executive Division and The CHEST Foundation. I met with all nonexecutive staff in the nine divisions. The discussions were candid and uninhibited. I asked each person in the group his or her primary job responsibility, what each thought about his or her job and what challenges each faced, if any. When I asked staff members if they had questions for me, surprisingly, they had many. One of the most interesting was what I did as ACCP President. My original intention was to visit with each group for about 15 to 30 minutes, but, with several groups, I found the sessions lasting longer than an hour!

I was particularly impressed with the camaraderie in the groups and the frequency of interdepartmental collaboration. Almost all employees were happy with the work environment and strongly committed to College activities and initiatives. Some were frustrated by the heavy work load, yet invigorated by the work they were doing. In a few divisions, I met employees who I had never seen during my years with the College but who worked at the College for many years; this was especially true in the Operations Division (where most of the IT activities take place). A few of these employees literally spent almost all of their day at the computer.

I met with the Marketing Division staff, who is heavily involved in planning for upcoming courses and CHEST 2008, and the Operations Division staff, who is involved in implementing the new JAVA system, maintaining the ACCP Web site, and providing computer support for the entire organization. The Publications Division staff is actively involved in publishing our wonderful *CHEST* journal and the *CHEST Physician* newspaper and serves a vital role in reviewing and editing many of the College's print products.

The Finance Division includes the Customer Relations Department staff (Member Services) who comprise the initial contact group assisting ACCP members who call in with inquiries, registrations, and more. The Health Affairs Division staff is responsible for government relations and organizing and planning the annual Capitol Hill Caucus. The Educational Resources Division is responsible for all education activities of the College (including curriculum development for the annual CHEST meeting) and guideline development and quality improvement (Health and Science Policy), including the College's conflict of interest policy).

The Member Activities Division staff oversees the College's NetWorks, as well as the ACCP international programs and policies. The CHEST Foundation staff helps to implement and organize the vital task of fundraising for The Foundation, as well as managing The CHEST Foundation awards programs and supporting the Palliative and End-of-Life Care NetWork and Women's Health NetWork. The Executive Division staff has diverse responsibilities, including corporate development, operation of the exhibit hall for the annual CHEST meetings, organization and staffing of the Institutes (Critical Care and Sleep Institutes), and providing administrative support to the CEO and College leadership. Space limitations of this report keep me from mentioning all the responsibilities of each division, but, believe me, there is much more!

My overall impression of the nearly 2 days of discussions with College staff is that the ACCP has a bright, highly motivated, collaborative, enthusiastic staff who is committed to the College and its programs and is totally open to innovation and change. It was an invigorating and wonderful experience! It is a true honor and pleasure to provide leadership and work with the staff of the American College of Chest Physicians! ■

Note from Al Lever, ACCP Executive Vice President and CEO: *Many ACCP staff members have commented on the valuable experience they had in visiting with Dr. Thomas. They have expressed a feeling of gratitude for his efforts in taking the time to meet and speak with each of them and recognizing and appreciating what each accomplishes for the ACCP. Likewise, staff can now appreciate some of the responsibilities that accompany the role of ACCP President. This was a mutually informative and enjoyable opportunity for all involved.*

EDUCATION INSIGHTS

Transforming Medical Education Into Action

BY ED DELLERT, RN, MBA
Vice President, Educational Resources

In the October 2007 issue of *Intercom*, a publication newsletter of the Society of Academic Continuing Medical Education, Dr. Dave Davis writes about the movie, *Mr. Smith Goes to Washington*, and its relationship to CME.

Now, this was not about the movie per se but more about the similarities between the problems Jimmy Stewart encountered and his desire to give Congress a chance to do something good toward resolving those problems. The correlation between the world of CME and the movie, as Dr. Davis points out, is quite similar.

The forces that are tugging at CME are not new but, certainly, more pronounced in today's environment. Do physicians fully engage themselves in CME? Are there more effective CME venues that address the physicians' concerns with time, money, and regulatory requirements? Funding of CME and associated conflicts of interest vs resolution vs transparency: which is it and does it really apply to me? Effective clinical practice and how can CME assist in closing that thing called knowledge and practice gaps?

Dr. Davis' article highlights that in CME, there is really an alignment of forces that is supporting a change in our educational system: "more demand for accountability from the health-care system and the physician workforce; the advent of maintenance of competence; learning portfolios and management systems; other new technologies in CME; changes on the commercial support scene; new research supporting the effectiveness of CME," and more.

In October 2007, the ACCP, in essence, took its own trip to Washington and offered some guidance as to how its educational efforts can provide a venue toward a better CME system.

If you have obtained a CME certificate from ACCP since CHEST 2007, you will notice that the CME hours are segregated into one of six learning categories. Each learning category is equally important and allows you, as an individual, to track how many hours of different levels of education you are obtaining from ACCP. The hours are further refined and assigned to subgroups that are commonly used for state licensure requirements. For example, physicians in some states are now required to have a certain number of educational hours that focus on end-of-life care or risk management. These hours are also reflected on the new ACCP CME certificate.

This new ACCP educational system is meant to (1) provide guidance, (2) stimulate more refined educational planning to meet a diversified membership's needs, and (3) supply input for future initiatives. The ACCP Education Committee and the leadership of the College have taken a proactive role in meeting not only the educational and clinical needs of the membership but, indirectly, have furthered the efforts of the CME field. How, might you ask? I'll give you three off the top:

1. Provides a new vision of CME in a changing world of health care and how this system is integrated with clinical practice needs.
2. Furthers educational efforts and uses data obtained toward publishing and presenting the outcomes from these efforts, so others might benefit.
3. Facilitates the education not only for the participant but also for ACCP faculty on how faculty will transform this new CME system for ACCP and for themselves.

There is more to come this year in this world of change. Watch for discussions about the health-care system in many medical journals, newspapers, and other media outlets.

If you ever have a chance to read articles by Dr. Dave Davis or have the pleasure of hearing one of his lectures, I guarantee you will view the world of medical education in a different light. You will find yourself renewed toward embracing a transformation to a new health-care and educational system and remembering your commitment to a career of lifelong learning that first day it began in medical school. ■

NEWS FROM THE COLLEGE

AMERICAN COLLEGE OF CHEST PHYSICIANS

ACCP WORLDWIDE

Members Lead Pro Bono Course in Romania

BY DR. SANDRA ZELMAN LEWIS AND DR. FRANK LEONE, FCCP

An ACCP pro bono educational program on tobacco treatment, prevention, and policy was held in Bucharest, Romania, in January 2008. This course was organized by Dr. Florin Mihaltan, FCCP, President of the Romanian Respiratory Society and an ACCP Governor for Romania, and co-hosted by Dr. Ioana Munteanu, Dr. Antigona Torfor, and Dr. Ana Popescu, FCCP, ACCP International Regent for Romania. ACCP presenters included Dr. Frank Leone, FCCP, University of Pennsylvania, and Dr. Sandra Zelman Lewis, ACCP, both members of the Treating Tobacco Dependence: ACCP Tool Kit Committee. Sponsorship was provided, in part, by Pfizer Inc.

The 1-day course was well attended by an estimated 45 physicians, some still in training, from all over Romania. The attendees were self-selected and paid a registration fee of approximately $83 USD. All attendees were provided with the ACCP Tobacco Cessation Tool Kit (2nd Edition), Making the Choice: Tobacco or Health CD-ROM, and ACCP no smoking pins.

ACCP

(L-R) Dr. Leone, Dr. Popescu, and Dr. Lewis participated in the pro bono course in Romania on tobacco dependence.

Several presentations by Romanian physicians covered the history of tobacco use, prevalence in Romania compared with Europe and the US focusing on health-care providers' use rates, a pilot program for youth prevention targeting two groups of Romanian adolescents, and the current tobacco control regulations. Dr. Leone presented the pharmacologic and nonpharmacologic treatments for tobacco dependence and how to deal with difficult types of patients, concentrating on patients in stressful situations, reluctant to quit, and facing significant challenges. Dr. Lewis gave presentations on how to implement the Tobacco Cessation Tool Kits into practice, The CHEST Foundation's youth prevention initiatives, and the ACCP in general. Each presentation was followed by thoughtful questions and discussions.

The interest level was high, even during lunch and after the course ended. One attendee, Dr. Stefan (Dan) Mihaicuta, later wrote, "Fighting tobacco is still a tremendous job in Romania. Looking at what you have done, we can learn a lot and we can do a better job." ■

April 16: National Healthcare Decisions Day

The ACCP has joined the The National Healthcare Decisions Day (NHDD) Initiative, which works to encourage patients to express their wishes regarding health care and providers and facilities to respect those wishes, whatever they may be.

For more information, go to www.nationalhealthcaredecisionsday.org. ■

People to People Program Visits Vietnam, Cambodia

BY DR. PAUL KVALE, FCCP

Thirty members of the American College of Chest Physicians, and 14 guests, joined forces under the leadership of former ACCP President Dr. Paul Kvale, FCCP, for a delegation to Vietnam and Cambodia from November 26 – December 6, 2007. People To People Ambassadors Program was founded by former US President Dwight D. Eisenhower in 1956, to create opportunities for individuals of different nations to interact one-to-one to exchange thoughts and ideas.

Our delegation sought to learn more about the way pulmonary and critical care medicine is practiced in these two countries. We spent time visiting two hospitals in Ho Chi Minh City (HCMC), Vietnam, a provincial hospital in Siem Reap (SRPRH), and three additional hospitals in Phnom Penh, Cambodia. The most prevalent disorders requiring hospital care in both countries are TB and motor vehicular trauma, especially closed head injuries. In Cambodia, epidemics of dengue fever cause added stress for the medical system, particularly during the rainy season. Hospitals are crowded, and beds often are shared by more than a single person; for example, at Gia Dinh Hospital in HCMC, the pulmonary ward consists of 47 beds but, consistently, holds 60 to 80 patients. Family members stay at the bedside, even in critical care units, to assist the patient, doctors, and nurses. The families must also provide blankets and food for the patients, as the hospitals cannot always supply such provisions.

THE MOST PREVALENT DISORDERS REQUIRING HOSPITAL CARE IN VIETNAM AND CAMBODIA ARE TB AND MOTOR VEHICULAR TRAUMA.

The doctors are eager to interact with foreign physician visitors. In one hospital, we observed a teaching session that resembled a "morning report." Modern ventilators are few in number, and the incidence of ventilator-associated pneumonia (VAP) is far greater than we typically see in North America. Dr. Eric Flenaugh, FCCP, from Morehouse School of Medicine, presented a short talk on the Surviving Sepsis Campaign guidelines and, in particular, preventing VAP. Some of the measures that he recommended, if implemented, could result in an immediate reduction of morbidity and mortality in these ICUs. Other suggestions were made to improve the probability for weaning patients from a ventilator.

The CHEST Foundation, through its Humanitarian Awards Program, has supported medical care through the Provincial Hospital in Siem Reap. Dr. U. Y. Borany, chief of the hospital technical group and the ICU ward in SRPRH, provided an introduction to critical care in Cambodia. There was a devastating loss of physicians, nurses, and other health-care providers when Cambodia was ruled by the Khmer Rouge. By the end of this era, known as the "Killing Fields," there not only was a huge shortage of health-care professionals but also a shortage of medications, medical equipment, and facilities. The handful of surviving physicians had to start from scratch and rebuild hospitals and educate new doctors. All physicians are trained as either general internists or surgeons.

ACCP

Dr. Michelle Milic, FCCP, and resident doctors make rounds in the ICU at Gia Dinh Hospital, Ho Chi Minh City, Vietnam.

There is no specialty training in Cambodia and, for the most part, physicians are trained on the job in various areas based on the need. Only in Phnom Penh, the capital, there are a few specialized physicians who have gone outside of the country for training. An opportunity to continue assistance for Cambodian physicians and their health-care system would likely be served best by extended one-on-one clinical teaching on-site in the local hospitals.

Evidence of a highly integrated system of care in Cambodia was more evident in Phnom Penh, both at the Khmer Russian Friendship Hospital and, especially, at the National Pediatrics Hospital. ■

AMERICAN COLLEGE OF CHEST PHYSICIANS®

NEWS FROM THE COLLEGE

The 2008 CHEST Foundation Awards

Don't miss the opportunity to use your ACCP membership benefit—apply for a 2008 CHEST Foundation award today! The three main categories of awards offered to current ACCP members are Distinguished Scholar, Clinical Research and Leadership, and Humanitarian Service.

Distinguished Scholar

The Second GlaxoSmithKline Distinguished Scholar in Thrombosis award is open to ACCP members who are FCCPs. The successful candidate will have a 3-year opportunity to examine issues that are not easily supported by traditional funding, such as the development of public policy, patient education models, or economic analysis of treatment or delivery of care for patients with thromboembolism. This award grants $160,000 over the course of 3 years, for a project or program that is related to the treatment of thromboembolism.

Clinical Research and Leadership

The research awards, granted to ACCP members who submit outstanding research projects in various areas of chest medicine, reflect the multidisciplinary nature of the ACCP. In 2008, The CHEST Foundation will offer a variety of clinical research awards in the areas of geriatric development, lung cancer, lung transplantation, COPD and α_1-antitrypsin deficiency, and women's health. The 2008 research opportunities also reflect the continuing partnerships of The CHEST Foundation with the Association of Specialty Professors, the LUNGevity Foundation, the Alpha-1 Foundation, and the American Society of Transplantation.

Focusing on the important area of critical care, The CHEST Foundation continues to acknowledge outstanding leadership in end-of-life care through the **Roger C. Bone Advances in End-of-Life Care Award**. The year 2008 marks the eighth year that this prestigious award will be granted to an ACCP member involved in palliative and/or end-of-life care.

THE CHEST FOUNDATION℠

Humanitarian Service

The CHEST Foundation's **Humanitarian Awards Program** supports the volunteer efforts of those who generously give their time and medical expertise to improve the health of people living in communities around the world. Since 1998, The CHEST Foundation has awarded over $1 million in sustaining project development grants and recognition awards given to nonprofit and nongovernmental organizations where ACCP members focus their pro bono service.

New for 2008: The CHEST Foundation Humanitarian Recognition Awards ($5,000 each) will be granted for programs/project located OUTSIDE of the United States and Canada. The CHEST Foundation Project Development Grants ($25,000 each) will be granted for programs/projects located anywhere in the world that improve the health care of those in need. In 2008, up to $150,000 will be awarded for humanitarian service.

The deadline for all 2008 awards is April 30, 2008. For requirements and candidate qualifications, visit www.chestfoundation.org. ■

March Is DVT Awareness Month

BY DR. SAMUEL Z. GOLDHABER, FCCP

Join the effort to raise awareness of deep-vein thrombosis (DVT) prevention and treatment during DVT Awareness Month in March by obtaining and using the 2008 "DVT by Design" kits.

The kits are available for free and can be used to help hold DVT awareness events in local hospitals and health-care institutions. Each kit contains information about DVT, as well as socks that can be decorated by event participants to symbolize the effort to stop DVT. The ACCP will support the Coalition to Prevent Deep-Vein Thrombosis in its 2008 campaign to raise awareness of this commonly occurring medical condition and its potentially fatal complication, pulmonary embolism (PE). ACCP members and their institutions are encouraged to organize activities at the local level to observe the month.

The 2008 DVT campaign is multifaceted and is aimed at raising awareness about DVT and PE among consumers, health-care professionals and policymakers. The spokespeople for the 2008 campaign will be Melanie Bloom, widow of NBC correspondent David Bloom, and Bonnie Bernstein, ESPN sportscaster. The two women are raising awareness of the condition across the country and sharing their personal stories. Local events and activities also can provide an important opportunity to raise awareness of the upcoming *ACCP Guidelines on Antithrombotic and Thrombolytic Therapy: Evidence-Based Clinical Practice Guidelines (8th Edition),* expected in mid 2008.

Implementing local activities is easy and enjoyable for those who participate. In our hospital, in March 2007, a DVT prevention booth was set up outside the hospital cafeteria. Hospital employees decorated stockings to commemorate DVT Awareness Month, and photos recorded the creativity of our employees by looking at DVT in a new way. "DVT by Design" kits and other resources that clinicians and health-care organizations may use to help observe DVT Awareness Month can be found at www.preventdvt.org and the ACCP home page at www.chestnet.org.

The Coalition is composed of more than 53 representatives from nationally known medical societies, patient advocacy groups, and other public health organizations. The coalition has coordinated DVT Awareness Month efforts since its launch in March 2003. I hope you will join us in raising DVT awareness during DVT Awareness Month in March. ■

In Their Own Words—The Value of The CHEST Foundation's Awards

Clinical Research Award

Dr. Vibha N. Lama, Assistant Professor, Division of Pulmonary and Critical Medicine, Department of Internal Medicine, University of Michigan Health System, Ann Arbor, MI, was the 2006 recipient of the American Society of Transplantation and The CHEST Foundation Clinical Research Award in Lung Transplantation. The name of her research project was "Role of Mesenchymal Stem Cells in Lung Transplantation."

DR. LAMA

Dr. Lama writes, *"The research grant from the American Society of Transplantation and The CHEST Foundation has been critical in enabling me to further pursue this important research direction, which establishes, for the first time, the role of a mesenchymal stem cell population in a lung transplant milieu. Work done as a result of this funding is being used as preliminary data for an RO-1 application submitted in October. Hence, this support has been critical in my attempt to establish myself as an independent investigator in the field of pulmonary and lung transplantation."*

Humanitarian Project Development Grant

Dr. Christopher Sola Olopade, MPH, FCCP, Professor of Medicine at the University of Illinois at Chicago, President of Healthy Life for All Foundation, and ACCP Governor of Illinois, was the recipient of one of the $25,000 Humanitarian Project Development Grants awarded in 2006. The name of his pro bono project was "Making a Difference, With the Notion that Education and Community Empowerment Is Golden."

Dr. Olopade's volunteer work is located in Ibadan, Oyo State, Nigeria, at his alma mater, the University of Ibadan. In 2004, Dr. Olopade formed a nongovernmental organization, the Healthy Life for All Foundation. The objective of his winning proposal was to promote HIV/AIDS education and preventive strategies and to reduce HIV infection among students in adjourning higher institutions in Ibadan, Nigeria (University of Ibadan and Polytechnic Ibadan).

Dr. Olopade reports that almost 1,000 college-age students have participated: 550 students in phase 1, when they were tested, and 444 in phase 2, where they participated in small focus groups and discussed HIV/AIDS infection and effective ways of preventing its spread among the college-age population.

DR. OLOPADE

Dr. Olopade writes, *"The project would have been impossible to implement without The CHEST Foundation award. While a lot of effort is directed at treatment, the truly vulnerable (students in tertiary institutions due to economic hardships) are not targeted for prevention and treatment. In addition to the provision of much-needed education in partnership with the medical centers at the two institutions, and with support of the student leadership, free condoms, HIV diagnostic kits, refrigerators, and microscopes were donated to the health centers."*

Dr. Olopade concludes, *"HIV education and prevention strategies directed at students in tertiary institutions in Nigeria have the potential to slow the rising epidemic of HIV infection among the young. Consideration should be given to expanding the program to high schools. On behalf of the Healthy Life for All Foundation, I extend our profound thanks to The CHEST Foundation for making the execution of this project possible."* ■

NEWS FROM THE COLLEGE

AMERICAN COLLEGE OF CHEST PHYSICIANS®

New Web-Based Tools Available for Critical Care Family Assistance

BY MARILYN A. LEDERER, CPA
Executive Director, The CHEST Foundation

In 2002, The CHEST Foundation, the philanthropic arm of the American College of Chest Physicians (ACCP), in partnership with the Eli Lilly and Company Foundation, Inc, developed the Critical Care Family Assistance Program (CCFAP) at two pilot sites, one in Illinois and one in Oklahoma. The two sites are Evanston Hospital and the Oklahoma VA Medical Center.

Since its inception, the CCFAP has proven to be an effective model that has the potential to significantly alter the critical care environment for patients who are hospitalized in a critical care unit and their families. Due to the success of the pilot project, the CCFAP has been successfully implemented in hospitals across the United States representing diverse care models.

The CCFAP was initially designed to respond to three major issues:

- Projected workforce shortages of critical care physicians and nurses;
- Increased scientific evidence indicating the correlation between family satisfaction and positive patient outcomes; and
- A national movement to create an ICU core measurement framework and the ideal metrics that will lead to standards of care in ICUs in hospitals across America.

The CCFAP is designed to respond to the unmet needs of families of critically ill patients in hospital ICUs through the provision of educational and family-support resources. The following objectives have been developed by The Foundation and implemented successfully by the sites developing the program:

- To better prepare a multidisciplinary team to meet the needs of families of ICU patients
- To increase family satisfaction with care and treatment of their critically ill family members while in an ICU
- To improve families' comprehension of and satisfaction with the information provided by the ICU team
- To compare and contrast specific levels of family need across various care models

The sites that have implemented the CCFAP in the past 6 years have demonstrated that the program can play an important role in impacting the delivery of critical care and the outcomes for patients and their families.

As noted in the September 2005 *CHEST* supplement (2005; 128[Suppl]: 65S-127S), the CCFAP leads to improved staff and family satisfaction. In addition to the supplement, The CHEST Foundation produced, in partnership with the American Association of Critical-Care Nurses (AACN), a replication toolkit that was created from the experiences and observations from the pilot project sites. This toolkit is a practical guide to developing educational and support resources that can lead to positive outcomes for patients and their families.

All of these resources can be found on The CHEST Foundation's Web site at www.chestfoundation.org/ccfap/.

Now, The CHEST Foundation has collaborated with AACN to produce two Web-based modules that are designed to assist critical care nurses and health professionals working in a critical care setting to create, implement, and evaluate a CCFAP.

The modules are accessible by going to www.chestnet.org or by visiting the Web site at www.chestfoundation.org and following the instructions for accessing these valuable Web-based educational tools.

The learning objectives for the modules are:

Objective 1: Identify three key elements in the design of a Critical Care Family Assistance Program (CCFAP) in a critical care unit.

Objective 2: Identify the three levels of the CCFAP communication model (facts, needs, nonverbal) and provide an example of each level.

Objective 3: Explain the financial and hospitality assistance component of the CCFAP, including creation of food, hotel, and transportation support.

Objective 4: Identify at least four examples of CCFAP support services that have been used within the CCFAP model to meet identified needs of families.

Objective 5: Identify at least four family-centered strategies for dissemination of medical information and comfort care.

For more information about the learning modules or implementing the CCFAP, contact Marilyn Lederer at mlederer@chestnet.org. ■

CHEST Challenge 2008

Online play has now started at www.chestchallenge.org. Everyone is a winner in our 7th annual competition!

Fellows-in-training:

- You have a chance to win free airfare, hotel, and registration to CHEST 2008 in Philadelphia.
- The online winners will compete in the live semifinal rounds held in a game show format at the 2008 annual meeting.
- Practice board-exam-style questions are online, which you can take at your convenience at no charge.
- Enjoy this challenge with no pressure. No one, not even your program director, will ever know your online test performance. When you play, you can only improve your training program's overall score and chance of winning.

Program directors:

- Get free, no hassle, board exam practice for your fellows—just by having them play.
- Encourage team building: The more of your fellows play, the better their chances of winning.
- You have a chance for three of your fellows to attend CHEST 2008 without taking a dime from your travel budget.
- Finalists will earn a share of $9,000 for your program.
- No pressure: Your program's online performance is not ranked. If you do not make the semifinals, no one will even know that your program participated.

ALL ACCP members:

- NEW for 2008: Submit question ideas online now at www.chestchallenge.org.
- Earn CME when you attend the live semifinal rounds at the annual meeting.
- Challenge yourself: Think of the answer you would give if your hand were on the buzzer!
- Cheer for your favorite team!

Over the years, more than 160 fellows have received free trips to the annual CHEST meetings, with finalist teams each taking home an average of $3,000 in additional prize money.

In addition to supporting these affiliate members of the College and enhancing their education, we also have a great deal of fun every year.

Please join us and enjoy the rewards of CHALLENGING yourself! If you have questions, please e-mail MAJ William Kelly, MC, USA, FCCP, at williamkellymd@comcast.net, or Jennifer Nemkovich at jnemkovich@chestnet.org. ■

This Month in *CHEST*: Editor's Picks

BY DR. RICHARD S. IRWIN, FCCP
Editor in Chief, CHEST

- **Metaanalysis of the Efficacy of Sublingual Immunotherapy in the Treatment of Allergic Asthma in Pediatric Patients, 3 to 18 Years of Age.** *By Dr. M. Penagos, et al*
- **A Comparative Study of Community-Acquired Pneumonia Patients Admitted to the Ward and the ICU.** *By Dr. M. I. Restrepo, FCCP, et al*
- **The Relationship Between the Components of Pulmonary Artery Pressure Remains Constant Under All Conditions in Both Health and Disease.** *By Dr. R. Syyed, et al*
- **Prognostic Significance of the Non-Size-Based AJCC T2 Descriptors: Visceral Pleura Invasion, Hilar Atelectasis, or Obstructive Pneumonitis in Stage IB Non-small Cell Lung Cancer Is Dependent on Tumor Size.** *By Dr. S. H. Ignatius Ou, et al*
- **Automatic Titration and Calculation by Predictive Equations for the Determination of Therapeutic CPAP for Obstructive Sleep Apnea.** *By Dr. O. Marrone, et al*
- **Contemporary Management of Acute Exacerbations of COPD: A Systematic Review and Meta-analysis.** *By Dr. B. S. Quon, et al*
- **Pneumococcal Vaccination for Patients With COPD: Current Practice and Future Directions.** *By Dr. J. G. Schenkein, et al*
- **Meeting Physicians' Responsibilities in Providing End-of-Life Care.** *By Dr. H. Shanawani, et al*
- **Medication and Dosage Considerations in the Prophylaxis and Treatment of High-Altitude Illness.** *By Dr. A. M. Luks and Dr. E. R. Swenson*
- **Obstructive Sleep Apnea: Implications for Cardiac and Vascular Disease.** *By Dr. F. Lopez-Jimenez, et al*

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AMERICAN COLLEGE OF CHEST PHYSICIANS®

NEWS FROM THE COLLEGE

NETWORKS

End-of-Life Care Decisions, Pediatric Specialist Shortages

Palliative and End-of-Life Care

Dr. Dee W. Ford, FCCP, was a NetWork open meeting special presenter at CHEST 2007, where she presented, "Getting on the Same Page: Evaluating Critically Ill Patients' and Families' Perceptions of Illness Severity."

Dr. Ford's presentation started with a brief review of the epidemiology of dying in the ICU to illustrate the fact that ICU clinicians provide end-of-life care for a substantial number of patients.

However, a distinction was made between providing end-of-life care and palliative care. Palliative care focuses on the major domains of suffering, including physical, emotional, and psychosocial suffering at the end of life. The high prevalence of moderate to severe discomfort among ICU patients was discussed.

The primary focus of the presentation was on communication and medical decision-making, with an emphasis on the importance of eliciting patients' and families' perspectives and values before establishing goals and preferences of care.

The guiding tenet of the presentation—adapted from social work and nursing literature—was the notion that providers consider end-of-life decisions to be medical choices, whereas patients and families view these decisions as life choices. If providers shift to a more patient-centered model of communication, the goals and preferences of care can be established, and medical decision-making will follow.

Several additional key principles of communication were also emphasized. The first was the importance of getting to know patients' and families' backgrounds and values to understand their priorities in the final stages of life. The second was the importance of reducing the time physicians speak during family meetings and increasing the amount of time patients and families speak.

Dr. Ford presented two cases that illustrated how a shift in communication styles to patient-centered models allows providers and families to mutually agree upon medically reasonable goals and preferences of care.

For more information on palliative care in the ICU, visit www.capc.org/palliative-care-across-the-continuum/pc-icu. Additional information about palliative care is available at www.aahpm.org.

To learn more about the ACCP's Palliative and End-of-Life Care NetWork, go to www.chestnet.org/networks/pelc/index.php.

Pediatric Chest Medicine

A shortage of pediatric pulmonologists and pediatric critical care specialists exists in the United States and across the world. Those dedicated few have changes to expect in maintaining their board certification over the next few years.

At the Pediatric Chest Medicine NetWork open meeting at CHEST 2007, Dr. Susanna McColley, FCCP, presented information about how the American Board of Pediatrics is changing its guidelines for board recertification in the United States, starting in 2010. It was quite a lively and timely discussion. Dr. McColley is the pediatric pulmonary division chief at Children's Memorial Hospital in Chicago and Northwestern University.

The present recertification regimen includes taking a comprehensive test every 7 years at a testing center. The new recertification plan is designed to assess multiple components of competency and help physicians improve their clinical practice.

Starting in 2010, pediatric subspecialists will have new maintenance of certification (MOC) requirements. Four parts need to be completed to meet all the requirements to maintain certification.

The first component is to document professional standing by holding a valid medical license in the state of practice. The second part is a self-assessment module focused on the specialty, and the third part is to complete the secure examination. The fourth part focuses on "practice performance" and will require completion of a patient survey and completion of an approved quality improvement activity.

"Pay for performance" is a topic that is more common in the internal medicine subspecialties. However, some insurers offer pay-for-performance incentives to pediatricians (or physician recognition programs) who give pediatricians or pediatric subspecialists credit for participation in the Program for Maintenance of Certification in Pediatrics™.

As a service to its diplomates, the American Board of Pediatrics (ABP) provides MOC activity completion documents as proof of completed activities. This is a timely service for ABP diplomates.

MOC is important for all pediatricians and pediatric subspecialists. The ABP provides each physician with a tutorial on its Web site at www.abp.org/tutorial/physport.htm. Telephone customer service is available at the ABP through the maintenance of certification department. The ABP also can be contacted by e-mail at MOC@abpeds.org.

Finally, in cooperation with the American Academy of Pediatrics, diplomates of the ABP will be eligible to receive CME credit for completion of most part 2 and part 4 MOC activities. The ABP will begin awarding CME credit for approved activities on January 14, 2008.

Dr. Susan Millard, FCCP
Pediatric Chest Medicine NetWork Chair

Sleep Medicine

Sleep Medicine Comes of Age: Inaugural Exam Results Are In

In January of this year, 1,882 physicians received their results from the first subspecialty board examination in sleep medicine under the new system.

The pass rate was 73%. Questions (n) were constructed from 11 medical content areas, including normal sleep and variants (31), organ system physiology (12), sleep evaluation (48), pharmacology (16), disorders related to sleep-wake timing (12), insomnia (24), hypersomnia unrelated to sleep-related breathing disorders (17), parasomnias (10), sleep-related movement disorders (12), sleep-related breathing disorders (41), and sleep in other disorders and considerations unique to childhood (17). Approximately 60% of questions were based on patient presentations occurring in settings that reflect current medical practice.

Questions requiring a simple recall of medical facts were in the minority, as the test was designed to evaluate clinical judgment, prioritization of treatment alternatives, and the integration of data. Excerpts from polysomnography, multiple sleep latency tests, and actigraphy were presented in pictorial form on the entirely computer-based format. Physicians familiar with the previous American Board of Sleep Medicine examination will note the absence of paper, essays, and the requirement to score multiple epochs of polysomnography or multiple sleep latency tests.

Questions for the examination were taken from a preestablished table of specifications developed by the Sleep Medicine Test Committee. Committee representatives are from the four American Board of Medical Specialties' boards sponsoring the exam: the American Board of Internal Medicine, the American Board of Pediatrics, the American Board of Psychiatry and Neurology, and the American Board of Otolaryngology. Examinees could take the exam sponsored by their board once they became certified by their primary board and met one of the following requirements:

- Completed 1 year of an ACGME-approved sleep medicine fellowship
- Were a diplomate of the American Board of Sleep Medicine
- Had 1 year of equivalent experience in sleep medicine (allowed until 2011)

The next exam is October 20, 2009, with sign-up to begin March 1, 2009. MOC is required for renewal of certification, which is required every 10 years.

With the completion of this first exam, the sleep medicine subspecialty moves forward with the long awaited acceptance by the American Board of Medical Specialties. The future looks bright for sleep medicine. ■

Dr. W. McDowell Anderson, FCCP
Sleep Medicine NetWork Steering Committee Member

Product of the Month: Web-Based Flu Update

View the newest online education course, which features audio tracks and faculty presentations from the CHEST 2007 satellite symposium, "Update on Seasonal and Pandemic Influenza Readiness and Treatment." This symposium assesses the risks and complications of influenza and reviews the necessary strategies for treatment and control.

To view, visit the ACCP online education site at www.chestnet.org/education/online/index.php. ■

NEWS FROM THE COLLEGE

AMERICAN COLLEGE OF CHEST PHYSICIANS

SLEEP STRATEGIES

ACCP Sleep Institute Surveys: 2005 and 2007

In 2005, the steering committee members of the newly created ACCP Sleep Institute (SI) sent out a survey as one of their initial efforts, which investigated the practice of sleep medicine using a Web-based survey tool.

In a letter accompanying the survey from the former chair of the SI, Dr. Charles Atwood stated that, "The ACCP-SI is seeking to answer several key demographic questions related to sleep medicine. This information will assist the ACCP-SI in understanding your needs and guide the development of future educational programs and projects."

The 2005 survey was sent to 1,600 Sleep Medicine NetWork members, and 241 members answered the 18 questions.

In 2007, a 43-question survey was developed to further expand our understanding of the sleep medicine educational needs and practice experiences of ACCP members. This survey served several purposes, including establishing benchmark data that could provide needs assessments when submitting educational grant proposals to our industry partners. The 2007 survey was sent to a random sample of approximately 10,000 US ACCP physician members. There were 4,276 contacts attempted, with nine members who opted out, 426 members with e-mail addresses to which the survey was undeliverable, and 366 total responses.

The responses for the past two surveys can be accessed from the following SI Web page: www.chestnet.org/institutes/si/index.php.

2005 Survey

The 2005 survey revealed that two-thirds of the ACCP Sleep NetWork respondents were not board-certified in sleep medicine, and only 47% stated interest in taking the first ABIM sleep board examination. Nearly 52% had sleep training during their pulmonary fellowship, 17% were trained in a sleep fellowship, and 39% were members of the American Academy of Sleep Medicine (AASM).

The number of respondents who had been in practice for 1 to 5 years (29%) and those who had >20 years of experience (30%) were nearly equal. Fifty-seven percent said they had practiced sleep medicine specifically for >10 years vs 38% for 0 to 5 years. Only 10% noted that more than half of their patients had a sleep disorder as their primary complaint. Sixty-seven percent of respondents claimed to treat nonrespiratory sleep disorders, but 83% stated that the total percentage of patients presenting with nonrespiratory disorders was small (0 to 15%).

Sixty percent of respondents indicated that they interpreted polysomogram (PSG) studies, and most (64%) interpreted more than five PSGs per week.

A slight majority (53%) worked in an AASM-accredited sleep laboratory, and an equal number (both 27%) said they were either the medical director of a sleep laboratory or part of a group that owned their own sleep laboratory. Only 5% of respondents said they performed more than five home-based studies monthly. However, 38% considered sleep as their primary practice specialty.

Sleep Institute®
American College of Chest Physicians

Overall, in 2005, many of the Sleep Medicine NetWork member respondents had been taking care of patients with sleep disorders for many years, but most were non-sleep medicine board-certified, and only a small number was trained in a formal sleep fellowship program.

2007 Survey

Additional information was requested in the 2007 survey that placed emphasis on expectations for change in practice and referral patterns.

The vast majority of respondents expected a modest increase in the number of in-laboratory sleep studies in the next 12 months. The number of beds available to most respondents (83%) was ≤10 at present, and most expected a similar number 2 years from now. A large majority expected no increase or little increase in the number of in-home sleep studies.

Questions also were asked regarding referrals and waiting times for patients to obtain consults, studies, and results.

More than half of respondents indicated that a new sleep patient could be seen by a sleep physician within 2 weeks; this was up only slightly from what was possible 12 months earlier. About half of the respondents said that a sleep study could be obtained within 2 weeks, which was up from what was possible 12 months earlier.

The most important reasons for the reduced waiting times were cited as growing awareness and education among referring physicians, increased public awareness, and increased laboratory capacity.

Disappointingly, the majority of respondents stated that it took 1 to 2 weeks to get the study results. However, two-thirds stated that a great majority of the patients received results from a sleep clinic physician.

The largest number of referrals was reportedly from primary care and pulmonologists, with a high level also from otolaryngologists and cardiologists. The largest increase of referrals was from primary care physicians, cardiologists, and bariatric specialists.

Nearly two-thirds of respondents indicated that continuous positive airway pressure (CPAP) was supplied by an unaffiliated, private home care provider, and about half indicated that they had no intention of providing home care equipment in the future.

There were several questions asked regarding present reimbursement and changing reimbursement for sleep studies and CPAP equipment. The majority of people responded to these questions that they did not know the details about reimbursement or how it may be changing.

Survey Comparisons

It is difficult to directly compare the results of the 2005 survey to those of the 2007 survey, because the second survey was sent out to a different group—one comprising participants randomly selected from 10,000 US ACCP physician members.

In the 2007 survey group, 54% were ACCP members for >10 years but less likely to be Sleep Medicine NetWork members. In the 2007 survey, more respondents indicated that they were not sleep board-certified than in the 2005 survey, but they were interested in taking the new ABIM sleep board examination. A nearly identical percentage of respondents from both surveys gained sleep training during their pulmonary fellowship (about 50%), but slightly more respondents in 2007 had completed a sleep fellowship (20% vs 17%). A much higher percentage of respondents (59% vs 39%) now are also members of the AASM.

A 2005 survey question about primary practice specialties allowed the respondent to pick all answers that applied, whereas the 2007 survey only allowed a single answer. Therefore, the results are not readily comparable. There was a similar distribution for years in practice for the two surveys: those in practice 1 to 5 years and those in practice for >20 years (about one-third for each age group in both surveys). Only 10% of respondents in 2005 said that more than half of their patients presented with a sleep disorder as the primary complaint vs one-third in 2007 who presented with a respiratory-related sleep disorder as a primary complaint. In the 2007 survey, 74% respondents indicated that >75% of their sleep studies were conducted for suspected obstructive sleep apnea.

The percentage of respondents that interpret PSGs rose from 60% in 2005 to 86% in 2007. In 2005, 64% said they read more than five studies per week, whereas in 2007, 80% were reading more than five PSGs per week. There was a slight increase in those ordering more than five home-based studies per month, from 5% in 2005 to 7% in 2007; however, when specifically asked in the 2007 survey, 85% said that they had never ordered this type of study. There was a large increase (27% to 41%) in the percentage of respondents who had some type of sleep laboratory ownership. There also was an increase in those who claimed to be a medical director of a sleep laboratory (27% to 46%). Almost the same number of sleep centers were accredited by the AASM in 2007 (56%) compared with 2005 (53%). The 2007 survey indicated that most respondents (38%) practiced in a community hospital-based sleep laboratory, followed by practice-owned (27%) and then university-based laboratories (16%).

Summary

As noted at the outset, there is a presumed ongoing, valuable need to understand the changing landscape of the practice of sleep medicine and how the ACCP membership chooses to respond.

Comparative statistical validation between the two surveys was not possible, considering the different membership populations sampled. Regardless, this benchmark data should be especially timely information in following ACCP physician practice responses over the next 2 years, given the huge change in practice expected from the expansion of CMS coverage for portable sleep studies.

The ACCP-SI intends to continue this effort to inform and, when possible, favorably influence the practice of sleep medicine for our members and the benefit of our patients. ■

Dr. Peter C. Gay, FCCP
Mayo Clinic
Rochester, MN

INDEX OF ADVERTISERS

CLASSIFIEDS

PROFESSIONAL OPPORTUNITIES

Pulmonary and Critical Care Physician

Established Pulmonary, Critical Care, and Internal Medicine Practice next door to one of Americaís 50 best hospitals, currently has an opening for a Board Certified or Board Eligible Pulmonary and Critical Care physician. Board Certification or Board Eligibility in Sleep Medicine is desirable but not mandatory. This is a salaried position with growth potential for partnership, and opportunity to develop personal interests within practice. Our medical suite is located blocks away from many exciting urbanization projects developing in the downtown Los Angeles community. If interested please contact Nicole at 213-977-4979. Fax # 213-977-0544 and email: callung@aol.com

Faculty Positions at the Assistant, Associate, or Full Professor Level

The Division of Pulmonary, Allergy and Critical Care Medicine in the Department of Medicine at the University of Alabama at Birmingham (UAB) invites applications for faculty positions at the Assistant, Associate, or Full Professor level. These positions will either be tenure track or tenured Faculty positions based on experience. The applicants must be MDs with training in Pulmonary and Critical Care Medicine. This position requires an interest in asthma or allergy and related clinical research. This individual will be asked to manage an Asthma or Allergy Clinic 1-2 days per week. Candidates must have strong written communication skills and will work with the UAB Lung Health Center on asthma and allergy clinical research. Candidates will have abundant opportunities to interact and collaborate with both basic and clinical scientists. Candidates should send a letter of interest, CV and a description of his/her research experience to: James E. Johnson, M.D.; Interim Division Director, Division of Pulmonary, Allergy and Critical Care Medicine; THT-422; 1900 University Boulevard; Birmingham, AL 35294-0006. The University of Alabama at Birmingham is an Affirmative Action/Equal Opportunity Employer and welcomes applications from qualified women and minorities.

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Physicians group seeking BC/BE Pulmonary/Critical Care/Sleep Medicine trained physician for NW Indiana, close 45 minutes drive to Chicago. Excellent salary & benefits leading to partnership. Start date August/September, 2008. Send inquiries or CV to chestclinicpc@yahoo.com

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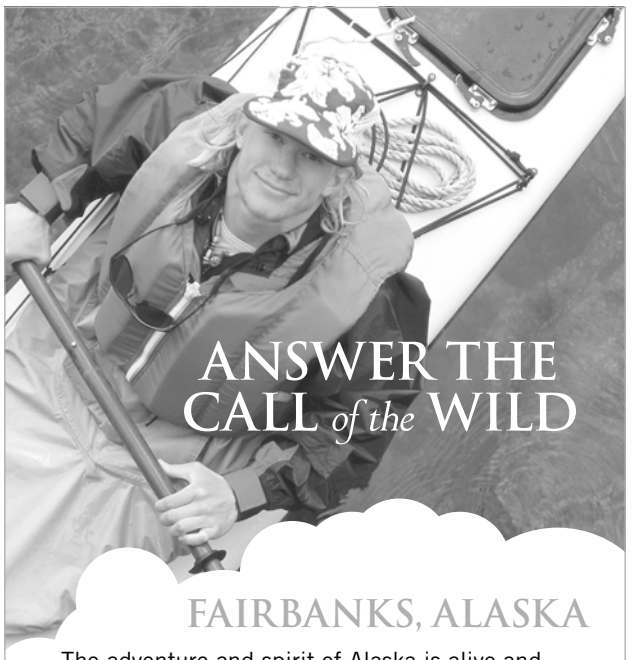
PULMONOLOGY/CRITICAL CARE OPPORTUNITY

Pulmonology/Critical Care group is seeking an Associate in one of the fastest growing cities in the nation, Las Cruces, New Mexico. This charming university community offers 350 days a year of sunshine, warm weather, low cost of living, a friendly community and great outdoor recreation just minutes away. Must be board eligible/ certified. Competitive first year income guarantee. Excellent marketing and relocation assistance. Strong primary care referral base. For more information contact: Samyeann Benevento at (575) 532-7404 or by e-mail at samyeann.benevento@lpnt.net. Visit us online at www.mmclc.org.

Pulmonary/Critical Care Faculty

The Division of Pulmonary/Critical Care Medicine at Drexel University College of Medicine is seeking a dynamic academic Medical ICU Director. Responsibilities include patient care, teaching, supervision of residents and fellows and ICU-based research interests. Our division has a competitive fellowship program and research interests in asthma/hypersensitivity, cystic fibrosis, interstitial lung disease, interventional pulmonology and critical care. Rank and salary are commensurate with experience and qualifications. Send CV and names of three references: Edward S. Schulman, M.D., Director, Pulmonary, Critical Care and Sleep Medicine, Mail Stop 107, Drexel University College of Medicine, 245 N. 15th St., Philadelphia, PA 19102;
or email: Edward.schulman@drexelmed.edu



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North Carolina

The Pinehurst Medical Clinic is seeking third and fourth BC/BE Pulmonary/Critical Care physician to join its 50-physician practice. BC/BE in Sleep Medicine a plus but not required.

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- Call schedule of 1:4
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- Group has 18 Internists and a growing hospitalist program
- On-site Sleep Lab, PFT and CT service
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- Modern, 400-bed hospital (rated top 100 in country) with 40 ICU beds (located right across street from clinic)

This is a wonderful opportunity to join a premier multi-specialty practice in Pinehurst, North Carolina. Pinehurst and the surrounding area is a sophisticated community with great schools, family activities, shopping, dining, horse country and world-class golf. Easy access to major metropolitan areas.

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For additional information contact:
Bill Edwards, Chief Executive Officer
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DORIBAX™
(doripenem for injection)
for Intravenous Infusion

Brief Summary: The following is a brief summary only. Before prescribing, see complete Prescribing Information in DORIBAX™ (doripenem for injection) labeling.

To reduce the development of drug-resistant bacteria and maintain the effectiveness of DORIBAX™ and other antibacterial drugs, DORIBAX™ should be used only to treat infections that are proven or strongly suspected to be caused by susceptible bacteria. When culture and susceptibility information are available, they should be considered in selecting and modifying antibacterial therapy. In the absence of such data, local epidemiology and susceptibility patterns may contribute to the empiric selection of therapy.

CONTRAINDICATIONS
DORIBAX™ is contraindicated in patients with known serious hypersensitivity to doripenem or to other drugs in the same class or in patients who have demonstrated anaphylactic reactions to beta-lactams.

WARNINGS AND PRECAUTIONS:
Hypersensitivity Reactions: Serious and occasionally fatal hypersensitivity (anaphylactic) and serious skin reactions have been reported in patients receiving beta-lactam antibiotics. These reactions are more likely to occur in individuals with a history of sensitivity to multiple allergens. Before therapy with DORIBAX™ is instituted, careful inquiry should be made to determine whether the patient has had a previous hypersensitivity reaction to other carbapenems, cephalosporins, penicillins or other allergens. If this product is to be given to a penicillin- or other beta-lactam-allergic patient, caution should be exercised because cross-hyperreactivity among beta-lactam antibiotics has been clearly documented.

If an allergic reaction to DORIBAX™ occurs, discontinue the drug. Serious acute hypersensitivity (anaphylactic) reactions require emergency treatment with epinephrine and other emergency measures, including oxygen, IV fluids, IV antihistamines, corticosteroids, pressor amines and airway management, as clinically indicated.

Interaction with Sodium Valproate: Carbapenems may reduce serum valproic acid concentrations to subtherapeutic levels, resulting in loss of seizure control. Serum valproic acid concentrations should be monitored frequently after initiating carbapenem therapy. Alternative antibacterial or anticonvulsant therapy should be considered if serum valproic acid concentrations cannot be maintained in the therapeutic range or seizures occur. *[see Drug Interactions]*

***Clostridium difficile*-Associated Diarrhea:** *Clostridium difficile*-associated diarrhea (CDAD) has been reported with nearly all antibacterial agents and may range in severity from mild diarrhea to fatal colitis.

Treatment with antibacterial agents alters the normal flora of the colon and may permit overgrowth of *C. difficile*.

C. difficile produces toxins A and B which contribute to the development of CDAD. Hypertoxin producing strains of *C. difficile* cause increased morbidity and mortality, as these infections can be refractory to antimicrobial therapy and may require colectomy. CDAD must be considered in all patients who present with diarrhea following antibiotic use. Careful medical history is necessary since CDAD has been reported to occur over two months after the administration of antibacterial agents.

If CDAD is suspected or confirmed, ongoing antibiotic use not directed against *C. difficile* may need to be discontinued. Appropriate fluid and electrolyte management, protein supplementation, antibiotic treatment of *C. difficile,* and surgical evaluation should be instituted as clinically indicated. *[see Adverse Reactions]*

Development of Drug-Resistant Bacteria: Prescribing DORIBAX™ in the absence of a proven or strongly suspected bacterial infection is unlikely to provide benefit to the patient and increases the risk of the development of drug-resistant bacteria.

Pneumonitis with Inhalational Use: When DORIBAX™ has been used investigationally via inhalation, pneumonitis has occurred. DORIBAX™ should not be administered by this route.

ADVERSE REACTIONS
The following adverse reactions are discussed in greater detail in other sections of labeling:

- Anaphylaxis and serious hypersensitivity reactions *[see Warnings and Precautions]*
- Interaction with sodium valproate *[see Warnings and Precautions* and *Drug Interactions]*
- *Clostridium difficile*-associated diarrhea *[see Warnings and Precautions]*
- Development of drug-resistant bacteria *[see Warnings and Precautions]*
- Pneumonitis with inhalational use *[see Warnings and Precautions]*

Adverse Reactions from Clinical Trials: Because clinical trials are conducted under widely varying conditions, adverse reaction rates observed in clinical trials of a drug cannot be compared directly to rates from clinical trials of another drug and may not reflect rates observed in practice.

During clinical investigations, 853 adult patients were treated with DORIBAX™ IV (500 mg administered over 1 hour q8h) in the three comparative phase 3 clinical studies; in some patients, parenteral therapy was followed by a switch to an oral antimicrobial. *[see Clinical Studies (14)* in full Prescribing Information*]* The median age of patients treated with DORIBAX™ was 54 years (range 18-90) in the comparative cUTI study and 46 years (range 18-94) in the pooled comparative cIAI studies. There was a female predominance (62%) in the comparative cUTI study and a male predominance (63%) in the pooled cIAI studies. The patients treated with DORIBAX™ were predominantly Caucasian (77%) in the three pooled phase 3 studies.

The most common adverse reactions (≥ 5%) observed in the DORIBAX™ phase 3 clinical trials were headache, nausea, diarrhea, rash and phlebitis. During clinical trials, adverse drug reactions that led to DORIBAX™ discontinuation were nausea (0.2%), vulvomycotic infection (0.1%) and rash (0.1%).

Adverse reactions due to DORIBAX™ 500 mg q8h that occurred at a rate ≥1 % in either indication are listed in Table 1. Hypersensitivity reactions related to intravenous study drug and *C. difficile* colitis occurred at a rate of less than 1% in the three controlled phase 3 clinical trials.

Table 1: Adverse Reactions† with Incidence Rates (%) of ≥1% and Adverse Events†† Having Clinically Important Differences in Frequency by Indication in the Three Controlled, Comparative DORIBAX™ Phase 3 Clinical Trials

	Complicated Urinary Tract Infections (one trial)		Complicated Intra-Abdominal Infections (two trials)	
System organ class	DORIBAX™ 500 mg q8h (n =376)	Levofloxacin 250 mg IV q24h (n = 372)	DORIBAX™ 500 mg q8h (n = 477)	Meropenem 1 g q8h (n = 469)
Nervous system disorders				
Headache	16	15	4	5
Vascular disorders				
Phlebitis	4	4	8	6
Gastro-intestinal disorders				
Nausea	4	6	12	9
Diarrhea	6	10	11	11
Blood and Lymphatic System Disorders				
Anemia††	2	1	10	5
Renal and Urinary Disorders				
Renal impairment/ Renal failure††	<1	0	1	<1

Table 1: Adverse Reactions† with Incidence Rates (%) of ≥1% and Adverse Events†† Having Clinically Important Differences in Frequency by Indication in the Three Controlled, Comparative DORIBAX™ Phase 3 Clinical Trials *(continued)*

	Complicated Urinary Tract Infections (one trial)		Complicated Intra-Abdominal Infections (two trials)	
System organ class	DORIBAX™ 500 mg q8h (n =376)	Levofloxacin 250 mg IV q24h (n = 372)	DORIBAX™ 500 mg q8h (n = 477)	Meropenem 1 g q8h (n = 469)
Skin and subcutaneous disorders				
Pruritus	<1	1	3	2
Rash*	1	1	5	2
Investigations				
Hepatic enzyme elevation**	2	3	1	3
Infection and Infestations				
Oral candidiasis	1	0	1	2
Vulvomycotic infection	2	1	1	<1

* includes reactions reported as allergic and bullous dermatitis, erythema, macular/papular eruptions, urticaria and erythema multiforme
** includes reactions reported as alanine aminotransferase increased, aspartate aminotransferase increased, hepatic enzyme increased, and transaminases increased
† An adverse drug reaction was defined as an undesirable effect, reasonably associated with the use of DORIBAX™ that may occur as part of its pharmacological action or may be unpredictable in its occurrence.
†† An adverse event refers to any untoward medical event associated with the use of the drug in humans, whether or not considered drug-related.

Postmarketing Experience: The following adverse reaction has been identified during post-approval use of doripenem outside of the U.S. Because this reaction was reported voluntarily from a population of uncertain size, it is not possible to reliably estimate its frequency or establish a causal relationship to drug exposure.

Anaphylaxis

The following treatment-emergent adverse events (known to occur with beta-lactams including carbapenems) have been reported voluntarily during post-approval use of DORIBAX™ outside of the U.S. They are included due to their seriousness, although it is not possible to estimate their frequency and causality has not been established:

Stevens Johnson Syndrome
Toxic epidermal necrolysis
Interstitial pneumonia
Seizure

DRUG INTERACTIONS
Valproic Acid: A clinically significant reduction in serum valproic acid concentrations has been reported in patients receiving carbapenem antibiotics and may result in loss of seizure control. Although the mechanism of this interaction is not fully understood, data from *in vitro* and animal studies suggest that carbapenem antibiotics may inhibit valproic acid glucuronide hydrolysis. Serum valproic acid concentrations should be monitored frequently after initiating carbapenem therapy. Alternative antibacterial or anticonvulsant therapy should be considered if serum valproic acid concentrations cannot be maintained in the therapeutic range or a seizure occurs. *[see Warnings and Precautions]*

Probenecid: Probenecid interferes with the active tubular secretion of doripenem, resulting in increased plasma concentrations of doripenem. *[see Clinical Pharmacology (12.3)* in full Prescribing Information*]* Coadministration of probenecid with DORIBAX™ is not recommended.

USE IN SPECIFIC POPULATIONS
Pregnancy: Category B: Doripenem was not teratogenic and did not produce effects on ossification, developmental delays or fetal weight following intravenous administration during organogenesis at doses as high as 1 g/kg/day in rats and 50 mg/kg/day in rabbits (based on AUC, at least 2.4 and 0.8 times the exposure to humans dosed at 500 mg q8h, respectively). There are no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

Nursing Mothers: It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, caution should be exercised when DORIBAX™ is administered to a nursing woman.

Pediatric Use: Safety and effectiveness in pediatric patients have not been established.

Geriatric Use: Of the total number of subjects in clinical studies of DORIBAX™, 28% were 65 and over, while 12% were 75 and over. Clinical cure rates in complicated intra-abdominal and complicated urinary tract infections were slightly lower in patients ≥65 years of age and also in the subgroup of patients ≥75 years of age versus patients <65. These results were similar between doripenem and comparator treatment groups.

No overall differences in safety were observed between older and younger subjects, but greater sensitivity of some older individuals cannot be ruled out.

Elderly subjects had greater doripenem exposure relative to non-elderly subjects; however, this increase in exposure was mainly attributed to age-related changes in renal function. *[see Clinical Pharmacology (12.3)* in full Prescribing Information*]*

This drug is known to be excreted substantially by the kidney, and the risk of adverse reactions to this drug may be greater in patients with impaired renal function or pre-renal azotemia. Because elderly patients are more likely to have decreased renal function or pre-renal azotemia, care should be taken in dose selection, and it may be useful to monitor renal function.

Patients with Renal Impairment: Dosage adjustment is required in patients with moderately or severely impaired renal function. *[see Dosage and Administration (2.2)* and *Clinical Pharmacology (12.3)* in full Prescribing Information*]* In such patients, renal function should be monitored.

PATIENT COUNSELING INFORMATION

- Patients should be advised that allergic reactions, including serious allergic reactions, could occur and that serious reactions require immediate treatment. They should report any previous hypersensitivity reactions to DORIBAX™, other carbapenems, beta-lactams or other allergens.
- Patients should be counseled that anti-bacterial drugs including DORIBAX™ should only be used to treat bacterial infections. They do not treat viral infections (e.g., the common cold). When DORIBAX™ is prescribed to treat a bacterial infection, patients should be told that although it is common to feel better early in the course of therapy, the medication should be taken exactly as directed. Skipping doses or not completing the full course of therapy may (1) decrease the effectiveness of the immediate treatment and (2) increase the likelihood that bacteria will develop resistance and will not be treatable by DORIBAX™ or other antibacterial drugs in the future.
- Keep out of the reach of children.

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10157600B 10/2007

INTRODUCING DORIBAX

- Clinical efficacy proven in complicated intra-abdominal infections* and complicated urinary tract infections, including pyelonephritis†
- Demonstrated safety and tolerability profiles—no seizures reported in 4 large Phase III clinical trials

Carbapenem potency that breaks through today's gram-negative pathogens‡[1-3]

- Proven in vitro activity vs *P aeruginosa*, Enterobacteriaceae, and *A baumannii*[1-3]

‡ In vitro activity does not necessarily correlate with clinical results.

Please see brief summary of full Prescribing Information on following pages.

NEW DORIBAX™
doripenem for injection

TOUGH TO RESIST

* DORIBAX is indicated as a single agent for the treatment of complicated intra-abdominal infections caused by susceptible strains of *E coli, K pneumoniae, P aeruginosa, B caccae, B fragilis, B thetaiotaomicron, B uniformis, B vulgatus, S intermedius, S constellatus,* or *P micros.*

† DORIBAX is indicated as a single agent for the treatment of complicated urinary tract infections caused by susceptible strains of *E coli,* including cases with concurrent bacteremia, *K pneumoniae, P mirabilis, P aeruginosa,* or *A baumannii.*

To reduce the development of drug-resistant bacteria and maintain the effectiveness of DORIBAX and other antibacterial drugs, DORIBAX should be used only to treat or prevent infections that are proven or strongly suspected to be caused by susceptible bacteria. When culture and susceptibility information are available, they should be considered in selecting and modifying antibacterial therapy. In the absence of such data, local epidemiology and susceptibility patterns may contribute to the empiric selection of therapy.

Important Safety Information

DORIBAX is contraindicated in patients with known serious hypersensitivity to doripenem or other carbapenems, or in patients who have demonstrated anaphylactic reactions to beta lactams.

Serious and occasionally fatal hypersensitivity (anaphylactic) and serious skin reactions have been reported in patients receiving beta-lactam antibiotics. These reactions are more likely to occur in individuals with a history of sensitivity to multiple allergens. If an allergic reaction to DORIBAX occurs, discontinue the drug.
Serious acute anaphylactic reactions require emergency treatment with epinephrine and other emergency measures, including oxygen, IV fluids, IV antihistamines, corticosteroids, pressor amines and airway management, as clinically indicated.

Carbapenems may reduce serum valproic acid concentrations to subtherapeutic levels, resulting in loss of seizure control. Serum valproic acid concentrations should be monitored frequently after initiating carbapenem therapy. Alternative antibacterial or anticonvulsant therapy should be considered if serum valproic acid concentrations cannot be maintained in the therapeutic range or seizures occur.

Clostridium difficile-associated diarrhea (CDAD) has been reported with nearly all antibacterial agents and may range in severity from mild diarrhea to fatal colitis. CDAD must be considered in all patients who present with diarrhea following antibiotic use. Careful medical history is necessary since CDAD has been reported to occur over 2 months after administration of antibacterial agents. If CDAD is suspected or confirmed, ongoing antibiotic use not directed against *C difficile* may need to be discontinued.

When doripenem has been used investigationally via inhalation, pneumonitis has occurred. DORIBAX should not be administered by this route.

Safety and effectiveness in pediatric patients have not been established.

The most common adverse reactions (≥5%) observed in clinical trials were headache, nausea, diarrhea, rash, and phlebitis.

REFERENCES: 1. Evangelista AT, Yee C, Pillar CM, Aranza-Torres MK, Sahm DF, Thornsberry C. Surveillance profiling of doripenem activity against *Pseudomonas aeruginosa* isolated from inpatients and ICU patients: results of the TRUST surveillance initiative. Presented at the 45th Annual Meeting of the Infectious Diseases Society of America (IDSA); 2007: San Diego, CA. **2.** Data on file, Ortho-McNeil, Inc. **3.** Jones ME, Draghi DC, Brown NP, Aranza MK, Thornsberry C, Sahm DF, et al. Baseline surveillance profile of Doripenem (DOR) against key gram-negative pathogens encountered in the United States. Presented at the 46th Annual Interscience Conference on Antimicrobial Agents and Chemotherapy (ICAAC); 2006:San Francisco, CA.

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