VOL. 3 • NO. 6 • JUNE 2008

CHEST Physician

THE NEWSPAPER OF THE AMERICAN COLLEGE OF CHEST PHYSICIANS

REBECCA HUT/CHILDREN'S HEALTH FUND

Investigators found increases in medication use and decreases in asthma ER visits and hospitalization rates, Dr. Irwin Redlener said.

Urban Asthma Outreach Has National Ambitions

BY DAMIAN McNAMARA
Elsevier Global Medical News

MIAMI BEACH — Physicians who run a successful outreach and treatment program for underserved, inner-city children and adults with asthma plan to expand nationwide once they determine the essential and cost-effective components.

The overall prevalence of asthma among children in the United States is 12%, according to data from the National Center for Health Statistics' National Survey of Children's Health, 2003.

However, the prevalence is much higher in specific communities, particularly in inner-city areas. For example, children in New York City's central Harlem community have a lifetime pediatric asthma prevalence rate of 30%, according to the Harlem Children's Zone program (www.hcz.org/project/new.html).

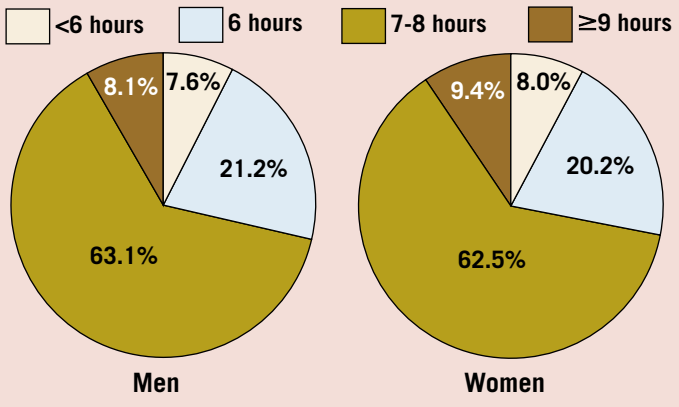
"We did a study of [1,636] homeless kids, using shelter-based surveillance, and found 33% had moderate to severe asthma," Dr. Irwin Redlener said. This group included 16% who had symptoms but no prior diagnosis (Am. J. Public Health 2007; 97:448-50).

The Children's Health Fund began an outreach and treatment program in 1987 using a mobile home to give children in New York City homeless shelters "a medical home," said Dr. Redlener, president of the Children's Health Fund and associate dean

See **Asthma Outreach** • *page 2*

VITAL SIGNS

Nearly One-Third of Adults Get No More Than 6 Hours of Sleep Nightly



Notes: Based on 2004-2006 data. Numbers do not add up to 100 because of rounding.
Source: Centers for Disease Control and Prevention

ELSEVIER GLOBAL MEDICAL NEWS

COPD May Increase Mortality Risks For MI Patients

Death risk up 38% with comorbid COPD.

BY MITCHEL L. ZOLER
Elsevier Global Medical News

CHICAGO — Chronic obstructive pulmonary disease is a lethal comorbidity for myocardial infarction patients, and its deadly punch has grown over time, according to a community-based review of more than 3,000 patients.

In addition, chronic obstructive pulmonary disease (COPD) has become increasingly common among patients who have a myocardial infarction, affecting 16% of patients who had an MI during 2000-2005, compared with 8% in 1979-1985, Dr. Francesca Bursi and her associates reported in a poster at the annual meeting of the American College of Cardiology.

The deadly impact of coexisting COPD was so strong that it negated an overall temporal trend toward fewer patients dying following an MI. The risk of death following an MI in patients with COPD, compared with those without COPD, rose from a 1.21-fold increased risk in 1979-1985 to a 2.6-fold increased risk during 2000-2005, reported Dr. Bursi, a cardiologist at the Mayo Clinic in Rochester, Minn.

Although the Mayo Clinic researchers who performed this analysis had no explanation for why the impact of COPD on post-MI mortality has increased, they said their findings underscored the need to enhance therapy and follow-up for patients who face this double whammy.

The Mayo team reviewed data collected on 3,259 residents of Olmsted County, Minn., who had an MI during 1979-2005. During an average follow-up of 4.8 years, 1,436 (44%) of these MI patients died.

For the group overall, the confluence of MI and COPD boosted the risk of death by a statistically significant 38%, compared with patients without COPD, in an analysis that adjusted for several demographic and clinical differences. ■

Oral Tissue Reveals Smoking-Related Risk

BY BETSY BATES
Elsevier Global Medical News

SAN DIEGO — Smoking-related cell damage may leave molecular footprints in saliva and oral epithelial cells, offering the potential for noninvasive early diagnosis of lung cancer and of head and neck cancers, researchers reported in separate studies at the annual meeting of the American Association for Cancer Research.

"When people smoke cigarettes, the whole field is exposed to carcinogens," said Dr. Li Mao, professor of thoracic/head and neck medical oncology and systems biology at the University of Texas at Houston.

He and his associates theorized that early molecular alterations in oral epithelium might serve as a surrogate for damage in the lungs. To test their idea, they compared cell samples obtained from the lungs to mouth tissue collected with an oral brush in 125 chronic smokers.

Using the smokers as their own controls, the investigators found striking similarities in gene expression in lung and oral tissue. For example, they found strong correlations in the inhibition (promoter methylation) of tumor suppressor genes p16 and FHIT (fragile histidine triad) in 1,774 tissue samples.

Genetic expression of specific inhibitors (total promoter methylation, inhibition of p16, and inhibition of FHIT, respectively) was found in 23%, 17%, and 35% of bronchial tissues. This also was found, respectively, in 19%, 15%, and 31% of the tissue samples that were

See **Smoking-Related Risk** • *page 2*

INSIDE

CHEST PHYSICIAN
60 Columbia Rd., Bldg. B
Morristown, NJ 07960
CHANGE SERVICE REQUESTED

Presorted Standard
U.S. Postage
PAID
Permit No. 384
Lebanon Jct. KY

ER Visits for Asthma Fell

Asthma Outreach • *from page 1*

of public health advocacy and preparedness at Columbia University, New York.

The Childhood Asthma Initiative (CAI) is an essential component of the Children's Health Fund, Dr. Redlener said. "Asthma is a chronic condition that needs a lot of organized follow-up. It is extraordinarily difficult [to manage] in the absence of a medical home."

The program expanded citywide to include a fleet of four mobile outreach units, a clinic near Montefiore Medical Center in the South Bronx, and a new school-based health care program on 125th Street in Harlem. The success of the program spurred expansion to establish Children's Health Fund National Network sites around the country, including mobile units still in the gulf area following Hurricane Katrina.

The outreach works. Investigators found significant increases in medication use and decreases in emergency department visits and hospitalization rates. For example, after 1 year, the use of appropriate asthma controller medications in 202 homeless and low-income–housed asthma patients (average age, 7 years) increased from 49% to 75%. "It's still not perfect," Dr. Redlener said. Initial use was even lower in the cohort of children in homeless shelters (34%), but this likewise increased to 75% after 1 year.

The program reduced emergency department visits for asthma as well, from an initial 61% of patients to 19% on follow-up, Dr. Redlener said at the annual Masters of Pediatrics conference sponsored by the University of Miami.

"We are doing a cost-benefit analysis, and finding some very dramatic numbers," Dr. Redlener said. Emergency department savings are an average $500 per visit avoided. Average hospitalization savings are about $7,000. He estimated that the reduced cost per medically underserved inner-city pediatric patient with asthma is $4,490.

Restricted access to primary care, uninformed and/or inadequate medical care, low health literacy, and a high exposure to environmental allergens, especially indoor ones, are among the factors associated with higher asthma prevalence in inner-city areas, Dr. Redlener said. "These children essentially live in a world of triggers."

Beginning with the initial clinical assessment of children at risk for or symptomatic with asthma, all information is entered into an electronic medical record system. That allows clinicians at any site in the system to monitor treatment response and outcome, Dr. Redlener said.

Screening for maternal depression is another key element of the program, he added. "There is a high prevalence of current maternal depressive symptoms: about three-quarters [74%] of moms of children screened for asthma."

An educational component is aimed at children, parents, and providers. The Family Asthma Guide is available at no charge at www.childrenshealthfund.org. It includes an asthma action plan according to severity of disease. The book includes a pictorial display of asthma medications.

So what is next for the Childhood Asthma Initiative? "We are looking at what are the minimal elements of the CAI design for replication and cost-efficiency" prior to additional expansion nationwide, Dr. Redlener said. Future plans also include the development of an intensive asthma clinic for severe patients. "We would really like to get to the goal of nobody having to go to the hospital ever." ■

Saliva Sample Showed Cancer Risk

Smoking-Related Risk • *from page 1*

collected from patients' mouths—a highly significant correlation. When testing was repeated after 3 months, similar correlations again were seen in genetic expression in the two tissue types.

The finding, if confirmed, could prove highly useful in identifying high-risk smokers and former smokers—groups who could be targeted with education, chemoprevention research, and early diagnosis of lung cancer. In the future, the detection of molecular changes in oral tissue might prompt chemopreventive interventions, Dr. Mao said during a press conference at the meeting.

But even now, such a finding might prompt behavior change. "At this moment and even in the near future, we don't have really good preventive strategies for reducing lung cancer rates. It is very difficult for us to completely control cancer risk; therefore, to avoid carcinogens would be preferred. Continuing smoking would not be a very good idea," he said.

A second study of saliva samples identified 11 genes, including 2 with important changes that distinguished 27 patients with head and neck squamous cell carcinoma from 10 healthy controls with a high level of sensitivity and specificity.

Dr. Seema Sethi and her associates used a multiplex ligation-dependent probe amplification assay to assess the relative importance of 82 genes known to be associated with head and neck cancer. Of those, the 11 emerged in saliva samples as highly predictive of cancer.

Two in particular, PMAIP1, a tumor suppression gene on chromosome 18, and PTPN1, an oncogene on chromosome 20, proved pivotal in identifying patients with head and neck cancer. If PMAIP1 was overexpressed in isolation or in conjunction with elevated PTPN1, the saliva profile identified subjects with cancer with 100% sensitivity and specificity. Correlative studies with the sample set found a sensitivity of 96% and a specificity of 90%.

"It was definitely very surprising that [the molecular pattern] separated out the entire cohort of head and neck patients from the others," said Dr. Sethi.

A follow-up study is planned to see if the power of the association holds in a group of 60 cancer patients and 60 controls. The aim, she said, is to create a noninvasive test that could diagnose head and neck cancer in its earliest stages, before prognosis is poor and available treatments are limited to disfiguring surgery and grueling regimens of chemotherapy and radiation therapy.

"The development of the disease in high-risk populations, such as smokers, takes many years. This window period gives us the opportunity to screen for the disease," said Dr. Sethi, an otolaryngology/head and neck surgery specialist at Henry Ford Hospital in Detroit and lead investigator on the study. "This study has very significant health care implications." ■

Dr. Michael Alberts, FCCP, comments: *These are elegant studies that utilize "cutting edge" and sophisticated technology. Such methods may prove to be very valuable in the identification of lung cancer. We must remind ourselves, however, that these potential diagnostic tools would not be necessary but for the cigarette smoking habit.*

IN THIS ISSUE

CHEST PHYSICIAN Is Online
CHEST PHYSICIAN is available on the Web at www.chestnet.org/about/publications.

CHEST PHYSICIAN

CHEST PHYSICIAN, the newspaper of the American College of Chest Physicians, provides cutting-edge reports from clinical meetings, FDA coverage, clinical trial results, expert commentary, and reporting on the business and politics of chest medicine. Each issue also provides material exclusive to the members of the American College of Chest Physicians. Content for **CHEST PHYSICIAN** is provided by International Medical News Group and Elsevier Global Medical News. Content for NEWS FROM THE COLLEGE is provided by the American College of Chest Physicians.

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

Address Changes: Fax changes of address (with old mailing label) to 973-290-8245.

POSTMASTER: Send change of address (with old mailing label) to CHEST PHYSICIAN, 60 B Columbia Rd., 2nd flr., Morristown, NJ 07960.

CHEST PHYSICIAN (ISSN 1558-6200) is published monthly for the American College of Chest Physicians by Elsevier Inc., 60 B Columbia Rd., 2nd flr., Morristown, NJ 07960, 973-290-8200, fax 973-290-8250.

ELSEVIER SOCIETY NEWS GROUP, A DIVISION OF INTERNATIONAL MEDICAL NEWS GROUP
President, IMNG Alan J. Imhoff
Director, ESNG Mark Branca
Executive Director, Editorial Mary Jo M. Dales
Executive Editor, IMNG Denise Fulton
Executive Editor, EGMN Kathy Scarbeck
Publication Editor Terry Rudd
Publication Associate Editor Jay C. Cherniak
VP, Medical Education Sylvia H. Reitman
Senior Director, Marketing and Research Janice Theobald
Circulation Analyst Barbara Cavallaro
Executive Director, Operations Jim Chicca
Director, Production and Manufacturing Yvonne Evans
Production Manager Judi Sheffer
Creative Director Louise A. Koenig
Display Advertising Manager The Walchli Tauber Group: 443-512-8899, fax 443-512-8909, gary.walchli@wt-group.com, stephen.tauber@wt-group.com
Classified Sales Manager Rhonda Beamer, 443-512-8899, fax 443-512-8909, rhonda.beamer@wt-group.com
ADVERTISING OFFICES 60 B Columbia Rd., 2nd flr., Morristown, NJ 07960, 973-290-8200, fax 973-290-8250
CLASSIFIED ADVERTISING OFFICES The Walchli Tauber Group, 2225 Old Emmorton Rd., Suite 201, Bel Air, MD 21015, 443-512-8899
EDITORIAL OFFICES 5635 Fishers Lane, Suite 6000, Rockville, MD 20852, 240-221-4500, fax 240-221-2541

Smoking Cessation Intervention Pays Off for Inpatients

BY BRUCE JANCIN
Elsevier Global Medical News

CHICAGO — An intensive smoking cessation intervention that starts while patients are hospitalized for an acute cardiac event is highly cost effective and is actually cost saving, Robyn Kondrack, Pharm.D., reported at the annual meeting of the American College of Cardiology.

Indeed, the mean cost-effectiveness ratio of providing a 3-month intensive smoking cessation intervention (SCI) to hospitalized smokers in a 209-patient randomized controlled trial was $1,443 per year of life gained, according to Dr. Kondrack of Creighton University, Omaha, Neb.

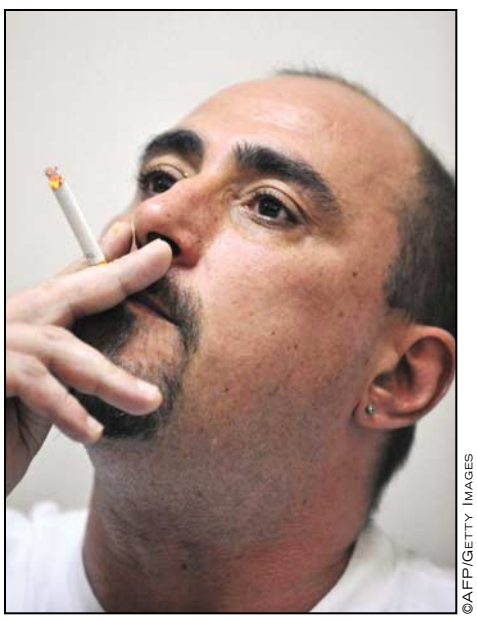
The total direct cost of medical care during 5 years of prospective follow-up in the SCI arm of the study was $872,376, including nearly $250,000 for the smoking cessation program itself, compared with $1,025,000 in patients randomized to usual care. The major driver of the more than $150,000 in cost savings in the SCI group was their reduced hospital costs over the 5-year period, she explained.

Dr. Kondrack's cost analysis was a follow-up to last year's initial report on the Creighton University randomized trial, which showed a 2-year all-cause mortality of 2.8% in the intensive SCI group compared with 12.0% in the usual care controls, a 77% relative risk reduction. Twenty-five patients in the SCI group were hospitalized during the first 2 years of follow-up, as were 41 controls, for a 44% relative risk reduction (Chest 2007;131:446-52).

The investigators noted that although the 16 prior randomized controlled trials of SCIs in hospitalized smokers published since 1985 had clearly established that such programs result in higher smoking abstinence rates than usual care, theirs was the first study to demonstrate reduced morbidity and mortality in response to an SCI.

All participants in the Nebraska study were smokers hospitalized in a coronary care unit for an acute cardiac syndrome or acute decompensated heart failure. All received a 30-minute inpatient smoking cessation counseling session; in addition, the usual-care group received printed educational materials prior to hospital discharge.

The structured SCI consisted of a minimum of 12 weekly behavior modification sessions with a counselor who has expertise in nicotine addiction, along with individualized pharmacotherapy—bupropion (Wellbutrin) and/or nicotine replacement therapy—provided at no cost to the patient. Seventy-five percent of patients in the SCI utilized the adjuvant pharmacotherapy, as did just 17% in the usual care group.



©AFP/GETTY IMAGES

Cardiac patients who received a structured intervention program had a 33% rate of continuous smoking abstinence at 2 years.

The biochemically confirmed continuous smoking abstinence rate at 2 years was 33% in the SCI group, compared with 9% with usual care.

The number-needed-to-treat using the intensive SCI to prevent one additional death during 2 years was 11. The study results suggest that smoking cessation may be the most effective secondary prevention measure available to smokers who have cardiovascular disease—it may be more effective than statins, antiplatelet agents, or other medications that are considered standard therapy, according to the investigators.

In an ACP Journal Club commentary on the Creighton trial, Dr. Charles J. Bentz called it a landmark study which "calls to mind the first study of lipid lowering that showed a significant reduction in mortality and forever changed clinical practice." (ACP J Club 2007;147:3).

Noting that only 14 states cover outpatient smoking cessation counseling for all Medicaid recipients and only Oregon covers all forms of counseling and medication, Dr. Bentz, of Providence St. Vincent Medical Center, Portland, Ore., declared, "The study should serve as a call to all payers, public and private, to reevaluate their coverage for intensive tobacco cessation interventions."

Dr. Kondrack noted that roughly three-quarters of the cost of the intensive SCI program was for personnel, with another 18% going for office and pharmaceutical supplies. ■

Particulate Air Pollution Tied to Marked Increase in DVT Risk

BY MARY ANN MOON
Elsevier Global Medical News

Long-term exposure to ambient particulate air pollution markedly raised the risk of deep vein thrombosis of the legs in the first clinical study to examine the issue, researchers reported in the May 12 issue of the Archives of Internal Medicine.

Particulate air pollution is known to raise the risks of coronary and cerebrovascular diseases, and the underlying procoagulant abnormalities thought to be caused by exposure to this pollution are stronger determinants of venous thrombosis than of arterial thrombosis. But, until now, venous thrombosis "has received little attention" in clinical studies of the effects of air pollution, according to Dr. Andrea Baccarelli of Harvard School of Public Health, Boston, and his associates.

They conducted a 10-year case-control study of deep-vein thrombosis (DVT), with or without pulmonary embolism, in nine geographic areas in the Lombardy region in Italy that had distinct levels of particulate air pollution of less than 10 mcm in aerodynamic diameter (PM_{10}).

The 871 cases (420 men and 451 women) had been diagnosed in 1995-2005. Approximately 20% developed symptomatic pulmonary embolism as well as leg DVT. Control subjects included 1,210 healthy friends and nonblood relatives (490 men and 720 women) residing in the same areas at the same time.

The intensity of particulate air pollution strongly correlated with the risk of DVT, after the data were controlled to account for numerous clinical and environmental covariates.

"We estimated an overall 70% increase in DVT risk with each increase of 10 mcg/m^3 in PM_{10} level," the investigators said (Arch. Intern. Med. 2008;168:920-7).

In comparison, another large study found a 37% higher risk of death from cardiopulmonary disease in the most polluted area surveyed, compared with the least polluted, Dr. Baccarelli and associates noted.

Exposure to particulate air pollution also was strongly associated with a significantly shorter prothrombin time and appeared to decrease activated partial thromboplastin time—alterations in coagulation function that may well explain the increased risk for DVT, added the researchers.

In an editorial comment accompanying this report, Dr. Robert D. Brook of the University of Michigan, Ann Arbor, said, "What is most surprising from their results is not that air pollutants are associated with venous thrombosis but rather the large magnitude of the reported risk."

If their findings are extrapolated, exposure to a "not too uncommon" annual mean PM_{10} level that is routinely found in North American cities and is considered acceptable by EPA standards would raise the DVT risk by 10-fold or more, he said (Arch. Intern. Med. 2008;168:909-11).

This is an even greater magnitude of effect than is seen with established DVT risk factors such as estrogen exposure and cancer. Such a large effect size "appears somewhat questionable," he said.

"Either the risk posed by PM_{10} is indeed highly robust (i.e., a particularly toxic pollutant) or limitations inherent to this case-control study erroneously overestimated the true risk," Dr. Brook noted. ■

FDA Extends Advair Use to Cut COPD Exacerbations

BY RANDALL OSBORNE
"The Pink Sheet"

The Food and Drug Administration on April 30 approved expanded use of the asthma drug Advair to reduce exacerbations of chronic obstructive pulmonary disease.

Inhaled Advair, which is taken by way of the manufacturer GlaxoSmithKline's Diskus device, is a combination of 250 mcg of fluticasone propionate (a corticosteroid) and 50 mcg of salmeterol xinafoate (a long-acting β-agonist).

The company's attempts to gain FDA approval for Advair have not always been successful. A supplemental new drug application for the 500/50-mcg dose in chronic obstructive pulmonary disease (COPD) yielded a "not approvable" letter from the agency. Regulators questioned whether the higher dose of fluticasone conferred a benefit, based on trial results offered by GlaxoSmithKline.

The company conducted two identical 1-year studies to evaluate the effect on COPD exacerbations with Advair Diskus 250/50, compared with 50 mcg of salmeterol alone. A total of 1,554 patients with a history of COPD exacerbations participated in the two clinical trials.

Patients treated with Advair Diskus 250/50 experienced a 30% reduction in annual exacerbations, compared with those treated with salmeterol (*P* less than .001). The patients who were treated with Advair also exhibited a 39.7% reduction in annual rate of exacerbations that required treatment with oral corticosteroids.

The agency's latest action allows Advair's use not only by patients with bronchitis, but also by those suffering from emphysema, or both.

GlaxoSmithKline said that Advair is the only drug approved for exacerbations of COPD. Exacerbations are episodes of worsening COPD symptoms that often require additional treatment, such as antibiotics, oral corticosteroids, and, in some cases, hospitalization.

The FDA cleared Advair for COPD patients with chronic bronchitis in 2003. There are 24 million Americans diagnosed with COPD, which is the fourth leading cause of death in the United States, according to GlaxoSmithKline. ■

Elsevier Global Medical News and "The Pink Sheet" are published by Elsevier.

Balloon Dilation Beneficial for Pediatric Airway Stenosis

BY DAMIAN McNAMARA
Elsevier Global Medical News

FORT LAUDERDALE, FLA. — Balloon dilation successfully corrects airway stenosis in some children and can obviate more invasive surgery.

Although some pediatric patients require a series of balloon dilations to resolve their problem—and the approach is not for everyone—there are indications that improvements are long lasting, according to Dr. Michael J. Rutter.

The balloon dilation intervention "has become a big part of our airway management instead of an open operation, or as adjunct to an operation," said Dr. Rutter, a pediatric otolaryngologist at Cincinnati Children's Hospital Medical Center.

The technique avoids the shear forces of pushing something through the airway, because balloon dilations apply only radial forces, Dr. Rutter explained. The dilations are also relatively safe: In more than 800 interventions performed by Dr. Rutter and his associates at the University of Cincinnati since 2001, he has witnessed only one complication—a bronchial tear in an infant with very complex airway problems. The patient also had a stenotic bronchus that spontaneously healed and unexpectedly fixed the bronchial stenosis, he said.

Precise, high-pressure dilation is a major advantage of the technique. However, the angioplasty balloons can slip easily and can be costly, Dr. Rutter said at a pediatric pulmonology meeting sponsored by the American College of Chest Physicians.

IN MORE THAN 800 INTERVENTIONS AT THE UNIVERSITY OF CINCINNATI SINCE 2001, THERE HAS BEEN ONLY ONE COMPLICATION.

"I am mainly using angioplasty balloons because you can put a lot of pressure into them," he said. "They are a bit expensive [$250], but the average kid coming to us for a major airway reconstruction may leave with a hospital bill of more than $100,000, so it's all relative."

Balloons also can be used to improve an airway until surgery is scheduled. Dr. Rutter cited the case of a 6-week-old girl born at term who was transferred with severe stridor and retractions. History revealed apnea at home at 2 weeks of age that led to intubation by an ambulance crew and hospital admission. On evaluation in the operating room, the stenosis was so severe that the child could not be intubated.

Balloon dilation improved her stenosis temporarily, until she restenosed over the subsequent few weeks and had an "elective" laryngotracheal reconstruction, said Dr. Rutter, who is also in the division of pediatric otolaryngology–head and neck surgery at the University of Cincinnati.

Other indications for balloon dilation include prevention of subglottic restenosis, Dr. Rutter said. In addition, perioperative balloon dilation sometimes can be useful.

The intervention also works for children with tracheal stenosis. For example, Dr. Rutter was consulted to treat a 12-year-old boy who developed an endotracheal cuff injury from prolonged intubation following a car accident. Serial dilations were helpful in this instance. The boy required four dilations approximately 10 days apart, but has experienced long-term success with no further intervention of any kind in the subsequent 36 months.

This case, however, approached the upper limit for the number of balloon dilations, Dr. Rutter said. "If five or more dilations are required, do something else."

To decide which size angioplasty balloon is appropriate, first take the outer diameter of an age-appropriate endotracheal tube, Dr. Rutter said. Then, add 1 mm for the larynx, and 2 mm for the trachea. ■

Dr. Robert Cerfolio, FCCP, comments: *Balloon dilation of the airway both in children and adults has been practiced for years, and the only devices that are small enough for neonates and infants are angioplasty equipment. This report provides one of the largest experiences of balloon dilation in children and is an important reference to support its already common use. Overdilation should be avoided, and careful follow-up is needed. Stents should almost never be used, and the upper limit of the number of dilations is not known. The decision to revert to open surgery should not be based on the number of dilations performed, but rather on the time interval required in between dilations, the rapidity of critical airway stenosis, the patients' symptoms, and other underlying conditions.*

Antibiotic Resistance Tied to Otitis Media Prescriptions

BY MARY ANN MOON
Elsevier Global Medical News

The rates at which oral antibiotics were prescribed to children under age 5 years were directly related to the rates of resistant *Streptococcus pneumoniae* cultured from acute otitis media cases in a study reviewing more than 200,000 prescriptions.

In two distinct populations in southern Israel that were followed for 5 successive years, a "remarkable" seasonal reduction in antibiotic prescriptions during the warm months was significantly associated with a marked reduction in antibiotic resistance rates in pneumococcal isolates, said Dr. Ron Dagan of Soroka University Medical Center, Beer-Sheva, Israel, and his associates (J. Infect. Dis. 2008;197:1094-102).

"Among Jewish children, each monthly increase in 10 prescriptions per 1,000 children was associated with a 1.05-fold increase in the odds of penicillin resistance during that month. The corresponding odds ratio for erythromycin resistance was 1.04, and for multidrug resistance it was 1.04," they wrote.

In an editorial accompanying this report, Dr. Cindy R. Friedman and Dr. Cynthia G. Whitney of the Centers for Disease Control and Prevention, Atlanta, said that these findings provide solid evidence that reducing antibiotic use can lead to a decrease in resistant pneumococcal infections.

"Skeptics argue that although interventions can reduce inappropriate use of antibiotics, this drop in prescriptions may not be enough to reduce or reverse the development of antibiotic resistance." But the results of this study suggest otherwise.

"The challenge now is for clinicians to reduce unnecessary use" of antibiotics, Dr. Friedman and Dr. Whitney said (J. Infect. Dis. 2008;197:1082-3).

In their study, Dr. Dagan and his associates reviewed all 236,466 prescriptions for oral antibiotics written during 1999-2003 for children aged younger than 5 years in seven large pediatric primary care clinics. Five of these were in urban Jewish centers and two in Bedouin townships.

Overall, there was a 24% drop in the prescription rate during the warm months, compared with the cold months. The mean monthly antibiotic prescription rate was 291 per 1,000 children in the winter and 222 per 1,000 in the summer. Rates of antibiotic resistance showed a corresponding seasonal variation.

Although this pattern was seen in both populations, the urban Jewish population showed a much more pronounced—and statistically significant—seasonal variation in prescribing rates and resistance rates than did the rural Bedouin population.

In the Jewish population, the rate of penicillin resistance was 43% in the cold months, compared with 29% in the warm months. The rate of erythromycin resistance was 29% in the cold months, compared with 20% in the warm months. And the rate of multidrug resistance was 25% in the cold months, compared with 15% in the warm months.

In the Bedouin children, the seasonal differences were smaller and were not statistically significant.

These findings suggest that interventions to reduce antibiotic overuse "may reduce resistance in the community faster than previously thought," they added. ■

Trials Compare Immunosuppressives in Lung Transplant

BY MITCHEL L. ZOLER
Elsevier Global Medical News

BOSTON — Two randomized trials shed light on the relative benefits and risks of immunosuppressive drugs in lung transplant patients, until now an understudied group.

In one multicenter study with 172 patients, treatment with sirolimus led to significantly fewer moderate to severe acute rejection episodes, compared with azathioprine, but was linked with a significantly higher rate of infections, Dr. Sangeeta M. Bhorade, FCCP, reported at the annual meeting of the International Society for Heart and Lung Transplantation.

In another study reported at the meeting, fewer episodes of bronchiolitis obliterans syndrome (BOS) occurred in lung transplant patients treated with a tacrolimus regimen than in those randomized to a regimen of cyclosporine, said Dr. Hendrik Treede, a thoracic surgeon at the University Heart Center in Hamburg, Germany.

"When was the last time we saw this many clinical trials [reported at one meeting] in lung transplant patients? Never," commented Dr. Jason D. Christie, a pulmonologist and lung transplant specialist at the University of Pennsylvania in Philadelphia.

A typical immunosuppression regimen for lung transplant recipients includes a calcineurin inhibitor, either tacrolimus or cyclosporine, an antiproliferative drug, such as azathioprine or mycophenolate mofetil (MMF), and a corticosteroid. "But there is no established standard of care, and none of these drugs have [Food and Drug Administration] approval for use in lung transplant patients," Dr. Christie said in an interview.

Dr. Bhorade's study was conducted at eight U.S. centers that used a background regimen of tacrolimus and prednisone, and then randomized patients to additional treatment with sirolimus or azathioprine. Astellas, which markets tacrolimus (Prograf), sponsored the study. Dr. Bhorade, medical director of the lung transplant program at the University of Chicago, has received research support from Astellas.

The study's primary end point was freedom from acute rejection episodes after 1 year of treatment. Rejection episodes of all severity levels occurred in about 50% of the 92 patients treated with azathioprine and in about 40% of the 80 patients treated with sirolimus, a difference that was not significant. But moderate to severe acute rejection episodes occurred in 20% of the sirolimus-treated patients and in 28% of the azathioprine patients, a significant difference. A total of 21 moderate to severe episodes occurred in the sirolimus patients versus 39 in the azathioprine group, Dr. Bhorade reported.

Sirolimus treatment was linked to more bacterial and fungal infections but fewer viral infections, particularly by cytomegalovirus.

SIROLIMUS WAS LINKED TO SIGNIFICANTLY FEWER MODERATE TO SEVERE ACUTE REJECTION EPISODES THAN AZATHIOPRINE.

The rate of BOS was similar in the two treatment groups after 1 year, but the BOS incidence after 3 years of treatment is a more standard measure of graft durability. Sirolimus treatment was also linked with higher serum levels of cholesterol and triglycerides, a slightly higher rate of serious adverse effects, and a higher rate of early discontinuation of therapy.

Better results with sirolimus treatment will depend on finding ways to identify the patients who will best tolerate the drug. Longer-term follow-up of these patients, out to 3 years, is also needed, Dr. Bhorade said.

In Dr. Treede's study, which was done at 14 centers in Europe and Australia, all patients were treated with MMF and a steroid and were randomized to treatment with either tacrolimus or cyclosporine. This study was also funded by Astellas, but was researcher initiated.

After 3 years, the rate of freedom from an acute rejection episode was 33% in 120 patients treated with tacrolimus and 27% in 120 patients treated with cyclosporine, a difference that was not significant, said Dr. Treede. The incidence of BOS was 20% in the cyclosporine group and 11% in the tacrolimus group, a difference that just missed significance ($P = .058$). The overall survival rate was similar in the two groups, as was the incidence of adverse events, such as infections or renal impairment.

No drug in these trials was significantly superior to its comparator for the primary end point. But the findings supported the concept that immunosuppressive regimens should be tailored to each patient's specific needs, such as susceptibility to infection, Dr. Bhorade said in an interview.

For example, if a lung transplant patient has had several infectious complications, "you may want to hold off on drugs that can predispose to infections, like sirolimus," she said. For these patients, a better choice might be MMF, which usually leads to fewer infections. ■

Pneumonia After Lung Transplant Raised Risk of Bronchiolitis Obliterans

BY MITCHEL L. ZOLER
Elsevier Global Medical News

BOSTON — Pneumonia is a major cause of bronchiolitis obliterans syndrome in lung transplant patients, according to a review of 161 transplant patients from one center.

"To our knowledge, this is the first study to show that patients who have these types of pneumonias [bacterial or fungal] develop BOS [bronchiolitis obliterans syndrome] earlier than patients without pneumonia," Dr. Meera R. Gupta said at the annual meeting of the International Society for Heart and Lung Transplantation.

The study reviewed data collected on 161 patients who received a lung transplant from November 1990 through November 2005 at the Ochsner Medical Center in New Orleans and survived for at least 180 days following surgery. During a median follow-up of 4.3 years, 90 patients (56%) developed BOS. The cumulative incidence of BOS was 11% by 1 year after surgery, 40% after 3 years, and 58% after 5 years, reported Dr. Gupta.

The survival rate among patients with BOS was 78% after 1 year, 46% after 3 years, and 21% after 5 years, with an overall median survival duration of 2.6 years, said Dr. Gupta, a transplant immunologist at the University of Texas at Galveston.

In a multivariate analysis, significant correlates that boosted the risk of developing BOS were gram-positive pneumonia, gram-negative pneumonia, fungal pneumonitis, and acute rejection. BOS developed an average of 6 months sooner in patients with gram-positive or gram-negative pneumonia than in those without bacterial pneumonia, 20 months sooner in patients with acute lung rejection than in those who did not have acute rejection, and 24 months sooner in patients with fungal pneumonitis than in those without a fungal infection.

All four of these risk factors were significant predictors of an increased risk of BOS during the first 100 days following lung transplant. Acute rejection and fungal pneumonitis were also significant predictors of patients developing BOS more than a year after surgery.

The findings show that both the type of insult and its timing are important determinants of whether BOS will occur after a lung transplant.

"Our results suggest that lung injury from infection may be a significant factor for both early and long-term postoperative outcomes. Targeting these infections may help overcome barriers to the long-term success of lung transplantation," Dr. Gupta said.

But the best way to prevent infections by gram-positive and gram-negative bacteria and by fungi in lung transplant patients may not be prophylaxis—which runs the risk of selecting drug-resistant pathogens—but rather early diagnosis of infections, followed by focused drug treatment, said Dr. Vincent Valentine, senior researcher for this study and professor of medicine and director of the lung transplant and advanced lung diseases program at the University of Texas.

Many lung transplant patients now undergo routine bronchoscopy and biopsy procedures to monitor their lungs' status, a practice that might increase susceptibility to infection. A better approach may be to follow lung recipients by radiography and spirometry, and use more invasive tests only when clinically indicated, Dr. Valentine said in an interview. His group is using this strategy at Galveston, but he cautioned that its potential benefit has not yet been proven in a comparative study. ■

FDA Reviewing Safety of Two Transplant Drugs

The Food and Drug Administration is investigating a "potential association" between two drugs used to prevent organ rejection and the development of progressive multifocal leukoencephalopathy, a rare, often fatal progressive disorder.

The two drugs are mycophenolate mofetil (CellCept), manufactured by Roche, and mycophenolic acid (Myfortic), manufactured by Novartis Corp. CellCept is approved for preventing heart, liver, and kidney transplant rejection; Myfortic is approved for preventing kidney transplant rejection. Both are approved for use with cyclosporine and corticosteroids.

In a notice posted on its MedWatch Web site, the FDA stated that Hoffmann–La Roche Inc. has received postmarketing reports of progressive multifocal leukoencephalopathy (PML) in patients on CellCept and in patients on Myfortic, and has submitted an evaluation of the PML cases in the CellCept-treated patients. Roche also has submitted proposed changes to the prescribing information for CellCept. The data and the proposed changes are being reviewed by the FDA, which has requested that Novartis also submit data on PML cases in patients on Myfortic and to make similar changes to its prescribing information.

The FDA expects the review to take about 2 months, after which the agency will make its conclusions and recommendations available to the public. "Until further information is available, patients and healthcare professionals should be aware of the possibility of PML, such as localized neurologic signs and symptoms in the setting of a suppressed immune system, including during therapy with CellCept and Myfortic," the notice said.

The FDA emphasized that the announcement does not indicate that the agency has concluded there is a causal relationship between the two drugs and PML, or that health care professionals should stop prescribing the drugs.

—Elizabeth Mechcatie

More information is available at www.fda.gov/medwatch/safety/2008/safety08.htm#mycophenolate. Adverse reactions associated with CellCept or Myfortic should be reported to the FDA's MedWatch program at 800-332-1088 or www.fda.gov/medwatch.

Pulmonary Perspectives

Management of Respiratory Acidosis in Low Tidal Volume Ventilation: Part 2

In the landmark ARDS network trial of low tidal volumes, significant acidosis was treated by increasing the respiratory rate, often to values >30 breaths per minute. This limited the degree of hypercapnic respiratory acidosis that developed in the enrolled patients (*N Engl J Med* 2000; 342:1301).

In patients with acute lung injury (ALI) or asthma managed with small tidal volumes who develop significant hypercapnic acidosis (pH < 7.30), the first step is to increase the respiratory rate as long as that does not lead to an increase in hyperinflation or auto-PEEP (an especially important consideration for patients with asthma). A good proportion of patients will continue to have a significant acidosis, despite an increase in respiratory rate or will not tolerate increased minute ventilation due to hyperinflation. In these patients, careful consideration of the potential for adverse events resulting from hypercarbic acidosis should be made.

If the patient remains hemodynamically stable, does not have severe pulmonary hypertension, does not have arrhythmias, and does not have a CNS pathologic condition, then the choice can be made to tolerate respiratory acidosis. In my experience, pH levels, even down to 7.0, can be well tolerated in select patients. Furthermore, pH values < 7.0 have been reported in the literature to be tolerated by patients without adverse outcomes (Goldstein et al. *Crit Care Med* 1990; 18:166; Slinger et al. *Anesthesiology* 1997; 87:993).

Ultimately, clinicians must decide what cutoff they will utilize before initiating ancillary therapies to reduce the arterial CO_2 and improve the pH. Regardless, the care team should constantly reassess the patient with respiratory acidosis for complications, such as hemodynamic compromise and cerebral edema. The latter may not be easy to gauge, as these patients are usually heavily sedated and sometimes even paralyzed, making such assessments difficult. Furthermore, traveling for a head CT may not be possible due to the severity of illness. Certainly, frequent neurologic evaluations are needed in these patients.

If an intervention to reduce the degree of respiratory acidosis is deemed necessary, there are several options available to the clinician. The arterial CO_2 level is a function of clearance (via ventilation) and production (from metabolism). Reducing the production of CO_2 can be beneficial, especially in the setting of conditions known to increase production, such as fever, sepsis, overfeeding, and increased work of breathing. Cooling patients and using heavy sedation are relatively easy steps to reduce CO_2 production and improve acidosis.

Another option is to improve clearance by reducing dead space ventilation. Patients with asthma and ARDS often have increased dead space, and dead space ventilation becomes more of a factor when low tidal volumes are used. Although it is generally not possible to reduce dead space, flushing the dead space with fresh gas can aid CO_2 clearance. At end-expiration, the large airways and endotracheal tube contain gas enriched with CO_2. With the next breath, this "stale" gas (high CO_2 content) is pushed into the lung, leading to reduced oxygenation and CO_2 clearance.

Techniques, such as tracheal gas insufflation or aspiration of dead space gas, utilize special devices to flush the anatomic dead space in the upper airways and endotracheal tube at end-expiration with oxygenated gas and have been shown to reduce respiratory acidosis (Ni Chonghaile et al. *Curr Opin Crit Care* 2005; 11:56). These therapies have not been tested in clinical trials and may increase hyperinflation, so the routine use of tracheal gas insufflation or aspiration of dead space gas is not recommended, and some expertise is required.

Buffer therapy with infusions of sodium bicarbonate remains controversial, but such therapy was utilized in the ARDS network trials (*N Engl J Med* 2000; 342:1301; Laffey et al. *Intensive Care Med* 2004; 30:347). Although bolus therapy with bicarbonate may reduce cardiac contractility, increase intracellular acidosis, and result in a significant osmolar load, slower infusions of isotonic bicarbonate may be better tolerated (*ie*, 5% dextrose in water with 3 ampules of sodium bicarbonate run at 100 to 200 mL/h). The argument has been made that the kidneys will respond to a respiratory acidosis by retaining bicarbonate, and, thus, the infusion of buffer will just augment the compensatory mechanisms of the patient.

Other buffers, such as amino alcohol tromethamine, can increase pH and reduce arterial CO_2 and have been shown to attenuate the acute effects of hypercapnic acidosis (Laffey et al. *Intensive Care Med* 2004; 30:347). Amino alcohol tromethamine does require a clearance system (functioning kidneys or dialysis) to be effective.

In my practice, I do occasionally use buffer therapy to treat respiratory acidosis in select patients; however, it should be noted that there are no clinical studies demonstrating benefit for this intervention.

In extreme cases, especially if hypercapnic acidosis cannot be tolerated (*ie*, brain injury), it may be necessary to remove CO_2 using extracorporeal membrane circuits. Such therapy is clearly experimental and should only be utilized in experienced centers. In our hospital, we have occasionally used it with good results in patients with severe respiratory acidosis (Masiakos et al. *Arch Surg* 1999; 134: 375; discussion 379).

In conclusion, respiratory acidosis is a common consequence of protective ventilatory strategies in use for patients with respiratory failure and is usually well tolerated, even in extremes. Although recent data suggest that there may be a therapeutic benefit for respiratory acidosis, the clinician must be vigilant for adverse consequences, such as hemodynamic instability and neurologic complications. In these patients, several interventions, such as buffer therapy, can be used to reduce the degree of respiratory acidosis. Further studies are needed to better define the potential therapeutic role of respiratory acidosis and the degree of acidosis that can be safely tolerated in patients with respiratory failure. ■

Dr. Gene L. Colice, FCCP
Editor,
Pulmonary Perspectives

Editor's Insight

The landmark ARDS network trial provided valuable insight into the relationship between inspiratory tidal volumes and survival in patients with ARDS. However, each insight brings new questions.

One particularly difficult question for me in the ICU is how to manage the respiratory acidosis that often complicates low tidal volume ventilation. Dr. Medoff provides some particularly valuable suggestions relevant to this question, but he is appropriately cautious in warning that many of these suggestions are based on extrapolation from incomplete information.

Hopefully, clinical trials in the near future will directly address the potential harmful effects of respiratory acidosis and the most appropriate management strategies to prevent and deal with these problems.

Dr. Benjamin D. Medoff
Assistant Professor of Medicine
Center for Immunology and Inflammatory Diseases
Pulmonary and Critical Care Unit
Massachusetts General Hospital
Boston, MA

AMERICAN COLLEGE OF CHEST PHYSICIANS

NEWS FROM THE COLLEGE

This Month in *CHEST*: Editor's Picks

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

▶ **Antithrombotic and Thrombolytic Therapy: ACCP Evidence-Based Clinical Practice Guidelines, Eighth Edition**
▶ **Variation in Iron Homeostasis Genes Between Patients With ARDS and Healthy Control Subjects.** *By Dr. A. L. Lagan, et al.*
▶ **C-Reactive Protein Levels and Survival in Patients With Moderate to Very Severe COPD.** *By Dr. J. P. de Torres, et al.*
▶ **Effect of Decisions to Withhold Life Support on Prolonged Survival.** *By Dr. Y. Y. Chen, et al.*
▶ **Update on the Management of COPD.** *By Dr. B. R. Celli, FCCP*
▶ **Moderate Sedation for Chest Physicians.** *By Dr. N. A. Cohen, and Dr. S. W. Stead*
▶ **All the Sourcing Not Fit To Print: Citing Electronic Material in Your Article.** *By J. Rice*

www.chestjournal.org

Introducing the First Generic Epoprostenol Sodium for Injection

AP Rated, Bioequivalent and Therapeutically Equivalent to Flolan® for Injection*

AP Rated to Flolan®*

An economical choice for your patients

Good People, Good Products, Good Chemistry®

TEVA HEALTH SYSTEMS

19 Hughes • Irvine, California 92618
800.729.9991 • www.tevausa.com

*Flolan® is a registered trademark of SmithKline Beecham Corp.

7988A

AMERICAN COLLEGE OF CHEST PHYSICIANS

NEWS FROM THE COLLEGE

CRITICAL CARE COMMENTARY

Trouble in the ICU: Diagnosing Moral Distress

The benefits of critical care are intuitively obvious and rarely challenged. Nevertheless, despite the high priority given to providing effective management and ensuring patient safety, mishaps and untoward outcomes are all too common (Valentin et al. *Intensive Care Med* 2006; 131:290).

Attempts to improve ICU performance and outcomes have resorted to identifying and monitoring various quality indicators that can direct future changes in management. Intensive care workers (physicians, nurses, and therapists) use quality measurements, such as complications, survival rates, length of stay, compliance with evidence-based practices, costs of care, and the quality of life, to evaluate unit performance.

Recently, some have recognized the importance of less traditional quality indicators, such as the health of the workplace and the well-being of the professionals who provide critical care (Garland et al. *Chest* 2005; 127:2151; Rubenfeld et al. *Curr Opin Crit Care* 2006; 12:379). Investigations have uncovered the potential for serious problems, such as inadequate staffing, incompetent coworkers, interprofessional conflicts, and poor teamwork.

Of equal concern are reports of wrenching practice dilemmas and the turmoil associated with "not being able to do what's right." This contrast between action and belief has been termed "moral distress."

Moral distress is the psychological disequilibrium that occurs when clinicians know the ethically right course of action but are constrained from acting accordingly. It differs from a moral dilemma in which the correct ethical choice is not clear. Moral distress involves the perception that core personal values or ethical obligations are violated. It can compound other stresses that affect the critical care work environment and may have a profound effect on the future critical care workforce.

Most information about moral distress has come from the nursing literature. Published studies provide insight into the magnitude of moral distress, situations likely to precipitate moral distress, and consequences of these experiences. Moral distress appears to be widespread in critical care environments. When surveyed, critical care nurses report moderate levels of moral distress. Frequent and intense distress occurred in situations where nurses provided what they considered to be overly aggressive care (Elpern. *Am J Crit Care* 2005; 14:523).

The American Association of Critical-Care Nurses (AACN) identified moral distress as one of the most significant and frequently ignored issues affecting the ICU. The AACN has exhorted nurses and the institutions to identify, address, and manage moral distress (American Association of Critical Care Nurses. AACN public policy position statement: moral distress. Aliso Viejo, CA: AACN; 2004).

Efforts to identify situations that result in moral distress reveal that it is most often related to providing aggressive, life-prolonging care to patients not expected to benefit. In caring for these patients who have little to no hope of surviving their critical illness, the nurses feel that the goals of care should shift from life-sustaining, curative therapies to comfort care. Feelings of helplessness, powerlessness, and intense moral distress often result when such shifts do not occur.

Barriers to nurses providing ethically congruent care include inability of patients to participate in decisions; lack of involvement of nurses in planning of care; disagreements among caregivers regarding prognosis and goals; family indecisiveness and discord; lack of experience and education; and institutional, policy, or legal considerations (Espinosa et al. *Crit Care Nurs Q* 2008; 31:83).

Failure to recognize and deal with this distressing situation can result in serious consequences. Nurses report that moral distress adversely affects job satisfaction, psychological and physical well-being, self-image, and spirituality. The experiences of moral distress can influence attitudes toward advance directives, as well as willingness to personally donate blood and organs (Elpern et al. *Am J Crit Care* 2005; 14:523; Gutierrez et al. *Dimens Crit Care Nurs* 2005; 24:229).

Critical care nurses implicate moral distress as a major reason for leaving critical care practice and the nursing profession. A study of moral distress on retention of critical care nurses found that the impact is increasing, and a disturbing 45% of RNs in one ICU reported having left or considered leaving a position because of moral distress (Hamric et al. *Crit Care Med* 2007; 35:422).

Less is known about moral distress in physicians. Investigations of moral distress reveal that physicians most often experience moral distress related to feeling pressured to continue aggressive treatment when they feel it is not warranted. A major difference between physicians and nurses was the frequency of perceived morally distressing experiences. Physicians and nurses were distressed by giving futile care, but nurses perceived this situation happened more frequently than physicians (Hamric et al. *Crit Care Med* 2007; 35:422).

Feeling compelled to provide aggressive treatment at the insistence of others is not a new dilemma. Attending physicians and house officers surveyed 15 years ago reported acting against their conscience in providing care to the terminally ill and to offering treatments felt to be overly burdensome (Solomon. *Am J Public Health* 1993; 83:14).

Among the constraints physicians perceive to limit their ability to make morally appropriate decisions are lack of time, professional and performance expectations, pressures from institutional or third-party payers, differing perspectives among caregivers, and disagreements about prognosis (Hamric et al. *Crit Care Med* 2007; 35:422; Hamric et al. *The Pharos Winter* 2006; 17).

It is not clear if moral distress influences physician retention. Rarely are such workplace issues considered in evaluating factors contributing to the shortage of critical care physicians. Physicians have considered leaving critical care due to high levels of emotional exhaustion and burnout (Guntupalli et al. *Intensive Care Med* 1996; 22:625). However, when asked specifically, a small sample of critical care physicians denied considering leaving a position because of moral distress (Hamric et al. *Crit Care Med* 2007; 35:422).

Death is frequent in the ICU, and a majority of deaths involve withdrawal or lack of escalation of critical care. Given that such occurrences will continue to be common and contentious, moral distress is inevitable. Elimination of moral distress is not a reasonable goal. Rather, relief of distress is desirable lest caregivers become so demoralized, distraught, and pessimistic that leaving critical care becomes necessary for relief.

Unaddressed moral distress also risks the quality of professional relationships and teamwork. Being most often at the bedside, nurses may tend to focus most on a patient's suffering and push for comfort over aggressive treatment when the prognosis seems grim.

Continued on following page

NEWS FROM THE COLLEGE

AMERICAN COLLEGE OF CHEST PHYSICIANS

Continued from previous page

Physicians likely feel the burden of prematurely "giving up," particularly when prognosis is uncertain, and unexpected improvements do occur (Hamric et al. *Crit Care Med* 2007; 35:422).

This potential for conflict among caregivers may be magnified by differences in how nurses and physicians respond to moral distress. Morally distressed nurses tend to withdraw from patients and coworkers. They may not directly express the distress they feel. Physicians may tend to respond to moral distress with frustration, anger, or intimidating behavior—sometimes directed toward nurses and other members of the health-care team (Hamric et al. *The Pharos Winter* 2006; 17)

A growing body of evidence links physician presence, nurse staffing, and teamwork to quality of patient outcomes, underscoring the importance of addressing and attenuating moral distress in the workplace. Physician and nurse leaders should ascertain the presence and scope of moral distress in their work environment, and encourage a culture in which moral distress is recognized, acknowledged, and discussed openly. Recognition of moral distress often provides great relief to those in distress.

A unit culture in which the values and moral choices of coworkers are respected will reduce accusatory and blaming behaviors when conflicts occur. Daily team rounds and determination of daily goals that include a "big picture" perspective increase the likelihood that concerns about a patient's prognosis and management are kept in the forefront. Administrative resources and supports can be integrated into daily rounds, goal-setting, and conflict management. Formal mechanisms for resolving differences about goals of care are important when more informal routes fail to resolve conflicts.

To help better understand the ramifications of "moral distress" in the ICU, it is recommended to conduct exit interviews with physicians and nurses who decide to leave the critical care unit to probe whether or not "moral distress" influenced their decision process.

Critical Care Institute
American College of Chest Physicians

All of the above strategies are contingent on effective communication and acknowledgement from critical care nurses and physicians. As a result of their close interactions, it is commonly assumed that critical care nurses and physicians are adept at forging effective work relationships. Unfortunately, physicians consistently evaluate teamwork, shared decision-making, collaboration, and effectiveness of communication higher than do nurses (Hamric et al. *Crit Care Med* 2007; 35:422).

Units in which physician-nurse collaboration is high are characterized by frequent, interdisciplinary communication (rounds, practice protocols, joint order sets), committed and visible medical and nursing leaders, competent professionals, clear expectations, specialization, and established mechanisms for constructive conflict resolution (Schmalenberg et al. *J Nurs Adm* 2005; 35:507).

In last month's issue of *CHEST Physician*, Dr. Peter Spiro summarized strategies to address the disparity between physician supply and demand in critical care. These included strategies to increase the efficiency of the critical care workforce, to increase the workforce itself, and to address patient demand. In considering strategies to ensure an adequate workforce, the critical link between availability of critical care clinicians and conditions of the ICU workplace, including moral distress, should not be overlooked.

We are just beginning to recognize this new diagnosis that can have a profound impact on the future quality and quantity of our critical care workforce. It is important for all of us to take the necessary steps to improve our critical care unit work environment by reducing the potential for "moral distress" to ensure that we will have adequate numbers of high quality critical care physicians, nurses, and therapists in the future. ■

Ellen H. Elpern, RN, MSN
Dr. Robert A. Balk, FCCP
Division of Pulmonary and Critical Care Medicine
Rush University Medical Center
Chicago, IL

AMERICAN COLLEGE OF CHEST PHYSICIANS

NEWS FROM THE COLLEGE

EDUCATION INSIGHTS

Important News From the Quality Improvement Committee

BY SANDRA ZELMAN LEWIS, PHD
Assistant VP, Health and Science Policy and Quality Improvement

The ACCP Quality Improvement Committee (QIC) focuses on how to help ACCP members improve the care they provide to their patients and provides the chest medicine perspective in the national efforts to develop and implement performance measures of physicians' practice improvement. This article will address two efforts to achieve this mission. The first is an alert to ACCP members about the upcoming public reporting of hospital-specific pneumonia mortality statistics. The second relates how the QIC has impacted the performance measure on DVT prophylaxis.

Pneumonia Rate Public Reporting

Mark Metersky, MD, FCCP, a member of the QIC and consultant for CMS on patient safety and quality improvement, recently sent a blast e-mail to the ACCP membership to notify them of the CMS plan to initiate reporting, in July 2008, of 30-day risk-standardized hospital mortality rates for pneumonia admissions.

In this communication, he suggested several Web sites for more information and examples of tools that have been developed for similar purposes and could be adapted to help ACCP members and their hospitals with pneumonia quality improvement projects. Access the content of the e-mail alert and the Web sites at www.chestnet.org/education/QI/index.php.

The January 2008 issue of *CHEST Physician* also included an article by Dr. Metersky expounding on the rationale for the use of this outcome measure to encourage hospitals to make structural and organizational improvements to reduce pneumonia incidence. Access the January 2008 issue at www.chestnet.org/about/publications/chestPhysician.php.

DVT Prophylaxis

Although many measures have been impacted by the comments and voting of the QIC along with the other member organizations in the National Quality Forum (NQF), the DVT prophylaxis measure was one in which the QIC alone took action that resulted in substantive revisions.

In 2006, The Joint Commission developed what were then called best practices and not performance measures on VTE prophylaxis. Although these practices were supported by the evidence and recommendations in *The Seventh ACCP Conference on Antithrombotic and Thrombolytic Therapy: Evidence-Based Guidelines*, several of these practices did not exactly follow the recommendations. Several called for formal and documented risk assessment and documentation of the type and intensity of prophylaxis based on and commensurate with assessments of risk/benefit and efficacy/safety for the patient.

The QIC believed that "although risk assessment is ideal, it is not clinically practical and will present significant 'real world' barriers to implementation." The QIC instead proposed that all patients should receive prophylaxis, and documentation should be noted only for those patients for which a valid exclusion existed. The guidelines state, "Because the approach of individual prophylaxis prescribing, based on formal risk-assessment models has not been adequately validated and is cumbersome without the use of computer technology, it is unlikely to be used routinely by most clinicians."

The NQF report itself noted, "While adequate data exist to determine absolute risk, there is insufficient evidence to support the use of a specific risk assessment tool. Additionally, often patients have multiple risk factors, and

Continued on following page

FDA and Clinical Trial Design of CAP Studies

BY GLENN TILLOTSON, PHD, FCCP

Following a period of evaluation and investigation, the US Food and Drug Administration (FDA) held an Anti-Infective Drug Advisory Committee (AIDAC) hearing on April 1-2, 2008. This meeting was the official sequel to a joint workshop co-sponsored by the FDA and the Infectious Disease Society of America (IDSA), during which the complex issues of the epidemiology, etiology, clinical management, and assessment of CAP were discussed.

The American College of Chest Physicians (ACCP) and American Thoracic Society (ATS) were invited by the FDA to provide expert input to the AIDAC, based on the clinical management of the disease. The ACCP Chest Infections NetWork group, led by Dr. Mark Metersky, FCCP, and other NetWork members, liaised with Dr. Andrew Limper, Chairman of the ATS Assembly on Microbiology, Tuberculosis, and Pulmonary Infections (MTPI), on the study of infection and related conditions. Issues such as disease severity definitions, clinical endpoints, and investigator assessment and point of care in relation to future clinical trial design for antibiotic development were considered and reviewed relative to the recent ATS/IDSA CAP guidelines.

Dr. Richard Wunderink, FCCP, presented these pulmonary perspectives to the AIDAC. Dr. Wunderink focused on defining the severity of disease and selection of appropriate endpoints as the basis of future studies. This presentation dove-tailed with views from the IDSA and expert clinicians also invited by the FDA. The essence of the meeting was to deliberate on the benefit of antibiotics in the treatment of CAP, the role of potential new clinical and surrogate endpoints, and the patient definitions of disease. Historical data highlighting the significant impact of antibiotics on both mortality and morbidity in CAP underpinned the decisions of the committee that active-controlled studies with a margin of noninferiority of 10 to 20% were appropriate, especially in the moderate to severely ill patients.

The proposal of placebo-controlled studies in mild CAP was rejected. New composite endpoints were recommended as a pathway to reduce the variability of physician assessment. Members of the pharmaceutical industry supported these decisions and assured the agency that every effort would be made to incorporate the new concepts into the planned CAP trials.

Presently, there are two drugs being studied for ambulatory CAP, faropenem medoxomil and cethromycin, and at least four agents being studied in more severe disease. The FDA received clinically based advice to enable much needed progress with regard to antibiotic development in the area of respiratory tract infections. The joint efforts of the ACCP and the ATS were acknowledged in this complex process. ■

NEWS FROM THE COLLEGE

AMERICAN COLLEGE OF CHEST PHYSICIANS

10th Annual Making a Difference Awards Dinner

The CHEST Foundation will recognize ACCP members' pro bono service with grant and award monies totaling up to $150,000. Additionally, a special recognition award will be bestowed upon Dr. Forrest Bird, for his distinguished career and his development of the first mass-produced mechanical ventilators. Registration will be available online beginning July 1, 2008, at www.chestfoundation.org. Price per ticket is $150. Making a Difference Society Members at the $1,000 level are entitled to two complimentary admissions, and annual donors at the $500 level are entitled to one complimentary admission. Please contact Teri Ruiz at truiz@chestnet.org. ■

Save This Date!

The CHEST Foundation's 10th Annual Making a Difference Awards Dinner
Saturday, October 25, 2008
7:00 PM – 10:30 PM
Marriott Downtown
Philadelphia, Pennsylvania

Continued from previous page

no validated tool currently exists for ranking risk factors in patients who have multiple risks."

The QIC voted to disapprove these best practices, but they were later endorsed by the Board of the NQF. The committee then sent a formal letter of appeal, which triggered several events at NQF. The first of these, which was not so favorable to the ACCP cause, was a review by the NQF Board, followed by a denial of the appeal. However, the new administration of NQF offered to conduct an online survey of individuals who were pilot testing these practices or who had experience in attempting risk assessment at their hospitals.

This was followed by a pro/con session at the next national meeting of the NQF in May 2007. COL Lisa K. Moores, MC, USA, FCCP, QIC Vice-Chair and thrombosis expert, presented the challenges of risk assessment and the variation in practice. Her compelling arguments had a definite impact, as the performance measures developed based on the original best practices dropped the call for documentation of formal risk assessment.

June will mark the publication of the 8th edition of the *Antithrombotic and Thrombolytic Therapy: American College of Chest Physicians Evidence-Based Clinical Practice Guidelines*, in *CHEST*. The guidelines now include tables of Risk Factors for Venous Thromboembolism, Approximate Risks of Deep Vein Thrombosis in Hospitalized Patients, and Recommended Thromboprophylaxis in Hospital Patients by Levels of Thromboembolism Risk. As the performance measures are scheduled for maintenance, they will likely be synchronized with the new guidelines.

Address questions and comments to Sandra Zelman Lewis, PhD, at slewis@chestnet.org. ■

AMERICAN COLLEGE OF CHEST PHYSICIANS

NEWS FROM THE COLLEGE

The CHEST Foundation: The Chicken or the Egg?

BY DR. ROBERT G. JOHNSON, FCCP
President, The CHEST Foundation

Which came first? This age-old question has an analogue in the world of philanthropic organizations: which comes first—fundraising or mission? There are, no doubt, many who might lay claim to the quote: "no margin, no mission," but Sister Irene Kraus of the Daughters of Charity order is one to whom the quote is popularly attributed. As it pertained to her vast charitable hospital organization, it is ineluctable that there must be the means to fund a mission. But, which comes first?

With the founding of The CHEST Foundation in 1996 as the philanthropic arm of the American College of Chest Physicians, it was clear that its mission was its core; it was first. Still, almost simultaneously, its first leaders, Drs. Bart Chernow and Ed Rosenow led a successful effort to raise dollars to fund that mission. Seeded generously with assets of just more than $3 million dollars in that first year, The Foundation's assets grew to more than $6 million 3 years later and now are nearly $10 million.

Gifts to The Foundation have come in sizes large and small, from members, industry, and friends. Several years ago, The Foundation's Board of Trustees established a policy of required giving, recognizing that if the members of the Board of Trustees were not willing to set an example, then how compelling could the argument for giving be? The ACCP Board of Regents joined in, with a policy of encouraging generous donations, and, in the wake of this, The Foundation's Development Committee established an annual leader-to-leader campaign that encourages peer-to-peer contact among the leadership.

THE CHEST FOUNDATION

The annual giving participation among our leaders has reached highs of 100% of The Foundation's trustees, 80% of the Regents, 80% of the Past Presidents, 31% of NetWork leaders, and 50% of the ACCP Governors, with a mean gift around $340, for a total of nearly a quarter of a million dollars! In parallel with these leaders' giving, 1,100 members, designated at the time they pay their annual dues, gifts of $100, totaling $106,561, in the past year. In addition, there were 71 special gifts honoring colleagues, friends, or in memoriam. While these annual gifts sustain The Foundation's mission, during the same year's period, endowment gifts totaling $248,333 were received, mostly for the Thomas L. Petty, MD, Master FCCP Endowment in Lung Research that we celebrated in October 2007.

When one considers that a sustainable rate of spending on an endowment is 4%, one can see that it takes $25 million to be able to spend $1 million per year in perpetuity. The fact that The Foundation has been able to give away far more than that over the past many years is a reflection of our working in partnership with other organizations and industry, augmented by the fact that the College has supported most of the administrative costs of The Foundation.

But without doubt, the goal of The Foundation is to become evermore a philanthropic organization that can more completely fund its four-part mission of tobacco prevention, critical care/end-of-life care, humanitarian service, and clinical research. Even as we focus and expand our mission, we at The Foundation must remain dedicated to raising the funds to support it more fully, and we are ever grateful for the incredible generosity of our dedicated members, who make possible both our mission and our margin.

In our next update from The Foundation, we shall present an example of our mission-in-action. ■

NEWS FROM THE COLLEGE

AMERICAN COLLEGE OF CHEST PHYSICIANS

CHEST 2008: Philadelphia Freedom

There's no time like free time in Philadelphia, so be sure to plan some during your stay for CHEST 2008. When you get a chance to break away, exercise your freedom of choice with any of these options.

Historic Philadelphia

Explore America's most historic square mile in Independence National Historical Park. Visit some of the nation's most sacred sites, including Independence Hall, Franklin Court, the National Constitution Center, the Betsy Ross House, and the Liberty Bell—an international icon of freedom.

Cultural Philadelphia

The world-famous Philadelphia Museum of Art and one-of-a-kind museums make Philly a museum lover's paradise.

Be sure to visit the Mütter Museum, a quirky storehouse of medical oddities. The Philadelphia Orchestra, the Opera Company of Philadelphia, Broadway productions, the Pennsylvania Ballet, and more, round out your cultural options.

Family-Friendly Philadelphia

Bring the whole gang and make family memories at the Philadelphia Zoo, Please Touch Museum, The Franklin Institute Science Museum, and Sesame Place (Bucks County).

Stylish Philadelphia

With no tax on clothing or shoes, shopping dollars go further in Philadelphia. Bring an empty suitcase, and fill it with upscale finds from Rittenhouse Row, one-of-a-kind designs from boutiques in Old City, and treasures galore from the nearby King of Prussia Mall.

Adventurous Philadelphia

If you're craving some fun in the fresh air and sunshine, grab your walking stick and head to the Philadelphia countryside. From horse trails to wine trails, and even Appalachian trails, the adventures are endless.

For more ideas, visit www.boundlessphiladelphia.com.

Delectable Philadelphia

Sure, there's cheesesteak, but there's much more.

Throughout the city, you can find four-star dining rooms and unassuming neighborhood bistros. Boisterous, upscale taprooms counter quiet hideaways and family-operated establishments. When you're hungry, Philadelphia will surely handle your craving.

Find more to see and do in Philadelphia at www.gophila.com. ■

CHEST 2008

DATES TO KNOW

Registration

August 29: Early registration discount ends
October 7: Last day for registration refunds
(Refunds are not available for simulation registrations or guest fees.)
October 8-23: Online registration only
October 24-30: On-site registration available

Housing

September 26: Attendee reservation cutoff
September 5: Exhibitor reservation cutoff

Guest Tours

October 9: Preregistration closes

Philadelphia
October 25-30, 2008

AMERICAN COLLEGE OF CHEST PHYSICIANS 2008

June 22 - 24, 2008
International Conference on Chronic Ventilated Patients
Tel Aviv, Israel

July 9 - 11, 2008
Updates in Pulmonary Medicine
Cairo, Egypt

August 6 - 9, 2008
10th Anniversary International Meeting on Respiratory Care
Indonesia

August 7 - 10, 2008
Heart, Lung & Critical Care Congress 2008
Hyderabad, India

August 22 - 25, 2008
ACCP Sleep Medicine Board Review Course
Orlando, Florida

August 22 - 26, 2008
ACCP Critical Care Board Review Course
Orlando, Florida

August 27 - 31, 2008
ACCP Pulmonary Board Review Course
Orlando, Florida

September 19 - 21, 2008
Thoracic Pathology 2008
Boston, Massachusetts

October 25 - 30, 2008
CHEST 2008
Philadelphia, Pennsylvania

Future CHEST Meeting Dates

October 31 - November 5, 2009
CHEST 2009
San Diego, California

October 30 - November 4, 2010
CHEST 2010
Vancouver, BC, Canada

October 22 - 27, 2011
CHEST 2011
Honolulu, Hawaii

■ ACCP-Sponsored Courses
■ ACCP-Endorsed Courses

EducationCalendar

Learn more about ACCP-sponsored and ACCP-endorsed educational courses.
www.chestnet.org/education/calendar.php
(800) 343-2227 or (847) 498-1400

AMERICAN COLLEGE OF CHEST PHYSICIANS

OSA May Cause Cognitive Deficits in Some Children

BY DAMIAN McNAMARA
Elsevier Global Medical News

FORT LAUDERDALE, FLA. — Although some children with sleep-disordered breathing experience significant cognitive deficits, not all do, and identification of those at risk remains a clinical challenge, according to a sleep medicine expert.

There is a wide range in individual susceptibility, Dr. David Gozal, FCCP, said. "A child can have a mild [sleep] disturbance and be affected or have severe sleep apnea and be unaffected cognitively."

Together with apnea severity and environmental factors, individual differences in susceptibility complete the triple-risk model of obstructive sleep apnea morbidity, said Dr. Gozal, professor and vice chair of research, department of pediatrics, University of Louisville (Ky.).

In general, increased apnea severity is associated with greater impairments in cognition.

For example, the Louisville study investigators, including Dr. Gozal, found significant neurocognitive deficits with higher apnea/hypopnea index (AHI) scores among snoring children (J. Sleep Res. 2004;13:165-72).

With increases in AHI severity, a child's IQ can decrease, Dr. Gozal said at a pediatric pulmonology meeting sponsored by the American College of Chest Physicians. For children with an AHI of 5 or more, for example, there is average loss of 6-8 IQ points. "If you are born with an IQ of 100, that can be the difference between going to college or not."

At any AHI level in the study, however, there were children without any cognitive deficit, again pointing to the individual variability, said Dr. Gozal, who is also a respiratory/sleep physiologist in the division of sleep medicine at Kosair Children's Hospital Research Institute, also in Louisville.

Specifically, significantly higher impairments in phonological processing, visual and auditory attention, and social problems were found among children with an AHI greater than 5, compared with those scoring 5 or less.

High scorers also had significantly worse thought problems, delinquent or oppositional behavior, aggressiveness, externalizing of problems, and deficits in verbal comprehension ability.

In another study, which involved 297 poorly performing first graders, there was a 6- to 9-fold increase in sleep apnea, compared with the general population (Pediatrics 1998;102:616-20).

The good news is that apnea treatment reversed some learning deficits. Some parents thank Dr. Gozal for improvements in their children's ability to learn following adenotonsillectomy.

In terms of potential misdiagnosis, there is some overlap between children with attention-deficit/hyperactivity disorder (ADHD) symptoms and those with obstructive sleep apnea (OSA) who demonstrate intrinsic daytime sleepiness. These patients can benefit from stimulant treatment, Dr. Gozal said.

The diagnosis of sleep apnea may be completely overlooked, because these

Continued on following page

CLASSIFIEDS

Also available at www.elsevierhealthcareers.com

PROFESSIONAL OPPORTUNITIES

Pulmonologist

Mercy Hospital of Tiffin, located in Tiffin, Ohio, was founded more than 93 years ago on a compassionate mission of serving our patients needs. Weíve seen their need and medical technology, change dramatically through the decades. It's why we're investing nearly $60 million in our facilities and service through the Designing Our Future Project. A major part of the Designing Our Future Project is the construction of a 140,000 square foot hospital and the recruitment of a pulmonologist. The hospital will feature 67 private rooms and the most advanced technology designed to enhance the delivery of patient care. The new hospital will make it easy for patients to access the site and navigate through the facility. Plans also include enhanced outpatient service capabilities and surgery suites designed and equipped with the latest technology. If you are considering career opportunities in a safe community with wonderful schools, and an enviable quality of life and the absence of large city medical staff politics, we would like to speak with you in confidence. Inquiries, including curriculum vitae should be addressed to: Tom Leeds, Medical Staff Recruiter, Mercy Health Partners, 2200 Jefferson Avenue, Toledo, Ohio 43604 or call 1-800-837-4664, extension 3999.

Pulmonary Critical Care Opportunity
Northern California

Sutter Medical Group (SMG) is seeking a BE/BC Pulmonary Critical Care physician in Auburn, CA. Good call schedule. Option for hospitalist work if desired.

SMG is a multi-specialty group of over 300+ members. SMG offers an income guarantee with shareholder track, generous compensation, benefits, and retirement package.

Sutter Auburn Faith Hospital is a medium sized hospital with a 24/7 hospitalist program, open ICU, high resolution CT scan, cardiac cath lab, full nuclear medicine department, bronchoscopy suites and a pulmonary function laboratory.

Auburn is centrally located in the Sierra Nevada foothills between Sacramento and Lake Tahoe. Auburn is close to shopping and restaurants, and offers a variety of outdoor activities.

Physician Recruitment
800-650-0625
916-643-6677 fax
develops@sutterhealth.org
www.sutterhealth.org

Sutter Health
Sacramento Sierra Region
With You. For Life.

FOR INFORMATION ON CLASSIFIEDS:
Contact: Rhonda Beamer, Walchli Tauber Group, Inc., 2225 Old Emmorton Road, Suite 201, Bel Air, MD 21015. (443) 512-8899 Ext 106. FAX: (443) 512-8909.

Marietta Pulmonary Medicine
Suburban Atlanta

Well-established, busy eleven-physician single-specialty Pulmonary practice in suburban Atlanta, Georgia, looking for one or more BC/BE Pulmonary/Critical Care physicians. Sleep certification is a plus. Practice includes all aspects of pulmonary medicine, including critical care, sleep medicine, out-patient clinic, pulmonary rehab and clinical research. Practice located at two large acute-care hospitals, with one being the busiest ER in Georgia, and also rounds at a near-by long term acute care hospital. Competitive salary with bonus potential and generous benefits package. Fax CV to: 770-792-1738.

Intensivist

NEW YORK – Greater Metro Area. Intensivist needed for new program at state of the art community hospital. Desirable area offering coastal living and easy access to Manhattan. Excellent salary and earning potential and full benefits. Submit CV to jmccusker@alphaps.org or contact John McCusker, Alpha Physician Search at 800-504-3411, ext 211.

Mississippi Gulf Coast
Pulmonary/Critical Care

BC/BE Pulmonologist/Intensivist sought by a two person Pulmonology group in Gulfport, MS. Well established practice includes Pulmonology, Critical Care and Sleep Medicine. Gulfport is on the Mississippi Gulf Coast within one and a half hours of New Orleans and an hour of Mobile, AL. Beaches, casinos, golf, water sports, and cultural activities are available without big city hassles. Position offers competitive salary with partnership track, benefits and full relocation including some student loan repayment. For more information contact Medin Powell at 228-867-4086 or e-mail at mpowell@mhg.com

Pulmonary/Critical Care/Sleep

West Central Florida group seeks BC/BE to join practice encompassing all aspects of pulmonary, critical care and sleep medicine, office and hospital practice. Early partnership, competitive salary and fringe benefits. Please respond with CV to Chest #74, P.O. Box 996, Abingdon, MD 21009.

Intensivist

Northern, New Jersey: Desirable location within a short drive from New York City. Located in the rolling hills of northern New Jersey is a fully renovated community hospital. Intensivist needed to join a successful single specialty practice offering partnership in twenty-four months. Submit CV to ffldcomd@hotmail.com for immediate consideration.

BEAUTIFUL COAST OF MAINE
BC/BE Pulmonologist

Multi-specialty, community hospital seeks full-time physician for outpatient practice. Belfast is safe and offers beautiful views of Penobscot Bay. Ideal for outdoor enthusiasts. Family oriented with excellent schools. Immediate availability.
Contact Mark Biscone, Executive Director Waldo County General Hospital, PO Box 287, Belfast, ME 04915, 207-338-9302
E-mail: ceo@wchi.com
Website: www.wchi.com

Disclaimer

CHEST PHYSICIAN assumes the statements made in classified advertisements are accurate, but cannot investigate the statements and assumes no responsibility or liability concerning their content. The Publisher reserves the right to decline, withdraw, or edit advertisements. Every effort will be made to avoid mistakes, but responsibility cannot be accepted for clerical or printer errors.

Continued from previous page

patients improve with stimulants, similarly to children with ADHD who also are intrinsically sleepy.

However, children with a formal diagnosis of ADHD-inattentive type who are not sleepy will be more likely to improve with addition of a norepinephrine reuptake inhibitor to treat their prefrontal cortex executive dysfunction, he said.

The way a child lives affects the way the sleep-disordered breathing affects them, Dr. Gozal said. "Physical activity is actually protective of our children when they have sleep apnea."

For example, a walk in the park 30 minutes per day, 5 days a week, can prevent the onset of morbid consequences of apnea. In addition, higher home literacy levels are associated with a lesser likelihood of learning and behavioral deficits among children with sleep apnea, he said.

Given such individual variability in risk of adverse cognitive outcomes in these children, Dr. Gozal and his associates are searching for a prognostic marker.

They found that elevated plasma C-reactive protein levels, an indicator of increased systemic inflammation, might indicate children with OSA are at greater neurocognitive risk (Am. J. Respir. Crit. Care Med. 2007;176:188-93).

They assessed 278 children and found high-sensitivity C-reactive protein (hsCRP) levels almost triple among children with cognitive deficits, compared with those without. Participants were 5- to 7-year-old children recruited from the community.

The mean hsCRP was 0.48 plus or minus 0.12 mg/dL in children with OSA and cognitive deficits, compared with 0.21 plus or minus 0.08 mg/dL in children with the condition and normal cognitive scores. This difference was statistically significant.

Dr. Gozal and his associates wrote, "We show in a community-based study of snoring and nonsnoring school-aged children, that children with OSA have increased levels of hsCRP and also exhibit decreased cognitive performances compared with control children.

"Furthermore, hsCRP levels are significantly increased among patients with OSA and cognitive dysfunction, and this phenomenon persists even when after the severity of OSA is matched for the two cognitive function groups," they wrote.

"Thus, hsCRP variation emerges as a predictive measure of risk for OSA-induced cognitive deficits in children," Dr. Gozal and his associates concluded. ■

FYI

RSV Tracking Database

A redesigned Web site from the Centers for Disease Control and Prevention now provides data on respiratory syncytial virus (RSV) in the United States, allowing parents and physicians to track the locations of virus outbreaks in their own state and region. The site is located at www.cdc.gov/surveillance/nrevss.

End-of-Life Booklet for the Public

The National Institute on Aging is offering "End of Life: Helping With Comfort and Care," a booklet that gives an overview of issues commonly facing people caring for someone near the end of life. This research-based publication addresses comfort care, supportive care, and palliative care, and includes questions to ask health professionals. To order a free copy, call 800-222-2225.

Clinical Trial Participation for Seniors

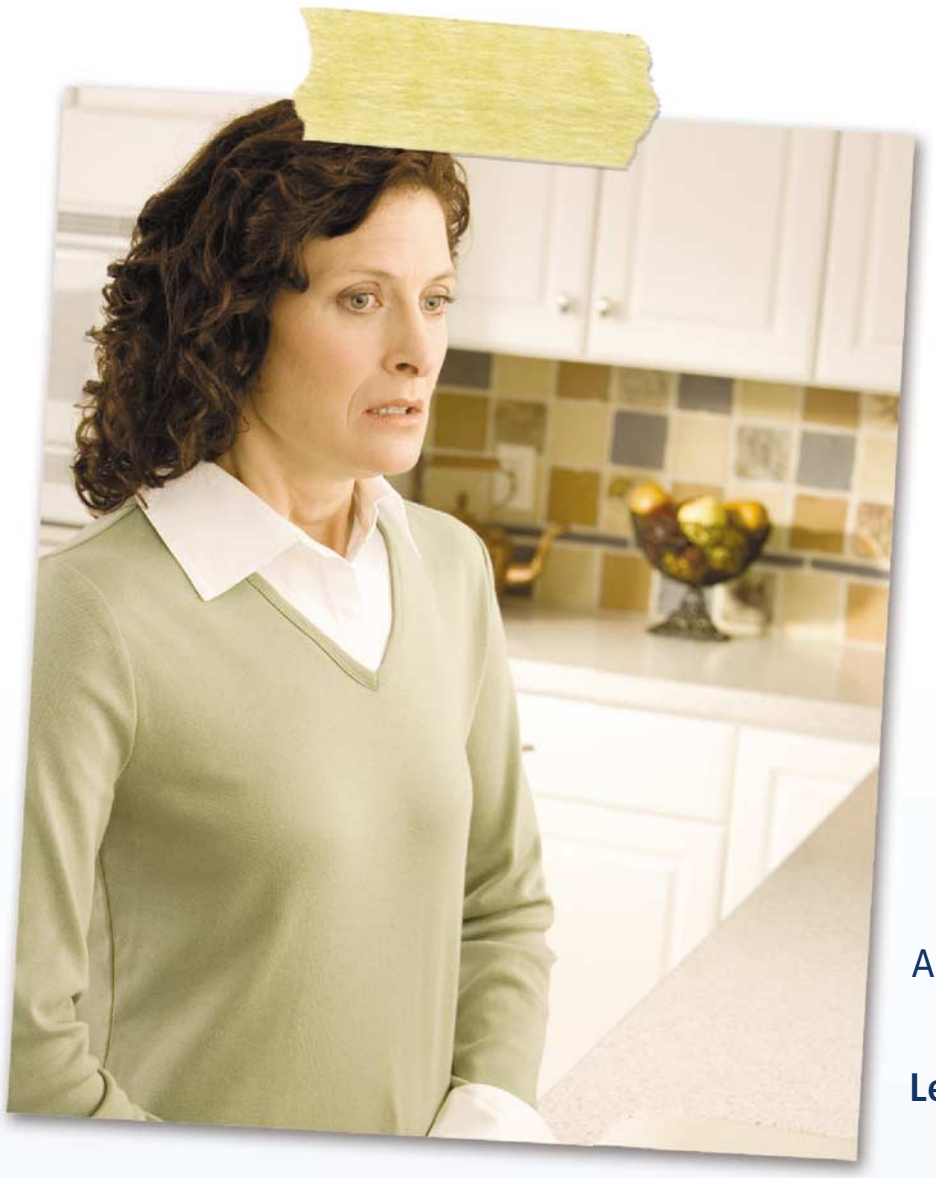
NIHSeniorHealth has added "Participating in Clinical Trials." This new topic describes the types and phases of trials, the informed consent process, and the benefits, risks, and safeguards for participants. NIHSeniorHealth was developed by the National Institute on Aging and the National Library of Medicine. For more information, visit www.nihsniorhealth.gov/participatingin clinicaltrials/toc.html.

Spanish Language Web Site From CDC

The Centers for Disease Control and Prevention has relaunched its Spanish language Web site, CDC en Español, with new features. The site provides up-to-date information on health promotion and disease prevention topics of special interest to Hispanic communities, including asthma, cancer, HIV/AIDS, immunizations, children's health, diabetes, and occupational hazards. The Web site is www.cdc.gov/spanish.

INDEX OF ADVERTISERS

Biotherapies for Life™ **CSL Behring**



80,000 to 100,000 Americans may have AAT deficiency.[1]

95% remain undiagnosed.[2]

Alpha-1 (AAT) is a rarely diagnosed genetic form of COPD. One test, once in a lifetime can make all the difference.

Learn more at www.TestTodayChangeTomorrow.com.

Test Today. CHANGE TOMORROW.

IMPORTANT SAFETY INFORMATION

Zemaira® is indicated for chronic augmentation and maintenance therapy for adults with alpha$_1$-proteinase inhibitor (A_1-PI) deficiency and emphysema.

Clinical data demonstrating the long-term effects of chronic augmentation therapy with Zemaira® are not available.

As with other Alpha-1 therapies, Zemaira® may not be appropriate for the following adult individuals as they may experience severe reactions, including anaphylaxis: individuals with a known hypersensitivity and/or history of anaphylaxis or severe systemic reaction to A_1-PI products or their components and individuals with selective IgA deficiencies who have known antibodies against IgA.

In clinical studies, the following treatment-related adverse reactions were reported in 1% of subjects: asthenia (fatigue), injection-site pain, dizziness, headache, paresthesia (tingling), and pruritus (itching).

Zemaira® is derived from human plasma. As with all plasma-derived products, the risk of transmission of infectious agents, including viruses and, theoretically, the Creutzfeldt-Jakob disease (CJD) agent, cannot be completely eliminated.

For more information, please see brief summary of full Prescribing Information on next page.

Zemaira® is a registered trademark of CSL Behring AG.

1. American Thoracic Society. American Thoracic Society/European Respiratory Society statement: standards for the diagnosis and management of individuals with alpha-1 antitrypsin deficiency. *Am J Respir Crit Care Med*. 2003;168:818-900. 2. Ranes J, Stoller JK. A review of alpha-1 antitrypsin deficiency. *Semin Respir Crit Care Med*. 2005;26:154-166.

1020 First Avenue, PO Box 61501 — King of Prussia, PA 19406-0901 USA
www.CSLBehring-us.com — **www.Zemaira.com** — 8Z126C 12/2007

Zemaira®
alpha$_1$-proteinase inhibitor (Human)
Unmatched purity. Uncompromised care.