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Civil Civic Dialogue

Make your opinions count—but do it with mutual respect.

“Scumbag” was what the letter writer called me and others who would raise questions about the consequences of privatizing Social Security, as I did in my April editorial. I am used to having readers disagree, sometimes passionately, with my opinions, and I particularly appreciate those who mount a strong, reasoned counter-argument. But I found no reason in this letter’s argument. The 600-word e-mail labeled “people like” me in a variety of ways (“blowhards,” “bat guano”) and blasted anyone who questioned the current administration’s proposals as “liberal loonies” and “idiots.”

My primary response was embarrassment at this fellow nurse’s inability to express herself in a clear way on such an important issue.

In recent months, I have been struck by the vitriol with which some letter writers attack me or authors personally. Why are these readers so angry? Is it the stress of nursing? Is it a lack of education in critical thinking and debate? Has e-mail allowed people to spout off in ways they might not otherwise? Is it a manifestation of a societal trend toward inflammatory rhetoric in “entertainment news” and political advertisements?

It’s probably all of these, but I’m increasingly concerned about the last factor. I no longer watch the so-called news programs that pit one political extreme against another in a show of assaultive, cacophonous one-upmanship. This approach to debate is compromising civic journalism, including nursing journalism.

Civic journalism is journalism that involves the public in a dialogue on current affairs. In a 2004 speech before the Brazilian Newspaper Congress, Jan Schaffer, executive director of the Pew Center for Civic Journalism, said, “The goal [of civic journalism] is to produce news that citizens need to be educated about issues and current events, to make civic decisions, to engage in civic dialogue and action—and generally to exercise their responsibilities in a democracy” (see www.pewcenter.org/doingcj/speeches/s_brazil.html). It assumes that members of the public must grapple with the complex issues facing our society if democracy is to thrive. An uninvolved, uninformed public undermines democracy, leaving public policy decisions to those trained in manipulating public attitudes.

James Fallows’s 1997 book, Breaking the News: How the Media Undermine American Democracy, points out that most journalists are not experts in the subjects they cover, and they often confine their reporting to the politics of an issue rather than the details of the issue itself. Journalists therefore tend to focus on the political context of the Social Security debate, for example, rather than the details of the problem and the policy options. When this happens, the public is deprived of the information it needs to analyze the pros and cons of a position. Opinions are more likely to be formed on the basis of advertising and sound bites.

When nurses resort to personal attacks rather than delineating arguments, we all somehow lose something. And I fear that what nurses lose is credibility. If nurses can’t articulate their positions civilly and reasonably, why should others want nurses at the decision-making tables in government or on the job? Issues that come to mind are unionization, patient safety, remedies for ensuring adequate nurse staffing, ensuring an adequate supply of faculty, the rising cost of health care, and the future of Medicaid and Medicare. Nurses’ ability to cogently debate these and other important issues will determine whether nursing thrives or becomes extinct.

If you’re taking the time to write about what you’ve read in AJN, why not aim to have your opinions shared with readers? And why not engage in the civic dialogue that nursing and our society need if we’re to develop thoughtful, creative solutions to the problems challenging us every day?
A Modern Proposal

Pensions for public safety—and nurses should have a say.

The 21st century nursing shortage is unlike any other labor shortage in the United States. Studies of the problem have yielded calls for increased compensation and improved working conditions. This, however, has not brought people to the profession in droves, or even trickles. We must find solutions before the crisis is beyond our ability to fix.

What is it that draws workers to take jobs in public safety and not nursing? It doesn’t appear to be better working conditions or schedules. It doesn’t appear to be better pay—in some areas, RNs with seniority may surpass salary levels of police officers and firefighters. There appears to be only one area of compensation that separates these similar, but disparate, positions. For the public safety officers there is a finish line, an end point. They are promised, upon appointment, that they will receive half-pay pensions after 20 to 25 years of service. This is to reward them for physically demanding, highly stressful, and often life-threatening jobs. Police officers and firefighters take advantage of this promise in their recruitment drives, and it seems to work.

It’s clear that we need a new way of looking at the shortage of RNs. The current fragmented health care system cannot solve its own problems—it’s up to the federal government to step in with a bold, new solution to this ever-increasing problem. My proposal would require an untried incentive to bring new blood to the profession. I propose that the government (the largest purchaser of health care, with Medicare, Medicaid, the Veterans Administration, the Bureau of Indian Affairs, and so on) establish half-pay pensions for RNs who work 25 years full time in the profession; part-time employees would be credited on a pro-rated basis. The promise of an adequate retirement while being young enough to enjoy it is not uncommon in jobs that require heavy physical labor under extreme conditions and on poor time schedules. I contend that if people were given the promise of an obtainable goal—early retirement and its benefits—more of them would become RNs.

Today, RNs are promised the opportunity to work until age 65 (or beyond) in order to earn Social Security, Medicare, and whatever small pensions hospitals or health care facilities may give them. With service-credited pension plans, RNs would be offered the opportunity to retire with half pay after 25 years of full service. They could choose to stay longer and be credited with an additional one-twentieth of their salaries for every year of full service thereafter. RNs who work full time for 50 years (God bless them) would be entitled to pensions equaling full salary.

The mechanisms that such a program would require already exist. The Social Security Administration (SSA) now tracks and credits every quarter of a year a worker contributes to the system. Breaking out the RNs from the overall workforce is feasible. Since nurses rarely stay in one facility or geographic area, the SSA’s records could be used to track and credit years worked.

Service-credited retirement would be too costly and difficult for any one facility, health care network, or even state to track and fund. The federal government is a vital stakeholder in alleviating the RN shortage and has intervened in times of need—it created (in 1934) and still administers the Railroad Retirement System, a retirement program separate from Social Security for railroad employees. For this proposal to become a reality, Congress would have to legislate it—all states are affected, and all of their constituents will be touched by the shortage.

Most of all, RNs must have a say in this proposed change. With their professional organizations, such as the ANA and its state and local chapters, nurses must educate the public on and lobby for this proposed retirement system. RNs may not benefit from the program immediately, but they must recognize its potential for recruitment and retention. Future generations will thank them for it.

Leonard Leonick, currently employed in the recovery room at Good Samaritan Hospital in Suffern, NY, is an RN with more than 25 years of experience. Contact author: lleonick@frontiernet.net.
WAL-MART IN AJN?

I was disappointed to see a Wal-Mart ad on the back cover of the March issue. It’s offensive that the “Official Journal of the American Nurses Association” sold such prominent advertising space to an antunion corporation. More than 100,000 union nurses in the United American Nurses receive this journal as part of their membership. I speak for them when I protest Wal-Mart’s appearance in AJN.

Wal-Mart is staunchly antunion. After workers at a store in Canada voted to join the United Food and Commercial Workers (UFCW), Wal-Mart said the store would be closed in May. And when the UFCW organized meat cutters at a store in Texas, the company eliminated all meat-cutting jobs nationwide rather than negotiate.

And Wal-Mart discriminates against women. Last year, a federal judge certified a sexual-discrimination class action against Wal-Mart on behalf of more than 1 million current and former female employees, according to the UFCW; despite the fact that women make up 72% of Wal-Mart’s hourly workforce, only 15% are store managers.

Also, according to an AFL-CIO report, tens of thousands of Wal-Mart workers get health insurance from their spouses’ plans or the government, costing other employers and taxpayers, as well as driving up health care costs for the community. In California, Wal-Mart workers rely on state taxpayers for about $32 million annually in health care.

Many union members and women read AJN. Why slap them in the face?

Cheryl Johnson, BSN, RN
Brighton, MI

REFERENCES

As a proud member of the Minnesota Nurses Association, I value my membership in an association that protects my career, advances my rights as a worker, and negotiates for fair pay and benefits.

By accepting advertising from Wal-Mart for nursing uniforms, is AJN supporting a known antilabor, antiworker corporation? Please consider the message being sent to the public and to proud union nurses.

Robin Huneke, BA, RN, C
Lakeville, MN

The Wal-Mart ad slogan, “It doesn’t take a brain surgeon to recognize a good deal on scrubs,” implies that even someone of limited intelligence can recognize a bargain. Because the person in the ad is, I presume, a nurse, I have to ask: what was your advertising staff thinking when they accepted this ad?

Sarah Clark, senior director of communications at Wal-Mart Stores, responds: Wal-Mart simply doesn’t believe unionization is right for our company because third-party representation wouldn’t improve our relationship with our workers, many of whom have consistently recognized the value of dealing directly with management and have chosen not to organize a union. We also offer a tremendous opportunity for advancement: 76% of our store managers started out in hourly positions.

Wal-Mart does not tolerate discrimination. Wal-Mart is a great place for women to work,

The mythologic hierarchy that places physicians at the top and nurses at the bottom is pervasive in the media, which influence young people as they choose careers. This ad sends a message that’s not much different: nursing is a career someone would settle for if she isn’t smart enough to become a physician.

Eleanor Evenson, RN, CCRN
St. Charles, MN

AJN welcomes letters to the editor regarding recently published articles, although critiques of original research may be submitted at any time. Submissions must be typed, contain fewer than 300 words, and list the correspondent’s name, address, and phone number or e-mail address; include no more than three references for any statistics or studies cited. Letters will be edited for length, clarity, and accuracy. Submission of a letter will constitute the author’s permission to publish it, although it doesn’t guarantee publication. Letters become the property of AJN and may be published in all media. Send letters to AJN, Lippincott Williams & Wilkins, 333 Seventh Avenue, 19th Floor, New York, NY 10001; ajn@lww.com: (212) 886-1206 (fax)
and isolated complaints don’t change this fact. And Wal-Mart benefits—available to full- and part-time workers—including health care insurance available after one year of employment (two years for part-time workers) with no lifetime maximum.

Wal-Mart brings value to communities through good jobs, good benefits, and low prices for our customers. We offer tremendous value on things your readers need and encourage them to visit our Web site, www.walmartfacts.com, to learn more about our company.

Editor’s note: Ms. Evenson shared her concerns about the Wal-Mart ad with the Center for Nursing Advocacy (www.nursingadvocacy.org). The center contacted Wal-Mart and worked with the company to change the wording of the ad, which may appear in other nursing publications. Letters from readers regarding ads that appear in AJN are shared with the publisher, the advertising department, and usually the advertiser.

**ACUTE CORONARY SYNDROME IN WOMEN**

Nurses can be catalysts to decreasing morbidity and mortality rates in women with acute coronary syndrome in two ways (“Typical and Atypical Symptoms,” *Beats and Breaths*, February). First, we need to be aware of the atypical symptoms in women so that we can treat them accordingly. Second, we should make it a priority to create an evidence-based classification system of typical symptoms in women with the syndrome so that a decline in mortality rates from heart disease in women is not merely a goal, but a reality.

Amy C. Martin
Brockton, MA

**CATCHING FLIES**

As a student nurse, I find my first encounter with a patient to be one of the more anxious moments of my day. I’ve been taught not to have any preconceived notions about my patients, but information can change one’s feelings—favorably or unfavorably.

I agree with Mona Shattell (“You Catch More Flies with Honey,” *Viewpoint*, February): patients who are considered “easy” are treated differently from those considered “difficult.” Yet I don’t believe the quality of care is compromised or should be compromised. It’s often hard to spend as much time as we would like with our patients, and this could be conceived as avoidance, especially if the patient is “difficult.”

I hope that Ms. Price (and any other nurse who was offended by my findings) can step back and ask herself, “If I were hospitalized, would I do anything to make sure I received good care?” Put yourself into that bed; if you can answer truthfully that you would receive high-quality care without an acute awareness of, or change in, your behavior, and without your family or friends nearby, and that you would feel safe and secure, then perhaps my participants’ stories were, as Ms. Price says, “not extensive enough to get the true picture.” If you cannot answer in this way, let the dialogue continue.

Author Mona Shattell responds: Ms. Price’s defense of nursing is laudable; still, I encourage nurses to be open to patients’ experiences. The converse of Ms. Price’s comments is also true: if one is looking only for the positive, one will see only that.

I hope that Ms. Price (and any other nurse who was offended by my findings) can step back and ask herself, “If I were hospitalized, would I do anything to make sure I received good care?” Put yourself into that bed; if you can answer truthfully that you would receive high-quality care without an acute awareness of, or change in, your behavior, and without your family or friends nearby, and that you would feel safe and secure, then perhaps my participants’ stories were, as Ms. Price says, “not extensive enough to get the true picture.” If you cannot answer in this way, let the dialogue continue.

REFERENCE

To Err Is Not Surprising

Two new studies shed more light on medication errors.

It has been five years since the Institute of Medicine published To Err Is Human: Building a Safer Health System, which shone a spotlight on the frightening regularity with which errors occur, especially medication errors. In its wake, clinicians, policymakers, and legislators have put forward a variety of possible solutions.

Computerized physician order entry (CPOE) systems have been touted as the future of medication-error reduction, and indeed, studies indicate reductions in errors as high as 80%. What Koppel and colleagues discovered, however, is that such systems are capable of introducing other errors.

In a study conducted at a 750-bed tertiary care center in Philadelphia—at which a CPOE system has been in use for more than seven years—researchers found “22 previously unexplored medication-error sources.”

One common mistake reported was the assumption that the dosing information in the CPOE system was correct, when it wasn’t. The system displays doses that are “based on the pharmacy’s warehousing and purchasing decisions” and not on evidence-based guidelines. Also cited were problems related to the discontinuation of medications, failures to renew antibiotic prescriptions, incorrect or missing information on diluents, and an absence of or difficulty in finding information on patient allergies.

And according to some physicians, it’s easy to select the wrong patient on the screen because of small type sizes and because a patient’s name doesn’t appear on all screens. Patients’ drug information is rarely summarized on one page, and as many as “20 screens might be needed to see all of a patient’s medications.” The system also automatically cancels patients’ prescriptions if they undergo surgery. Problems also arise when the system crashes or is shut down for maintenance, leading to a host of problems, not the least of which is medication being sent to the wrong room because a patient was moved during a system failure.

Medication error in long-term care was the focus of the second study. Using medical records, computer records, and incident reports, Gurwitz and colleagues identified 815 adverse drug events, or injuries resulting from the use of a drug, among 1,247 residents at two long-term care facilities.

There were 9.8 adverse drug events per 100 resident-months, 42% of which were determined to have been preventable. Of the 225 serious, life-threatening, or fatal events, 61% were deemed preventable.

Among all preventable adverse drug events, the most common were neuropsychiatric, followed by gastrointestinal, hemorrhagic, renal or electrolyte related, and metabolic or endocrine. Drug classes associated with elevated risks of adverse events were (in descending order of risk) antipsychotics, anticoagulants, diuretics, and antiepileptics. And the types of errors identified by the researchers “occurred most commonly at the ordering . . . and monitoring . . . stages of pharmaceutical care.” There were 198 prescribing errors, the most common of which were the wrong dose (n = 96) and the wrong drug (n = 76).

The authors remark that their results should help refocus attention onto “an often overlooked patient population” and should “emphasize the need to develop and test innovative strategies for preventing adverse drug events in the long-term care setting.”

Doug Brandt

When It Comes to Aspirin, Men and Women Are Not Equal

Aspirin acts differently in women.

A landmark 10-year study of 39,876 women 45 years of age and older has found that regular aspirin intake doesn’t confer all of the same benefits to women that it does to men. Half the women were assigned to the treatment group and received 100 mg of aspirin every other day; the other half received a placebo. Researchers monitored all women for myocardial infarction, stroke, and death from cardiovascular causes.

Results showed that aspirin did not significantly reduce the risk of myocardial infarction and cardiovascular events, except in women 65 and older, whose risk diminished by 26% when taking aspirin regularly. A surprise finding was that the women taking aspirin had a 17% lower risk of ischemic stroke; this benefit was even greater among women 65 and older, whose risk diminished by 30%.

Recommending that women take aspirin regularly, especially if they’re not yet 65, remains a delicate matter, as aspirin can cause gastrointestinal bleeding and peptic ulcers. In the group of women taking aspirin, there were 127 episodes of gastrointestinal bleeding, compared with 91 in the group taking placebo. The researchers therefore recommend that each woman make the decision with the help of her clinician, according to her age and medical history.—Dalia Sofer


FROM THE NATIONAL INSTITUTE OF NURSING RESEARCH

Children, HIV Therapy, and the Quality of Life

Researchers examine the effects of treatment.

Children who acquired HIV perinatally are living longer, thanks to protease inhibitor therapy, but there’s been little information on the quality of the lives of these children. In order to assess the effects of protease inhibitors on children’s health, their growth, and the quality of their lives, researchers evaluated 940 children with perinatally acquired HIV and interviewed their primary caregivers.

The children ranged in age from eight to 15 years, most were black or Hispanic, most were small for their age, and more than half had a primary caregiver who was not the biological parent. Almost three-quarters of the children were undergoing protease inhibitor therapy, which often also included a nucleoside reverse transcriptase inhibitor or a nonnucleoside reverse transcriptase inhibitor. Most of the remaining children were receiving antiretroviral therapy without a protease inhibitor.

Those undergoing protease inhibitor therapy tended to be older and to have lower CD4+ cell counts, indicating that their HIV status might be more advanced. Most of the children perceived their health as being good, although in almost half physical activity was limited, and in nearly 60% social functioning or performance in school was somewhat limited. Although the incidence of diarrhea in the children undergoing protease inhibitor therapy was higher, quality-of-life scores overall weren’t different from scores among those receiving other medications. Lead author Storm says that nursing interventions are needed to help alleviate disease symptoms, behavioral problems, and limitations on school and social functioning.

A Good Night’s Sleep

Parents can influence sleep patterns, especially in very young children.

Three-quarters of five-month-old infants sleep for at least six consecutive hours each night, and sleep tends to consolidate during the next 12 months of life, so that most (more than 90%) 17-month-olds are “good sleepers.” Still, childhood sleep problems, when they occur, remain a chief reason that parents seek professional advice. Investigators in Canada sought to find out what factors lead to sleeping problems in early childhood.

Mothers of 1,741 children were interviewed when their children reached five months, 17 months, and 29 months of age, and several factors were found to be associated with poor sleeping patterns, including staying with the children while they fell asleep; responding to nighttime awakenings of their children by feeding, holding, or rocking them; and bringing the children to their beds rather than comforting them in their cribs when they had trouble sleeping.

Not surprisingly, parental behavior that promoted children’s ability to fall asleep by themselves was strongly associated with children’s sleeping well. However, parents adopted such behavior more readily when a child was already sleeping well, so to what extent parental behavior determines children’s sleeping patterns and what the effects of poor sleeping patterns are on parental behavior couldn’t be determined.

Additionally, children with temperaments reported by parents to be “more difficult than average” tended to sleep poorly, and sharing a bed or a room with parents or siblings was associated with poorer sleep.

The authors recommend addressing sleep problems by changing the behaviors of parents and children simultaneously, in directions that promote children’s autonomy.—Fran Mennick, BSN, RN


NewsCAPS

Flying? Don’t drink the water. In January 2004 the Environmental Protection Agency announced the results of its second round of testing of airplane water. The results weren’t good. The agency first tested samples taken from 158 randomly selected airplanes, and roughly 13% of the samples contained bacterial contaminants. A follow-up in November revealed that levels hadn’t gone down. More than 17% of random samples were positive for coliform bacteria. The agency recommends that airplane passengers with compromised immune systems drink only beverages that come in bottles or cans and avoid anything—such as tea, coffee, and ice cubes—made with the water on board.

Breast cancer survivors suffer fractures significantly more often than other postmenopausal women do, according to an observational study of more than 86,000 women that was recently published in the Archives of Internal Medicine. Survivors’ fracture risk remained significantly elevated after adjusting for differences in hormonal factors, leaving the association between breast cancer and increased fracture risk incompletely explained. But breast cancer survivors who suffered fractures tended to be older, were more likely to be depressed, had more medical and musculoskeletal problems (such as osteoporosis), had poorer overall physical function, and fell more frequently than those who remained fracture free. Prevention efforts can begin by targeting those risk factors that can be altered by changes in behavior.

The New Jersey Association of Nurse Anesthetists (NJANA) loses court battle. After months of legal proceedings, the NJANA was unable to defeat a new regulation mandating that nurse anesthetists be supervised by a physician when providing conscious sedation in office settings. New Jersey is now the first and only state with such a mandate. The NJANA did petition the state supreme court and on February 1 got a stay of order to keep the new regulation from being implemented. The court is planning to hear the case this month. Angela Richmond, executive director of the NJANA, said, “I am optimistic that we will win this battle.”
From the Center for Nursing Advocacy

The Center for Nursing Advocacy rates recent media characterizations of nurses and nursing. (For more information on the center, go to www.nursingadvocacy.org.)

The voices of nurses are heard. In a partial victory for nurses and the Center for Nursing Advocacy, the Department of Health and Human Services (DHHS) has promised to consider changing the name of one of its campaigns, Take a Loved One to the Doctor Day. Three hundred nurses responded to a call to action by writing letters and e-mails imploring the DHHS to choose a title that didn’t implicitly ignore the thousands of advanced practice RNs working in this country; the ANA had written a letter, as well. In a February 3 letter to the center, the DHHS’s Garth Graham wrote, “Exploring a new name for our campaign might well be a valuable change that health care providers and our public and private partners can embrace for the good of the communities we serve.”

Like a virgin. In March, Virgin Mobile Canada and head of the Virgin corporate empire, Richard Branson, launched a major ad campaign featuring “naughty nurse” models ready to help young wireless consumers avoid a mock venereal disease, the “catch,” which represented Virgin’s rivals. The Registered Nurses Association of Ontario, in an expression of how little amused it was, has demanded an apology and called for a boycott of the company until the ads are pulled.

World Health Roundup

- The Marburg hemorrhagic fever outbreak in Angola. The Marburg virus has killed 253 of its 275 victims, at least a dozen of them nurses, and according to an April report by the World Health Organization (WHO), the Angola outbreak is the largest and deadliest on record. Infection with the virus, which is closely related to the Ebola virus, begins with severe headache and malaise, high fever, vomiting, and diarrhea and quickly progresses to debilitation; death usually occurs from blood loss and shock. Transmission is through close contact with infected bodily fluids, putting family caregivers and clinicians at high risk. The current outbreak was first reported in Uige Province (population 500,000), which has remained the epicenter; more than 95% of the cases have occurred there. The WHO is leading international efforts to contain the disease and to provide training and equipment. It’s especially important that the disease will continue to spread through family members who care for stricken relatives at home, without protective clothing or knowledge of isolation measures.

- Is U.S. influence thwarting AIDS prevention in Uganda? According to a recent report by Human Rights Watch, Uganda, which saw its HIV–AIDS rate drop from 15% in 1992 to 6% in 2002 thanks to sex education and condom distribution programs, has recently embraced abstinence-until-marriage campaigns, funded largely by an $8 million annual grant from the United States. Ugandan president Yoweri Museveni and the country’s first lady, Janet Museveni, have both spoken out in favor of abstinence and against condoms (which they say are ineffective and unreliable), and information on HIV and AIDS, condoms, safer sex, and the risk of HIV in marriage has been removed from primary school curricula. The full report, The Less They Know, the Better: Abstinence-Only HIV/AIDS Programs in Uganda, can be found at http://hrw.org/reports/2005/uganda0305.

- A road map for decreasing global neonatal mortality rates. Every year, according to a four-part series of studies published in the Lancet, about 4 million newborns (defined as infants in the first four weeks of life) worldwide die, 99% of them in poor countries. The most common direct causes are severe infection, preterm birth, and asphyxia. Many of these deaths can be prevented, with such interventions as tetanus toxoid immunization, along with syphilis screening and treatment for pregnant women, ensuring that the delivery area is clean, and administering antibiotics for preterm rupture of membranes. Combining interventions in small bundles, or “packages,” say the researchers, will make prevention more efficient and cost effective. But to achieve long-term results, local governments and international organizations must create policies that will help mothers have healthier pregnancies as well as deliveries and will ensure that infants receive the care they need during those crucial first weeks of life. To read the complete series, go to www.thelancet.com (registration is required but free) and search for “neonatal survival series.”
Nurses with Disabilities

Fear of discrimination still exists, but laws and technology create inroads.

When Marianne Haugh, BSN, RN, first applied to nursing schools, she e-mailed several program administrators to find out their feelings about having a student with a disability.

“I was surprised by the replies that I received,” Haugh says. “I actually had schools offering me free counseling to change my major. They said that I had the grades and test scores to get in, but that I was choosing the wrong major.”

Haugh has spina bifida, and while she’s able to stand using leg braces, she needs a wheelchair to go any distance. She was eventually accepted into a nursing program and recently graduated, but in the eyes of many educators, she wasn’t considered to be suitable nursing material because of her disability. Over the years, increasing numbers of students with disabilities have applied to nursing programs, in part as a result of the passage of legislation, such as the Rehabilitation Act of 1973 and the 1990 Americans with Disabilities Act (ADA). At the same time, a growing number of nurses who develop a disability are looking for ways to remain on the job.

Over the past decade, the numbers of disabled nurses working in the field and in academia have increased, says Donna Maheady, EdD, CPNP, RN, founder of Exceptional Nurse (www.exceptionalnurse.com), a Web resource for disabled nurses, and an adjunct professor of nursing at Florida Atlantic University in Boca Raton. “The ADA has helped,” says Maheady. “And in general society has moved—albeit slowly—toward greater acceptance of people with disabilities in all walks of life.”

About 50 million Americans have one or more disabilities, but there are no clear figures on how many nurses have physical or mental impairments. According to a 1995 survey of 86 nursing programs, nearly 80% reported they had admitted a student with a disability during the previous five years, according to Martha Smith, director of the Office for Student Access at Oregon Health and Science University and a board member of the National Organization of Nurses with Disabilities (NOND).

“The NOND is attempting to collect further statistical information, but this is a difficult task because one out of every five Americans has a disability,” says Stacey Carroll, PhD, RN, who is the corresponding secretary of the NOND and who is also hearing impaired. “The number of nurses working with disabilities of some kind, in my estimation, is likely to be high.”

Section 504 of the Rehabilitation Act of 1973 prohibited discrimination on the basis of disability and required federally funded programs to be accessible to disabled people. Public schools were included among such programs. The ADA, which picks up where the Rehabilitation Act left
off, requires employers to make “reasonable accommodations” for employees with disabilities and prohibits employers from refusing to hire a qualified person solely on the basis of a disability.

The term “disability” covers a range of conditions and injuries, including multiple sclerosis, arthritis, spinal cord injury, asthma, impaired hearing and vision, postpolio syndrome, and mental health disorders. But despite the existing laws, discrimination against disabled people continues, and many employers remain reluctant to hire a disabled nurse.

There are a number of reasons for this, according to Maheady. In a hospital setting, for example, RNs might be required to have the ability to lift 30 to 50 lbs. or to perform cardiopulmonary resuscitation. A facility could have 10- or 12-hour shifts and be inflexible in this regard. Employers might also worry about the cost of accommodating a disabled nurse or be unaware of ways to facilitate employment. Some might be concerned about the reaction of patients to a nurse who’s visibly disabled. In addition, there is still a powerful stigma attached to mental health problems.

Many nurses, nursing students, and potential nursing students don’t disclose their disability out of fear that they won’t be hired or admitted to school. Susan Matt, JD, MN, RN, a hearing-impaired nurse–attorney who counsels and represents disabled nurses, didn’t disclose her disability when she entered nursing school. This occurred prior to passage of the ADA, and Matt didn’t want to risk not being accepted into a program. But not disclosing a disability can be a double-edged sword; a nurse might be able to hide her disability but in doing so forfeit accommodations that could make the job easier—and possibly safer, for both nurse and patient.

Matt eventually left bedside nursing primarily because of her hearing loss. “It became very difficult to do the quick switch from hearing aids to stethoscope,” she says. “I couldn’t manage telephone orders, and I had a lot of trouble with taped reports. I found myself moving further away from bedside nursing and into administration, risk management, and quality improvement.”

**WORKPLACE ISSUES**

The diversity of nursing, as well as advances in technology, has opened up opportunities for disabled nurses, both in traditional hospital jobs and in other settings. Telephone triage, parish nursing, case management, research, and teaching are some of the options for nurses who cannot work in acute patient care. Amplified stethoscopes can assist nurses with hearing loss; digital and talking blood pressure monitors, thermometers, and glucometers, along with voice-activated computer software, assist nurses who have impaired vision; and scooters and standing wheelchairs can assist those with impaired mobility.

It seems intuitive, says Matt, but nurses with disabilities need to consider the type of job they are looking for and choose one that makes sense. “For example, someone with visual impairment might not apply for a job that requires medication administration, or a nurse in a wheelchair might find a job doing patient teaching, which wouldn’t involve actual physical care, or work as an IV nurse, which can be done in a wheelchair.”

**BREAKING BARRIERS**

One of the first barriers that disabled nursing students face is in academia. Smith discovered that university disability services offices were adept at helping faculty with the didactic portion of education, but no one had quite figured out how to incorporate disabled students into the clinical segments of their programs. Smith received a five-year federal grant to help faculty understand and meet the needs of disabled students.

“We found that it was more effective to involve the faculty in coming up with creative solutions, rather than just handing them a list of accommodations for the students,” explains Smith. “Faculty often get stuck in ‘there’s only one way to do things.’”

Institutions that employ nurses also need further education on how to provide accommodation, and they need to learn how nurses with disabilities at other facilities are faring, says NOND president Karen McCulloh, BS, RN, who has multiple sclerosis, impaired vision, and impaired hearing. “If neither the nurse nor the institution is familiar with the ADA’s accommodation provision, this may present a challenge.”

McCulloh also points to another trend: an aging nursing workforce. “It’s inevitable that more nurses will become disabled and will want to and need to continue working,” she says.

—Roxanne Nelson, BSN, RN ▼
MEDICATION SAFETY ALERTS

New warnings and a common error.

Case reports on Adderall and Adderall XR, an amphetamine approved for treatment of attention deficit and hyperactivity disorder, have indicated that the drug is associated with sudden unexplained death in children. Sudden unexplained death has been associated with amphetamine abuse, but the new reports specifically suggest a possible problem in children with underlying cardiac abnormalities who receive the recommended dosage; in some instances, sudden unexplained death has occurred even in children without an underlying cardiac abnormality. While the case reports prompted Health Canada to suspend sales of Adderall but not remove it from the Canadian market, the U.S. Food and Drug Administration (FDA) has not yet taken any action.

The FDA reviewed its own adverse events reporting system database for the 1999 to 2003 period and identified cases of sudden unexplained death in 12 children, five of whom had undiagnosed cardiac abnormalities. At this time the FDA’s opinion is that there are insufficient data showing that the recommended dosages of Adderall can cause sudden unexplained death, but it’s recommending that the drug be avoided by both children and adults with structural cardiac abnormalities (see www.fda.gov/bbs/topics/news/2005/NEW01156.html and www.fda.gov/cder/drug/InfoSheets/HCP/AdderallHCPsheet.pdf). The FDA is continuing its evaluation.

A warning has been added to the labeling of tiagabine (Gabitril), a drug approved as adjunctive therapy in the treatment of partial seizures. Between 1997 and 2004 there were 59 postmarketing reports of seizures, including status epilepticus, occurring in patients receiving tiagabine who did not have a history of epilepsy and who were taking the drug for off-label usage, usually as adjunctive treatment for a psychiatric illness. Most of those patients also were receiving drugs believed to lower the seizure threshold, such as antidepressants, antipsychotics, stimulants, or opioid analgesics. Some case reports state that when a patient developed seizures the prescriber either continued tiagabine or increased the dosage as a way to control or prevent further seizures. The dosing of tiagabine is based on the premise that the concurrent administration of an antiepileptic drug that induces the activity of the cytochrome P450 enzyme system would decrease the amount of circulating tiagabine, which is metabolized by that system.

But patients taking tiagabine alone therefore would not metabolize the drug as rapidly, and a level of circulating tiagabine higher than that expected would be achieved, possibly causing seizures, the exact mechanism of which is unknown. Prescribers are being strongly encouraged to avoid the off-label applications of tiagabine, but if it is prescribed for reasons other than to treat partial seizures, nurses should be alert to potential seizure activity.

A warning has been added to the labeling of promethazine (Phenergan), and revisions have been made to its contraindications and dosage and administration sections, after the emergence of postmarketing case reports of possibly fatal respiratory depression when it’s used in children less than two years of age. Promethazine, available in tablets and suppositories, is now labeled as contraindicated for use in that population. Caution should be exercised in giving it to children two years of age or older.

A significant newly discovered drug interaction has prompted the revision of the warnings on the labeling of saquinavir (Invirase, Fortovase). Drug-induced hepatitis with significantly elevated hepatic enzyme levels (as high as 20 times normal) has occurred when “ritonavir-boosted saquinavir” (ritonavir 100 mg–saquinavir 1,000 mg) is administered with rifampin. Ritonavir and the various formulations of saquinavir are antiretroviral agents used in the treatment of HIV infection. Rifampin is an antitubercular drug.

Because tuberculosis has become an increasingly prevalent comorbidity among HIV-infected patients, the drugs often are administered concurrently. However, rifampin should not be administered to patients receiving “ritonavir-boosted saquinavir.”

Recent medication errors have been reported in regard to two drugs with similarly spelled names. Zyrtec, the trade name of olanzapine, an atypical antipsychotic, has been confused with Zyprexa, the trade name of olanzapine, an atypical antipsychotic, has been confused with Zyrtec, the trade name of cetirizine, an antihistamine used to treat allergic rhinitis and chronic urticaria. In addition to the names starting with the same letter, the drugs have congruous dose denominations (5 mg and 10 mg), are both taken once daily, and commonly are stored near each other on pharmacy shelves.
FDA COMES UNDER SCRUTINY

Drug trials, approval process questioned.

This month, Drug Watch looks at the continuing Food and Drug Administration (FDA) alerts concerning Adderall and other drugs. Recent columns have discussed the possible serious adverse effects of other approved drugs, such as the pediatric “suicidality” with which antidepressants have been associated and cardiovascular incidents associated with the cyclooxygenase-2 (COX-2) inhibitors rofecoxib (Vioxx), valdecoxib (Bextra), and celecoxib (Celebrex).

The FDA approval process calls for the conducting of clinical trials involving enough patients to provide statistical reliability, but the number required is far lower than the number who receive the drug in general practice after its approval. So it is only after a vast number of patients have been taking a drug for extended periods that all of its possible adverse effects can be known. Nurses and other providers should help to educate patients in the drug approval process and in the unknown potential for risk inherent in the use of a newly approved drug.

The FDA has received much public criticism in light of reports of serious adverse effects of approved drugs. In an effort to regain the public trust, and to create a climate of candor, forthrightness, and enhanced oversight, the agency has announced that it will institute an independent drug safety board to oversee the management of important drug safety issues within its Center for Drug Evaluation and Research. The members of it will be appointed by the FDA commissioner and will be FDA experts and medical experts at other U.S. Department of Health and Human Services agencies. Further, in response to criticism to the effect that it withholds data, and that those that it does post on its Web site are difficult to find and understand, the FDA plans to create special Web pages to improve access to emerging data and risk information for the benefit of providers and consumers.

The FDA’s action on the COX-2 inhibitors furthered the controversy. In February of this year, an FDA advisory committee recommended that all of the COX-2 drugs be allowed to remain on the market, but with black box warnings (see page 30). The swiftness of the FDA’s April 7 decision to withdraw valdecoxib, but not celecoxib, and later reconsider rofecoxib (at the request of the manufacturer), and the stringency of the restriction were somewhat unexpected. The official FDA position is that the advisory committee’s recommendations are never binding, yet its decision is interesting in light of the emergence, in news articles, of the concern that some of the committee members had been engaged in a “conflict of interest.” Some served as consultants in the drug industry, an issue that the agency, in fact, addressed in a Web posting (www.fda.gov/cder/drug/infopage/COX2/COX2qa.htm), in which it states that members were assessed for conflict of interest and that although some was identified, it was not deemed sufficient to warrant their exclusion from voting.

Controversy as to whether the FDA went too far in its decision, or not far enough, persists, and some feel that celecoxib should also be removed from the market.
Patients who take Zyrtec instead of Zyprexa may have relapses of psychosis. Prescribers of either drug should use either the generic name only or both the trade and generic names when writing prescriptions. They should specify the reason for the prescription to prevent any confusion as to which of the two drugs is intended.

For more information on these safety alerts, visit the FDA’s Safety Information and Adverse Reporting Program—MedWatch—at www.fda.gov/medwatch/index.html.


COX-2 INHIBITORS

Cardiovascular risk possibly a ‘class effect.’

Shortly after the withdrawal of the cyclooxygenase-2 (COX-2) inhibitor rofecoxib (Vioxx) from the market after it had been shown to increase the risk of cardiovascular events, there emerged concern regarding the other two COX-2 inhibitors, valdecoxib (Bextra) and celecoxib (Celebrex).

Rather than there being an adverse effect specific to one drug, as first was suggested when rofecoxib was taken off the market, it appears that the COX-2 inhibitors have a “class effect,” meaning that all drugs in the class produce comparable adverse effects.

The National Cancer Institute and Pfizer, the manufacturer of celecoxib, stopped the administration of the drug in an ongoing clinical trial (the Adenoma Prevention with Celecoxib study) conducted to investigate whether it is effective in preventing colon polyps because it was found to significantly increase the risk of cardiovascular events among patients in the trial group receiving it, in comparison with those receiving placebo. Patients participating in that study received drug therapy for 2.8 and 3.1 years, and the adverse effects seen were related to dose, the higher ones being more likely to produce the cardiovascular events. Although not all of the research into celecoxib has revealed those adverse effects, most of the other studies have been short-term ones.

The preliminary findings of an unpublished, comparable study (the Prevention of Spontaneous Adenomatous Polyps trial) comparing celecoxib taken once daily with placebo do not reveal an increase in cardiovascular risk, and neither did one in which the use of the drug among older adults was investigated. The findings of the latter study, however, do support others that have indicated that rofecoxib heightens the risk of myocardial infarction, especially at higher doses. The third COX-2 inhibitor, valdecoxib, has been shown to increase the risk of cardiovascular events in patients who have recently undergone coronary artery bypass grafting and was one of five drugs identified at a U.S. Senate committee meeting on November 18, 2004, as drugs that should be withdrawn from the market.

The FDA has withdrawn valdecoxib from the market, but celecoxib still is available, despite the class effect that has been identified, apparently because of the conflicting findings of the various clinical studies. Rofecoxib must be reevaluated by the FDA if the manufacturer seeks to have the drug reinstated. The labeling of celecoxib will include both a boxed warning, pertaining to the entire nonsteroidal antiinflammatory drug (NSAID) class, of the heightened risk of cardiovascular events as well as of gastrointestinal effects (gastric bleeding and ulceration), and clinical trial data representing findings of the increased cardiovascular risk associated with the drug.

Also, a Medication Guide for patients, describing the cardiovascular and gastrointestinal risks associated with NSAIDs, especially celecoxib, will be dispensed with the drug. The FDA has requested also that Pfizer conduct a long-term study on the safety of celecoxib, in comparison with that of naproxen and other NSAIDs, and that manufacturers of over-the-counter NSAIDs also revise drug labels to include more specific information on cardiovascular and gastrointestinal risks. And because valdecoxib has been determined to increase the risk of serious skin reactions, such as Stevens-Johnson syndrome, the labels of over-the-counter NSAIDs also will bear warnings of possible skin reactions, representing the first time that a drug that bears a black box warning in its prescription form is allowed to be sold in over-the-counter strengths. No research to date indicates that the latter drugs pose a risk to patients who use low doses of them (the recommended over-the-counter dose) for short periods of time to treat acute pain, and they are not being considered for removal from the market at present.

Understandably, patients are confused by the recent changes. Nurse practitioners who prescribe drugs should be aware that the most prudent action at this time is to choose an alternate therapy for patients who would otherwise be taking a COX-2 inhibitor. At least, the identified risks should be minimized by keeping the daily dosage as low as possible.

Infection in the Older Adult

Long-term care poses particular risk.

According to the U.S. Census Bureau, there were 36 million older adults (those 65 years of age or older) in the United States in 2003, representing 12% of the total population. By 2030 the number of older adults is projected to reach 71.5 million, an estimated 20% of the total population. Older adults represent the highest percentage of clients in hospitals, home care, and nursing homes.

The 1999 National Nursing Home Survey (the most recently published one; data from the 2004 survey won’t be available for some time) found 1.6 million residents living in 18,000 nursing homes across the United States; 90% of them are older adults. While only about 4% of the entire U.S. population over 65 resides in nursing homes at any one time, it’s estimated that more than 40% of the older adult population will spend some time in a nursing home. Not surprisingly, these numbers are expected to increase as the baby boom generation ages.

Beck-Sague and colleagues reported that the risk of acquiring a nosocomial infection in a nursing home is comparable to that of developing a nosocomial infection in an acute-care hospital, with rates ranging from 3% to more than 15%. Given the current trend toward earlier hospital discharge, which often leads to longer nursing home stays, the growth in the number of older adults in the United States during this century will create an unprecedented increase in the number of nursing home residents at greater risk for illness and death because of infection.

PNEUMONIA

According to the Centers for Disease Control and Prevention, radiologic signs of pneumonia shown here include patchy infiltrate of the left lung and blunting of the left costophrenic angle.
Infections

Prevention, nursing home–associated pneumonia accounts for 13% to 48% of all nursing home–associated infections and is the second most common nosocomial infection (after urinary tract infection) in such facilities. The fatality rate may be as high as 23%. Residents who develop nursing home–associated pneumonia are more likely than residents with other infections to be transferred to acute-care facilities.

Older adults are especially vulnerable to pneumococcal pneumonia, and low rates of pneumococcal vaccination among the older adult population may contribute to the relatively high rates of invasive pneumococcal disease and death. Twelve outbreaks of invasive pneumococcal disease have occurred in the United States since 1990; half of these occurred among the elderly in nursing homes. Sixty-seven percent of the outbreaks involved serotypes that are included in the 23-valent pneumococcal vaccine recommended for nursing home residents. (For more on the prevention of such infections, see www.cdc.gov/ncidod/hip/guide/CDCpneumo_guidelines.pdf.)

Two recent studies found that functional status among older adults in nursing homes was significantly associated with pneumonia (as compared with older adults in the community who have pneumonia). Because older adults with pneumonia may present with unusual symptoms, such as an alteration in functional and mental status, it’s been suggested that the Minimum Data Set (MDS) and the Resident Assessment Instrument (RAI) be used to assess residents for infection. (The MDS and RAI are currently used to assess all nursing home residents in the United States whose treatment is covered by Medicare and Medicaid.)

The MDS is used to collect baseline data on the clinical and functional status of nursing home residents on admission and periodically thereafter. If the MDS reveals changes in the resident (such as in mental status or ability to perform activities of daily living), further assessment using the RAI could be useful in identifying infection. For more information on instruments used for assessment of residents, see www.cms.hhs.gov/quality/mds20/raich1.pdf.

Diagnosis of nursing home–associated pneumonia can be made using the following criteria when no chest X-ray is available: a significant deterioration in a resident’s ability to carry out activities of daily living or an alteration in cognitive status, or both, along with symptoms such as fever, new or increased cough and sputum production, and a respiratory rate greater than 25 breaths per minute. It should be noted, however, that fever will not always be present in older adults with infection, because they tend to have lower core temperatures and a diminished immunologic response against invading microorganisms. Even a low-grade fever can represent a significant rise in temperature if a resident already has a low temperature. Consequently, an accurate baseline temperature is critical in assessment for infections in the older adult.

URINARY TRACT INFECTION

Urinary tract infections are usually asymptomatic, and those residents with the greatest decrease in functional status are at greatest risk for infection. The prevalence of asymptomatic bacteriuria (significant bacterial counts in the urine, without other symptoms) ranges from 15% to 30% in men and 25% to 50% in women. Nursing home residents with indwelling catheters very often have bacteriuria.

Symptomatic urinary tract infection, however, causes significant morbidity in the older adult, and often necessitates hospitalization. The incidence of symptomatic urinary tract infection in nursing home residents varies from 0.1 to 2.4 infections per 1,000 resident-days, depending on the definition used to identify urinary tract infection. The incidence of serious urinary tract infection, which is associated with fever, is 0.49 to 1.04 infections per 10,000 non-catheterized resident-days.

However, differentiating symptomatic from asymptomatic urinary tract infection in the bacteriuric older nursing home resident can be difficult. For example, a decline in health status without other symptoms is often interpreted as urinary tract infection, which leads to an overuse of antibiotics and contributes to increasing antimicrobial resistance. Because urinary tract infection is the most frequent cause of fever in nursing home residents with indwelling catheters, a decline in mental or functional status along with fever meets the criteria for a diagnosis of urinary tract infection.

However, changes in functional or mental status may be because of infection at another site. When a urine culture hasn’t been obtained from the catheterized resident, there are other indications that the resident has a urinary tract infection, including localized symptoms such as new flank pain or suprapubic tenderness in combination with a change in the character of the
urine (for example, in its color or odor). In order to diagnose a urinary tract infection in a non-catheterized resident without a urine culture, at least three of the following criteria must be met: fever or chills, increased frequency of urination, new flank pain or suprapubic tenderness, a change in the character of the urine, deterioration in functional or mental status, and new or increased incontinence.

If a urine culture is taken, the specimen is needed, it should be collected using a newly inserted catheter to ensure that the results of the culture are from microorganisms in the urinary tract rather than from the catheter’s biofilm (the microorganisms that adhere to the catheter surface). A urine specimen collected in this manner or from a catheter port in a short-term indwelling catheter that grows a single microorganism with a count of $10^3$ CFU/mL or greater is sufficient for a diagnosis of urinary tract infection.\(^{15}\)

A microbiologic diagnosis of urinary tract infection from a noncatheterized, asymptomatic resident requires at least two sequentially obtained clean-catch specimens with the same microorganism growing at a count of $10^5$ CFU/mL or greater. However, the same microorganism growing at a count of $10^5$ CFU/mL or greater in a single clean-catch urine specimen from a symptomatic resident is diagnostic. A clean-catch specimen may be difficult to obtain from some residents. In male residents who cannot provide a voided, clean-catch specimen, a urine specimen taken from a newly applied external condom catheter that grows a single microorganism at a count of $10^5$ CFU/mL or greater is diagnostic. When a voided, clean-catch specimen cannot be obtained from a female resident, in-and-out catheterization is recommended. Other sources of urine, such as bedpans or incontinence pads, may be contaminated and are not recommended. A urine specimen obtained using in-and-out catheterization with a single microorganism growing at a count of $10^5$ CFU/mL or greater is considered diagnostic.\(^{15}\)

SHEA also stresses that asymptomatic urinary tract infections in nursing home residents should not be treated with antibiotics. But bacteriuric residents who undergo invasive genitourinary procedures should receive preprocedural prophylactic antibiotics. Treatment for symptomatic urinary tract infections should not exceed 14 days, and the antibiotic used should be chosen on the basis of its effectiveness, tolerability, and availability from the local formulary.\(^{15}\) ▼

**REFERENCES**


I stood with four other nurses in the reception tent at the East Hanover, New Jersey, headquarters of Kraft Foods, drinking a cup of coffee while we waited anxiously to attend the annual shareholders’ meeting of the Altria Group, Inc., the parent company of Kraft Foods and the Philip Morris tobacco companies. Once again, we’d come to testify to the suffering and death tobacco causes. As we quietly discussed the questions and comments we planned to put to Louis C. Camilleri, Altria’s chairman of the board and chief executive officer, I noticed that the gerbera daisy floating in a vase on the table was more than a little brown and mottled. “Do you think they’re aware of the irony of dead flowers as centerpieces?” I asked the group.

Ruth Malone, PhD, RN, an associate professor of nursing at the University of California, San Francisco, organized this year’s demonstration through Nightingales (www.nightingalesnurses.org), a group she founded. (Many of the 14 Nightingales at this year’s event also attended the group’s first demonstration last year, as I did.) Malone was inspired in part by the 1998 Master Settlement Agreement; signed by the attorneys general of 46 states, it prohibits tobacco advertising that targets anyone younger than 18 years of age. As she and a growing number of other nurses have pored over the hundreds of internal tobacco company documents made public by the agreement, they’ve found abundant evidence of unscrupulous marketing tactics and disregard for health and safety—and renewed energy for taking on “big tobacco.”

Because she is a shareholder, Malone was allowed to confront the board and the assembled shareholders (85% of shareholders entitled to vote were represented at the meeting in person or by proxy, according to Altria’s press release), questioning whether they understood the extent of the suffering caused by the use of tobacco products. Her voice cracked as she remembered the first lung cancer patient she’d cared for; saying the gasping and gurgling of a young mother dying as her children looked on was “more than I could bear.” Camilleri responded with, “I admire what you do; I also witness pain and suffering. That’s why we’re committed to harm reduction.”

Diana Hackbarth, PhD, RN, a professor at Loyola University in Chicago, pointed out the dissonance between Camilleri’s statements of support for harm reduction and “socially responsible actions” and his opposition to a proposal that Phillip Morris voluntarily make “fire-safe” (quick-extinguishing) cigarettes available nationally. The company currently makes them for sale in New York State, in compliance with a state law passed last year. “There is no such thing as a fire-safe cigarette,” said Camilleri. (The fire-safe proposal was defeated by a wide margin.)

Besides the Nightingales, several antitobacco activists from U.S. and international organizations pleaded their causes before the assembled shareholders and the board. Tosin Orogun, a Nigerian journalist and activist, stated that in his developing western African country of nearly 140 million, people enthusiastically emulate “anything American,” even to the detriment of their health. Expressing “alarm” that Philip Morris, which ceased marketing activities in Nigeria 20 years ago, had recommenced three months ago, he asked, “How do you think Philip Morris will benefit my country?” The chairman responded, “[Philip Morris is] a pygmy in Nigeria compared to other manufacturers.”

At a later point in the meeting, Camilleri said, “There is no such thing as a safe cigarette.” For once, the Nightingales heartily agreed with him.
Keeping Track of the Patch
Transdermal delivery in obese patients.

Virginia Cassidine, a 56-year-old woman, is admitted to a long-term care facility following a three-week hospitalization for respiratory failure. Ms. Cassidine is 5’5” tall, weighs 360 lbs., and has a history of morbid obesity, chronic obstructive pulmonary disease, type 2 diabetes mellitus, and chronic stable angina. At 9 AM a nurse applies a 0.2 mg/h nitroglycerin skin patch (NitroDur and others) to the right side of Ms. Cassidine’s chest. While raising the patient’s gown to administer an insulin injection in her abdomen, the nurse notices another nitroglycerin patch that had not been removed previously, prompting further assessment. A total of five nitroglycerin patches were found and removed from Ms. Cassidine’s upper torso.

IDENTIFYING THE PROBLEM
Transdermal delivery systems are designed to provide continuous controlled release of medication through intact skin, thereby providing a constant level of a drug in blood plasma. A steady-state plasma concentration cannot be achieved in the presence of duplicate patches. The written order specifies that the nitroglycerin patch be removed each evening; removal of the patch is just as important as application. Clinical trials have shown that continuous administration of nitroglycerin leads to nitrate tolerance, which reduces the antiischemic effects of the drug and increases the risk of myocardial ischemia and recurrent chest pain. An appropriate dosing schedule for nitroglycerin transdermal patches involves 12 to 14 hours of medication and 10 to 12 hours without medication in every 24-hour period.

Transdermal patches are designed to be unnoticeable; many patches are small, clear, or flesh colored. In obese patients, such as Ms. Cassidine, patches can become hidden beneath skinfolds and overlooked by hospital staff. A daily, thorough skin assessment, which includes an inspection beneath skinfolds, can prevent patches from being left on longer than they should be.

PREVENTING THE PROBLEM
Because she was recently transferred, Ms. Cassidine has had many nurses at both facilities. When several nurses throughout the day are involved in drug administration, there’s an increased chance of medication error. The nurse who is trying to complete a medication pass efficiently may look quickly and conclude that the previous patch fell off or was taken off if it is not found. The nurse should clearly document on the medication administration record (MAR) the site, date, and time that patches are applied and removed. Patients should keep a similar record at home.

Duplication of patches may cause adverse effects. For example, overapplication of nitroglycerin patches may result in hypotension, flushing, and headache.

Accurate transcription of written orders on the MAR is also important. Errors of duplication can occur when the same medication is ordered to be administered by two different routes. When receiving a new medication order, be certain that oral, IM, or IV forms of the same medication are discontinued when switching to the transdermal route. For example, oral isosorbide dinitrate (Dilatrate-SR and others) may need to be discontinued when a patient is started on a nitroglycerin patch.

Transcription errors may also occur when abbreviations in physician’s written orders are misinterpreted. For example, the abbreviation TTS follows the...
name of some transdermal medications, such as Catapres-TTS and Testoderm TTS. While the TTS actually stands for “transdermal therapeutic system,” this abbreviation has been misinterpreted as a dosage schedule for Tuesday, Thursday, and Saturday (see www.fda.gov/cder/drug/MedErrors/transdermal.pdf). Since the drug dose determines the frequency of patch application, overapplication of transdermal patches can have fatal consequences. This is especially true with opioid patches because of the respiratory depression that may accompany their use. As reported in the April 1, 2002, issue of Drug Topics, a patient died when “his wife applied six fentanyl patches to his skin at one time.”

Many medications, including nitroglycerin, nicotine (Habitrol and others), fentanyl (Duragesic and others), estradiol (Climara and others), scopolamine (Transderm Scop), clonidine (Catapres-TTS), oxybutynin (Oxytrol), and testosterone (Androderm and others), are routinely prescribed for administration by the transdermal route. Researchers are investigating the effectiveness of this route for medications such as insulin (Humulin-R and others), theophylline (Bronkodyl and others), and methylphenidate (Ritalin and others). Nurses can use transdermal patches with confidence and safeguard themselves and their patients from error by understanding more about these medications and staying aware of common pitfalls associated with their use.

New Patient Safety Web Site

The Agency for Healthcare Research and Quality has launched a new Web site for health care staff and consumers called the “Patient Safety Network.” Users can search a variety of resources and check for upcoming conferences. See http://psnet.ahrq.gov for more information.

On the Cover

Starting this month, the cover of AJN will feature the winners of “The Faces of Caring: Nurses at Work,” a photography contest created to show the public the important work of nursing, with the aim of inspiring the pursuit of nursing careers. Three winners, nine honorable mentions, and 13 judges’ choices were selected from nearly 200 entries from professional and amateur photographers and were exhibited May 6 to 31 at New York University (NYU) in New York City.

This month’s cover photo by photographer Lisa Kyle won first place in the contest. The photo, shot in February 2003 at Saint Barnabas Medical Center in Livingston, New Jersey, was one in a series that ran in the Herald News in West Paterson, New Jersey, depicting a typical day on a burn unit. Kyle was a staff photographer at the newspaper from 1996 to 2003 and now freelances and lives in Pittsburgh, Pennsylvania.

The image, which depicts nurse Toni Tedesco in the Saint Barnabas burn unit, caught Kyle’s eye because of the many layers of IVs that filled the room. “Toni was in the room of a gravely ill person burned over 80% or 90% of his body,” she says. “I pointed my camera toward the IVs and waited for Toni to move into an open space so I could see her face.”

Visit www.lisakylephotography.com for more on the artist and her work.

“Caring requires in-depth knowledge of technology—how to use it, its role in healing, and how to assess patients’ responses to it,” says AJN editor-in-chief Diana Mason. “The nurse has the expert skills to bring the technology and the patient together, making sure that the human side of health care is not lost.”

The photographs in the contest and exhibit, presented by AJN and cosponsored by the NYU Division of Nursing, with support from the Johnson & Johnson Campaign for Nursing’s Future, were judged on artistic merits and also on how much nurses were central to the photographs’ stories. The panel of judges consisted of professional photographers and AJN editorial and art staff. AJN will run the winning photographs on covers over the next several months.—David Belcher, associate editor
They bring their yesterdays with them, into a place that is strange, a room that is small and likely to be shared with another who seems old, sickly, demented. Another like themselves.

Anna brought her farm and the kitchen into this place. “Why aren’t they in from the barn yet?” she asks. “Why ain’t they done with the milking? I got all this breakfast ready, and nobody’s here to eat it.” She is looking at the breakfast trays set on the tables. “Who’s gonna eat all this food?” Anna moves through her day from one disturbing situation to another, whimpering, complaining just as she surely did in her years as a hard-working farmer’s wife. “Who’s gonna feed the chickens?”

Clara counts. Slowly, with three-to-five second pauses she recites her monologue: “37 . . . 38 . . . 39 . . . 40.” This is how she keeps her world in order. When it’s time to give her medications, the aide says, “We’re counting now, Clara. When we say 44, we open our mouth and swallow the pills. Ready? 41 . . . 42 . . . 43 . . .” and Clara cooperates.

Lloyd has brought his car (it’s parked outside, he says) and asks repeatedly why he can’t drive himself home. They tell him that he left his car at home, and when he somewhat understands that this is true he asks, “Well, then, can somebody please drive me home? I’ll pay you good money to drive me home. I don’t belong in this place. How did I get here anyway?”

Joe has the innocent and prankish eyes, the voice, and the demeanor of Red Skelton. Joe has a repertoire of questions with which he greets every-Man: Where are you going? What are you doing? Where do you come from? And if someone should give an honest answer to the last of those questions, such as, “I come from across town,” or “I come from Cresco,” Joe is ready with his stock response. “No, you don’t. You come from your mother.” He is merciless. He sits at a crucial intersection of traffic and never misses a chance to say something, especially to the female staff members who are young or attractive. “Do you like me?” he may ask. Otherwise, Joe never speaks about himself.

Buford is usually lost. He wanders, walks slowly with a shuffle. “Where am I supposed to be?” he asks, and someone guides him to a place at a table or a recliner where he can relax and wait for the next important move. Everyone loves Buford. He offers to help when a maintenance man comes to repair something. His hands move, as though he’s looking for a tool.

Esther never speaks a word. She feeds herself by dipping spoonfuls of food into her cup of milk or juice or coffee. Because her lower lip has no muscle control, liquid soaks her terrycloth bib at every meal. Her eyes are wise; I imagine her as a teacher or a woman of business.

Marion dies in the night, as I’m composing these sketches. When her family arrives in her room after the coroner and the undertaker have completed their duties, they find her bed carefully made up, a candle, a Bible, and a crucifix on the table. The room has an air of quiet beauty, as did Marion.

Myrtle has an opinion on everything and advice for whoever is near. “ARE YOU GONNA EAT YOUR FOOD? YOU SHOULD EAT IT. I DON’T LIKE THIS SANDWICH, THOUGH. DO YOU WANT HALF MY SANDWICH? WHY DON’T YOU?” Her voice is a brassy baritone; surely she got herself elected to public office. Her family rarely visits.

Gerda came from Germany in her youth, as a war bride with her American soldier. “Du, du liegst mir im Herzen,” someone sang one day, and Gerda joined in. She came alive with that music and briefly told her story, one of love and bereavement for her soldier now long buried.

My wife, Rita, is here, my bride of 50 years. For the past 25, she has been afflicted with Parkinson disease, and I’m no longer able to care for her at home. In her younger days, she was an RN; later, a mother. As I sit with her in the home, I point out what is happening around us. I also tell her of family news, yet her mind seems only aware of this newer, nearer world. My presence seems her only conduit to her former life. I write these vignettes as a way of knowing her world.
Complications of Chronic Kidney Disease

A close look at renal osteodystrophy, nutritional disturbances, and inflammation.

OVERVIEW: As kidney disease advances and the glomerular filtration rate declines, fluid, electrolyte, and hormonal imbalances increase. Almost all of the body’s systems are adversely affected. This article describes three major complications of chronic kidney disease: renal osteodystrophy (including the role of secondary hyperparathyroidism), nutritional disturbances (such as protein-energy malnutrition), and inflammation. It also addresses the possibility that there is a malnutrition–inflammation complex syndrome, as well as the impact of kidney disease and its complications on the quality of patients’ lives and the usefulness of the Kidney Disease Quality of Life assessment tool.

I sat across from Benjamin James, a 52-year-old recently diagnosed with chronic kidney disease, who, with his wife, was learning about the disease. As we talked about its common symptoms, I asked him: “Have you noticed that you tire more easily? For instance, do you need to stop and rest as you walk up a flight of stairs?” “Have you noticed any changes in appetite or that food doesn’t taste as good as it used to taste?” To each question, Mr. James shook his head to indicate no, but his wife nodded affirmatively.

The progression of chronic kidney disease is often slow and subtle—as are the appearance of symptoms and the onset of complications. In the early, “silent” stages, a patient might adjust to its effects; others might dismiss them as effects of aging. In either case, the metabolic and hormonal imbalances the disease causes remain unchecked.

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In diseased kidneys, there is a disruption of the normal feedback loop that controls serum calcium and phosphorus levels. Decreased production of activated vitamin D causes malabsorption of calcium from the intestine, stimulating the parathyroid glands to release parathyroid hormone (PTH). At the same time, the kidney’s inability to excrete phosphorus stimulates the release of PTH. The PTH further stimulates the resorption of calcium and phosphorus from bone, resulting in hypercalcemia and metastatic calcifications.
As kidney disease advances and the glomerular filtration rate (GFR) declines, fluid, electrolyte, and hormonal imbalances increase. Almost all of the body’s systems—circulatory, digestive, musculoskeletal, dermal, endocrine, and central and peripheral nervous—are affected. This article focuses on three major complications: renal osteodystrophy, nutritional disturbances, and inflammation.

**RENNAL OSTEODYSTROPHY**

The term *renal osteodystrophy* describes the complex bone disease process that results from the mineral and hormonal abnormalities seen in chronic kidney disease. Such abnormalities arise early (typically in stage 3, or when the GFR drops below 60 mL/min/1.73 m²) and coincide with the decline in the GFR. It’s estimated that 30% to 50% of patients with chronic kidney disease who are not yet undergoing renal replacement therapy have some degree of renal osteodystrophy.1 The process begins early and causes major long-term complications, such as bone pain, deformities, and fractures. Yet with early intervention, many such complications can be prevented or delayed.

**The role of secondary hyperparathyroidism.** In healthy adults, if serum calcium levels start to decline, the parathyroid glands react by releasing parathyroid hormone (PTH). This hormone stimulates the kidneys’ production of activated vitamin D (calcitriol), which enhances absorption of calcium in the small intestine, increases calcium resorption from and phosphorus excretion in the urine, and stimulates the release of calcium from bone. The result is a return to normal serum calcium, phosphorus, and PTH levels.

In chronic kidney disease, however, the kidneys become increasingly unable to produce activated vitamin D and to excrete phosphorus. Phosphorus levels rise and serum calcium levels fall; both events stimulate PTH production. For a time, the parathyroid glands can maintain calcium levels by drawing calcium and phosphorus from bone. But there is a trade-off: as kidney disease worsens, the compensatory mechanism goes awry and secondary hyperparathyroidism begins.

In secondary hyperparathyroidism, the parathyroid glands continue to produce PTH, and although they become hypertrophic, the number and sensitivity of their vitamin D receptors decreases, causing the glands to become even less responsive to vitamin D and calcium.2 Chronic kidney disease also causes skeletal resistance: the diminished response of bone to PTH, so that more and more PTH is required to maintain a normal rate of bone turnover, which is the body’s ability to replace old bone with healthy new bone.2 The consequences include abnormally high levels of PTH, hypocalcemia (or hypercalcemia, in the presence of chronic hyperparathyroidism), hyperphosphatemia, and renal osteodystrophy.

**The rate of bone turnover.** Renal osteodystrophy usually presents as either high-turnover bone disease (osteitis fibrosa cystica) or low-turnover bone disease (osteomalacia and adynamic bone disease). Patients with secondary hyperparathyroidism can have high-turnover or low-turnover bone disease or a mixed type.

*High-turnover bone disease* accelerates bone remodeling. The rates of bone resorption and formation increase, but the new bone is immature and weak, with fibrous marrow.

In a recent literature review, Reilly examined the prevalence of renal osteodystrophy in patients with chronic kidney disease and found that high-turnover bone disease was evident in 39% to 56% of patients, low-turnover bone disease in 27% to 47%, and mixed uremic osteodystrophy in 11% to 63%. High-turnover and mixed forms of bone disease were seen predominantly in the early stages of kidney disease, whereas adynamic bone disease was more prevalent in the later stages.

*Low-turnover bone disease* is more common in stages 4 and 5 of chronic kidney disease, especially in patients on dialysis. An oversuppression of PTH occurs, caused by a variety of factors including high calcium intake (through diet, calcium-based phosphate binders, and dialysate), high vitamin D dosage, the presence of diabetes mellitus, and older age.3 Suppressed PTH levels in conjunction with skeletal resistance results in slower bone turnover. The new bone has fewer cells and poorer osteoid formation. Hypercalcemia can also occur, which can cause vascular and soft tissue calcifications throughout the body—in the cornea and conjunctiva, muscles, lungs, digestive tract, and skin and subcutaneous tissue (see “Calciphylaxis,” *Wound Wise*, July 2004). A recent study conducted by Ganesh and colleagues suggests that the increased risk of illness and death seen with secondary hyperparathyroidism might be attributable to cardiovascular calcifications.4

Both forms of renal osteodystrophy weaken the bones and increase the risk of fractures. According to the National Kidney Foundation (NKF), dialysis quadruples the risk of hip fracture.5 And Coco and Rush found that the one-year mortality rate after hip fracture was “nearly two and a half times greater in the dialysis patients compared with the general population.”6

Early diagnosis of kidney disease and the prevention of secondary hyperparathyroidism are essential to preventing renal osteodystrophy and related complications. Although bone biopsy permits definitive diagnosis of secondary hyperparathyroidism, it is rarely used because it’s extremely painful and costly. Instead, the serum calcium,
phosphorus, and PTH levels are used in diagnosis. These should be measured in all patients whose GFR is 60 mL/min/1.73 m² or less (stage 3 of chronic kidney disease) and should be reassessed thereafter on a schedule determined by the stage of chronic kidney disease and the presence of abnormalities in mineral or hormonal metabolism.7 (See Table 1, above.) Magnetic resonance imaging and bone mineral density tests (such as dual-energy X-ray absorptiometry [DEXA]) may be useful in evaluating renal osteodystrophy, but these have been used for this purpose only in research.9, 10

Interventions available to maintain normal calcium and phosphorus levels and a normal rate of bone turnover, as well as to prevent extraskeletal calcifications, include dietary modifications and medications—phosphate binders, supplementary vitamin D, and calcimimetic agents. For severe secondary hyperparathyroidism (intact PTH level higher than 800 pg/mL) and hypercalcemia or hyperphosphatemia (or both) resistant to drug management, partial or total parathyroidectomy may be indicated.11 It is hoped that the development of new calcimimetic agents will reduce the need for surgery.

**Limiting dietary phosphorus.** Patients in the early stages of chronic kidney disease may have difficulty limiting phosphorus intake while still getting adequate nutrition. Patients with advanced kidney disease often experience a decreased appetite, taste changes, and other gastrointestinal symptoms that make dietary modifications even more challenging. The NKF guidelines recommend a dietary phosphorus intake of 800 to 1,000 mg/day for patients in stages 3 and 4 disease who have serum phosphorus levels higher than 4.6 mg/dL.7 A good starting point is reduction in or elimination of dairy products.

**Orally administered phosphate binders** are the second step. Aluminum-based phosphate binders are no longer used because of the risk of aluminum toxicity that can result in anemia, osteomalacia, and encephalopathy. Alternatives include calcium- and non-calcium-based phosphate binders. Most patients without hypercalcemia receive a calcium-based binder such as calcium carbonate (Tums and others), which is inexpensive and readily available. Taken with food, calcium carbonate binds with phosphates in the gut, decreasing phosphate absorption. Patients with hypercalcemia may be given calcium acetate (PhosLo), which has a lower calcium content than other calcium-based binders, or a non–calcium-based binder such as sevelamer (Renagel). A new non–calcium-based phosphate binder, lanthanum carbonate (Fosrenol), was recently approved by the U.S. Food and Drug Administration; it has shown great promise in reducing phosphorus and PTH levels.12 Long-term safety data are not yet available. Gastrointestinal disturbances are the most common adverse effect of phosphate binders.

**Supplemental vitamin D,** which can be administered orally or intravenously, increases intestinal absorption of calcium. Because vitamin D also increases phosphate absorption somewhat, dosage levels of phosphate binders may need to be adjusted. Hypercalcemia, the most serious condition that can result from treatment for hyperphosphatemia, can range from slight to life-threateningly high increases in serum calcium levels. Reducing the dosages of vitamin D and calcium-based phosphate binders and restricting dietary calcium to less than 1,500 mg per day may help prevent hypercalcemia. Alternatives include switching to a non–calcium-based phosphate binder, adding a calcimimetic agent, or both.

**Calcimimetic agents** are the newest drug class in the arsenal of treatment options for secondary hyperparathyroidism. Cinacalcet (Sensipar) controls hyperparathyroidism independent of other treatments by enhancing calcium receptors in the parathyroid glands and suppressing PTH secretion. Cinacalcet is indicated only in patients on dialysis; its role in earlier stages of chronic kidney disease needs further study. Although the drug appears to be

### TABLE 1. Calcium, Phosphorus, and Parathyroid Hormone Levels: Monitoring Intervals and Target Ranges

<table>
<thead>
<tr>
<th>Stage of chronic kidney disease</th>
<th>Check PTH levels at least</th>
<th>PTH target range</th>
<th>Check Ca⁺ and PO₄ levels at least</th>
<th>Ca⁺ target range</th>
<th>PO₄ target range</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>every 12 months</td>
<td>35–70 pg/mL</td>
<td>every 12 months</td>
<td>8.4–9.5 mg/dl</td>
<td>2.7–4.6 mg/dl</td>
</tr>
<tr>
<td>4</td>
<td>every 3 months</td>
<td>70–110 pg/mL</td>
<td>every 3 months</td>
<td>8.4–9.5 mg/dl</td>
<td>2.7–4.6 mg/dl</td>
</tr>
<tr>
<td>5</td>
<td>every 3 months</td>
<td>150–300 pg/mL</td>
<td>every month</td>
<td>8.4–9.5 mg/dl</td>
<td>3.5–5.5 mg/dL</td>
</tr>
</tbody>
</table>

Key: PTH = parathyroid hormone; Ca = serum calcium; PO₄ = serum phosphorus.

* Serum calcium measurement must always be corrected for albumin.

generally tolerated well, adverse effects can include diarrhea, loss of appetite, and nausea and vomiting.

**Nursing implications.** Adherence to the medication regimen is a central challenge in the treatment of secondary hyperparathyroidism. Tomasello and colleagues investigated compliance with a regimen of phosphate binders among 188 patients at a dialysis facility. The average pill burden was 8.3 phosphate binders per day; 37.8% of patients reported taking less than 80% of their phosphate binders. Only 11% of the patients met the NKF’s recommended target ranges for serum calcium, phosphate, calcium supplementation, and PTH levels.

Education alone appears to be “largely unsuccessful” in increasing rates of adherence to complicated regimens, according to literature reviews. A combination of strategies, including reinforcement, counseling, and education, have shown some success in improving adherence.

Ask patients the following questions about their medications:

- Are you having any problems paying for your medications?
- Can you get to the pharmacy to pick them up?
- Do you have an up-to-date medication list that you can refer to?
- Do you know what each of your medications is and why you’re taking it?
- Are you experiencing any adverse effects from your medications?
- How do you remember to take all of your pills? For example, do you use a medication box, and if so, do you need help in setting it up? If you don’t use a medication box, would you like help in learning how?

In addition to helping patients to comply with and understand the need for dietary changes and medication regimens, nurses should encourage exercise, especially a weight-bearing activity such as walking. Patients with balance or other functional difficulties should be referred for physical therapy. Nurses should habitually assess patients’ symptoms, especially pain, which can be an early indicator of bone microfractures.

**NUTRITIONAL CHALLENGES**

Nutritional disturbances often begin early in chronic kidney disease, and by stage 5, as many as 40% of patients on dialysis have protein-energy malnutrition. Numerous factors may be at play. As the GFR declines, anorexia and taste changes may arise. Depression, common in people with chronic kidney disease, is a known factor. Prescribed dietary limitations aimed at reducing protein, phosphorus, potassium, and sodium intakes may lead to an overall reduction in eating. Iron supplements, phosphate binders, and β-blockers can cause constipation; diabetes can contribute to gastroparesis, nausea, and vomiting. Low socioeconomic status and advanced age may limit some patients’ abilities to purchase and prepare food. In addition, several factors associated with uremia, such as metabolic acidosis and inflammation, increase the risk of malnutrition. And protein loss can accelerate once dialysis begins. It may also increase the risk of death: one prospective study of 822 patients beginning dialysis found that the mortality rate was inversely correlated with serum albumin concentration.

Early referral to a renal dietitian can be extremely helpful, and Medicare and most insurers usually cover this cost. However, nurses are in the best position to monitor nutritional status. Although no single indicator permits definitive diagnosis of protein-energy malnutrition, several indicators considered together can yield an accurate picture of a patient’s nutritional status.

**Serum albumin** is often used as a biomarker of nutritional status. But because proteinuria, inflammation, and infection can also affect albumin levels, it is best considered along with other indicators. A serum albumin level below 4 g/dL, near the lower limit of the normal range, may be an early warning sign of protein-energy malnutrition.

**Body composition.** Anthropometry, bioelectrical impedance analysis, DEXA, and the subjective global assessment (SGA) are all tools that can help assess body composition. Of these, anthropometric measurements and the SGA are the most readily available. Anthropometry requires the use of skin calipers and some minimal training to measure skinfold thickness. Decreases in skin thickness reflect fat depletion, a marker of malnutrition. The NKF offers an excellent reference appendix with instructions and normal values for various anthropometric measurements at [www.kidney.org/professionals/kdoqi/guidelines_updates/nut_appx07a.html](http://www.kidney.org/professionals/kdoqi/guidelines_updates/nut_appx07a.html). To minimize interoperator error, serial measurements taken by the same operator are recommended. Other anthropometric measurements include mid-arm circumference and body mass index (BMI). In cases of advanced chronic kidney disease, it’s important to calculate the edema-free weight (also called dry weight or the postdialysis weight) because predialysis fluid retention can cause weight variations, regardless of nutritional status.

The SGAs, originally developed for use with surgical patients, has been adapted for use in patients undergoing dialysis. The adapted version is still being tested and revised; according to Kalantar-Zadeh and colleagues, several studies indicate that it’s a reliable indicator of nutritional status in this population. Serial assessments made by the same clinician improve reliability. The medical history documents changes in weight and diet, gastrointestinal symptoms, and changes in functional sta-
The physical examination includes looking for evidence of loss of subcutaneous fat, muscle wasting, edema, and ascites in patients on hemodialysis. Based on the results, patients are classified as either well nourished, mildly malnourished or suspected to be malnourished, or severely malnourished. Blank assessment forms are available for free at www.nephrology.rei.edu/sghome.htm; detailed instructions for the physical examination are available for free at www.eneph.com/feature_archive/ nutrition/subjectiveim.html#subjectivefii.

Dietary intake interviews and diaries can be useful in assessing changes in appetite and intake, especially when used over time.

Dietary interventions and ongoing nutritional counseling are critical, but menu planning for someone limiting protein, phosphorus, potassium, and sodium can be tricky. All of our patients consult a dietitian, but it’s not always enough. Nurses can help patients to interpret the information they receive. As one of my patients recently explained, “My heart doctor said I need to cut out foods that are high in cholesterol and saturated fats, my kidney doctor said I should limit protein, and the dietitian told me about all the foods I should avoid to keep my potassium and phosphorus levels under control. And on top of that I’m diabetic. There’s nothing left to eat!”

My standard reply is, “You can eat anything. It’s just a matter of how often and how much.” There is a wealth of nutrition information available, but making sense of it can be daunting. When educating patients I tell them to “keep it simple.”

I start by handing each patient a copy of the Nutrition Counter from the American Association of Kidney Patients (free at www.aakp.org/AAKP/nakphos.htm). The National Heart, Lung, and Blood Institute offers a pocket-size card showing portion sizes; a free download of it is available at http://hin.nhlbi.nih.gov/portion/servingcard7.pdf.

There are two goals: to prevent complications and to keep patients as well-nourished as possible. The following are a few simple guidelines (based in part on the NKF’s Kidney Disease Outcomes Quality Initiative [K/DOQI] clinical practice guidelines) that I use.

Protein restriction has been shown to help slow the progression of kidney disease in some patients and may decrease the symptoms of uremia. To determine the range of a patient’s daily protein intake in grams, multiply the patient’s weight in kilograms (weight in pounds divided by 2.2) by 0.6 and 0.8. I tell my patients, “Don’t worry about every little bite of bread and cake, which don’t contain much protein. Just track the foods that are high in protein, such as meat, beans, and eggs.”

Phosphorus has an inverse relationship to calcium: when phosphorus level rises, calcium level drops, unless the patient has secondary hyperparathyroidism. People with chronic kidney disease should limit phosphorus intake to 800 to 1,000 mg/day. All foods contain some phosphorus. I recommend that my patients start by avoiding dairy products, which are high in phosphorus—no more than 4 oz. of milk per day and only nondairy creamer. Avoiding processed meats (such as sausage and bologna) will help reduce phosphorus and sodium intake. If the patient has been prescribed phosphate binders, they should be taken with every meal and every snack.

Calcium intake (from the diet and calcium-based phosphate binders) should be adequate for bone metabolism and is determined on the basis of age and sex. The National Institutes of Health recommends the following amounts: for people ages 11 through 24, 1,200 to 1,500 mg/day; for premenopausal women, postmenopausal women taking hormone therapy, and men ages 25 through 65, 1,000 mg/day; and for postmenopausal women who are not taking hormone therapy and anyone older than 65, 1,500 mg/day. Total intake for people with chronic kidney disease should always be less than 2,000 mg of elemental calcium per day.

Potassium levels are revealed directly through laboratory results, which simplifies monitoring. I encourage patients to track their results. At our facility, a serum potassium level between 3.5 and 5 mEq/L suggests an appropriate dietary intake of potassium. If it is higher than 5 mEq/L, the patient should identify which of his preferred foods have high potassium contents and reduce portion size or intake frequency. A potassium level of 6 mEq/L or higher warrants a phone call to the patient to review diet and medications and to counsel him on which foods (and perhaps medications) he should cut back on; laboratory tests are repeated the next day. If the potassium level is 6.3 mEq/L or above, sodium polystyrene sulfonate (Kayexalate) is prescribed.

Sodium. Patients with chronic kidney disease have a diminished ability to excrete excess sodium; this can result in extracellular fluid volume overload,
which in turn increases the risk of complications such as pulmonary edema or congestive heart failure. I recommend that patients keep sodium intake to less than 2,000 mg per day. I explain that food labels will reveal sodium content and that herbs, rather than salt, should be used to season. Checking the labels of salt substitutes is also recommended; those that contain potassium should be avoided.

**Carbohydrates.** Most of the patient’s calories should come from complex carbohydrates, especially when limiting protein. Multigrain breads and pastas should be eaten; brown rice is preferable to white rice. Fruits and vegetables are important sources of carbohydrates; patients should choose those lower in potassium (under 150 mg per serving), such as apples, berries, carrots, and peas.

**Fats.** Because patients with chronic kidney disease are at higher risk for cardiovascular disease, they should avoid using saturated fats—fats that are solid at room temperature—such as palm kernel oil, butter, and lard. (See “Cardiovascular Disease in Chronic Kidney Disease,” April.) Monounsaturated or polyunsaturated fats, such as olive and canola oils, are recommended. Avocados and most nut varieties should be eaten in moderation, not because of their high fat content (with the exception of Brazil nuts, these foods are low in saturated fats), but because avocados have a high potassium content and most nuts have a high phosphorus content.

If the patient has an underlying or concurrent condition that diminishes appetite or takes a medication that tends to suppress appetite (or both), this should be addressed. Patients with anorexia should be encouraged to eat small, frequent meals consisting of high-energy foods. Cooking foods early to eat later, as well as eating cold rather than warm foods, often helps when changes in smell and taste suppress appetite.

Nutritional supplements designed for people with chronic kidney disease may help. Pupim and colleagues studied the use of intradialytic parenteral nutrition in a small population of patients on long-term hemodialysis and found that it improved protein and energy metabolism in those who were stable. Caglar and colleagues studied 85 patients on hemodialysis in whom there was evidence of malnutrition and found that it improved protein and energy metabolism in those who were stable. Caglar and colleagues studied 85 patients on hemodialysis in whom there was evidence of malnutrition. For three months the patients received only routine dietary counseling; for the next six months they also received, during each dialysis session, an oral nutritional supplement for people with kidney disease. The intervention resulted in statistically significant increases in serum prealbumin and serum albumin levels and in mean SGA scores (transferrin levels remained unchanged; BMI and estimated dry weight scores improved but not significantly).

The medications megestrol (Megace) and levocarnitine (also known as L-carnitine; Carnitor) are sometimes used to improve nutritional status in patients on dialysis, but they have not been studied in people with chronic kidney disease. Patients who continue to be malnourished despite rigorous dietary interventions may need earlier renal replacement therapy.

**INFLAMMATION**

Inflammation normally occurs as a localized, protective response to tissue injury. This acute-phase reaction is accompanied by the release of proinflammatory cytokines that help the body reset its homeostatic mechanisms in order to better defend against or adapt to the injury. Renal insufficiency, however, causes a prolonged acute-phase inflammatory reaction that is less organ specific and often much more subtle in its manifestation. According to a recent literature review by Kalantar-Zadeh and colleagues, adverse effects of chronic inflammation include “decline in appetite, increased rate of protein depletion in skeletal muscle and other tissues, muscle and fat wasting, hypercatabolism, endothelial damage, and atherosclerosis.”

People with chronic kidney disease have an increased risk of cardiovascular disease, and the risk rises with a declining GFR. In a recent study, Go and colleagues noted that inflammation played a role in “the increased prevalence of cardiovascular disease and death associated with renal insufficiency,” but the exact mechanism is not yet fully understood. Knight and colleagues looked at data from 244 women in the Nurses’ Health Study who had no history of cardiovascular disease and had a nonfatal cardiovascular event during the follow-up period (1990 to 1998) and compared them with those from 486 controls. Women with reduced kidney function (as indicated by creatinine clearance of 74 mL/min or less) had higher levels of inflammatory biomarkers (including C-reactive protein). Kidney dysfunction was found to be independently associated with coronary events.

Interestingly, however, higher inflammatory biomarker levels “were significantly associated with coronary events only in women with reduced kidney function.” A standard for measuring the degree of inflammation in a patient is still being sought. C-reactive protein is the most commonly used inflam-
Anorexia may be an early inflammatory episode, but because they also decline as a result of malnutrition, those biomarkers lack specificity for detecting either condition. Infection, anemia, uremia, secondary hyperparathyroidism, and malnutrition have each been identified as components in the complex etiology of inflammation in chronic kidney disease. In particular, malnutrition and inflammation have many of the same comorbidities, including atherosclerosis, anorexia, and uremia leading to hypercatabolism. They also have comparable consequences: diminished quality of life, increased risk of cardiovascular disease, increased risk of hospitalization, and increased morbidity and mortality rates. The terms malnutrition, inflammation, and atherosclerosis syndrome and malnutrition–inflammation complex syndrome have been used to describe these relationships. Himmelfarb and colleagues propose that the linking factor in malnutrition, inflammation, and atherosclerosis syndrome is oxidative stress. Uremia causes increased oxidation of protein, lipids, and carbohydrates. When the production of oxidants outstrips the body’s supply of antioxidants, oxidative stress occurs. This results in vascular inflammation with endothelial injury, decreased nitric oxide effect, and platelet activation—all of which accelerate atherosclerosis.

Chronic inflammation can lead to hypoalbuminemia and loss of appetite. We know that hypoalbuminemia is an independent risk factor for death. However, albumin is also an important antioxidant, and patients with malnutrition and low serum albumin levels have a decreased antioxidative capacity. Therefore, an increased risk of cardiovascular disease may be a result of the synergistic effect of inflammation increasing oxidation and malnutrition decreasing antioxidants. Low serum albumin levels may also indicate the loss of other important antioxidants, all leading to increased oxidative stress and increased cardiovascular risk.

There are no prospective, randomized trials showing improved outcomes using specific anti-inflammatory treatments. But there are indications that some current therapies may have antiinflammatory effects. Statins have been found to decrease C-reactive protein and increase albumin, as well as lower cholesterol in patients on hemodialysis. Angiotensin-converting enzyme inhibitors and erythropoietin may also have antiinflammatory effects.

Studies examining the role of antioxidants in treating inflammation in chronic kidney disease have yielded contradictory results. In one small study, Ghiaadoni and colleagues examined the effect of oral vitamin C on three groups: patients with chronic kidney disease (stages 3 to 5) who were not on dialysis, patients who were on hemodialysis, and healthy controls. Vitamin C reduced the oxidative stress markers in both patient groups. Boaz and colleagues examined the role of vitamin E in decreasing cardiovascular events in patients on hemodialysis. They found that giving 850 international units of vitamin E reduced the incidence of myocardial infarction, ischemic stroke, peripheral vascular disease, and unstable angina but had no impact on death from cardiovascular causes or total death rates.

Nursing implications. Anorexia may be an early indicator of malnutrition, inflammation, and atherosclerosis syndrome. Early recognition and intervention are essential. Questions nurses can ask include: “Are you having gastrointestinal symptoms?” “Are you having any increase in confusion?” “Is your appetite decreased?” “Tell me about your recent meals.” “Are you having any problems getting to the bathroom?”

In reviewing the relevant literature, a group from the National Kidney Foundation’s Kidney Disease Outcomes Quality Initiative noted that as the glomerular filtration rate declined below 60 mL/min/1.73 m², physical and psychosocial functioning scores declined also, while the incidence of depression rose. Another recent study of hemodialysis patients found that low scores in the health-related portion of the KDQOL were associated with higher risks of hospitalization and death, regardless of age, race, or comorbidities.

Nursing implications. I find that early and frequent education helps my patients to better understand and participate in their care. I encourage patients to track indicators such as weight, blood pressure, and laboratory test results so that they see the results of their actions, such as lowering potassium intake and following medication regimens diligently. I also set aside time during each visit for the patient to ask questions and to talk about his progress (or lack thereof).

Include the patient’s family members in these conversations. They can provide insight into the patient’s physical and emotional well-being, and you can offer them information on the disease and its effects. As one patient told me, “It helps that now my husband understands that I’m not lazy. I’m just plain tired.”
you losing weight without trying?” and “What did you eat today?” A few minutes of conversation, and a visual check for symptoms such as apparent weight loss, muscle loss, or decreased function, can be revealing. Early interventions for anorexia include antinausea medication, dietary counseling (by the nurse, a dietician, or both), and referral for physical therapy.

Exercise is important. At least one study has shown that resistance training (a form of muscle conditioning that involves the use of weights or rubber tubes) can increase muscle mass and decrease inflammation. Castaneda and colleagues studied 26 patients with chronic kidney disease who were not on dialysis for 12 weeks. The patients were randomly assigned either to follow a low-protein diet or undergo resistance training while following the same diet. Resistance training was shown to reduce levels of two inflammatory biomarkers (C-reactive protein and interleukin-6) as well as to increase levels of two inflammatory biomarkers (C-reactive protein and interleukin-6) as well as to increase

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Complications of Chronic Kidney Disease

1. Renal osteodystrophy
   a. typically arises in stage 1 or 2 of chronic kidney disease.
   b. results in part as the parathyroid glands become less responsive to vitamin D and calcium.
   c. causes essentially painless deformities of skeletal structures.
   d. affects 60% of patients with chronic kidney disease who are not yet on renal replacement therapy.

2. Renal osteodystrophy that presents as high-turnover bone disease is also known as
   a. osteomalacia.
   b. adynamic bone disease.
   c. osteogenesis imperfecta.
   d. osteitis fibrosa cystica.

3. Low-turnover bone disease is more common in patients
   a. on dialysis.
   b. in the early stages of chronic kidney disease.
   c. who have hypocalcemia.
   d. who have secondary hyperparathyroidism.

4. Patients in stages 3 and 4 of chronic kidney disease who have serum phosphorus levels greater than 4.6 mg/dL should begin reducing or eliminating their intake of
   a. citrus fruits and juices.
   b. coffee and tea.
   c. green vegetables.
   d. dairy products.

5. Which drug helps control hyperparathyroidism in patients on dialysis by enhancing calcium receptors in the parathyroid glands and suppressing parathyroid hormone secretion?
   a. lanthanum carbonate (Fosrenol)
   b. sevelamer (Renagel)
   c. cinacalcet (Sensipar)
   d. calcium acetate (PhosLo)

6. According to this article, a major challenge to nurses working with patients who have renal osteodystrophy resulting from secondary hyperparathyroidism is
   a. making sure they understand the need for total parathyroidectomy.
   b. helping them to boost their resistance to infection.
   c. making sure they are taking walks daily.
   d. getting them to comply with their medication regimen.

7. One of the most common causes of nutritional disturbances in patients who have chronic kidney disease is
   a. depression.
   b. diarrhea.
   c. alcoholism.
   d. dysphagia.

8. When assessing body composition in patients who have chronic kidney disease, it’s important to use which measurement in calculating body mass index?
   a. predialysis weight
   b. average daily weight
   c. end-of-day weight
   d. edema-free weight

9. Sodium polystyrene sulfonate (Kayexalate) is prescribed for patients whose
   a. potassium levels are high.
   b. phosphorus levels are high.
   c. potassium levels are low.
   d. phosphorus levels are low.

10. Patients with chronic kidney disease should receive most of their calories from
    a. simple proteins.
    b. saturated fats.
    c. complex carbohydrates.
    d. polyunsaturated fats.

11. A patient with chronic kidney disease who weighs 154 lbs. should consume about how many grams of protein per day?
    a. 16 to 24
    b. 42 to 56
    c. 64 to 72
    d. 92 to 123

12. A good recommendation for patients with chronic kidney disease who have poor appetites because of diminished senses of taste and smell is to eat
    a. cold rather than warm foods.
    b. blended rather than solid foods.
    c. large rather than small meals.
    d. less often rather than frequently.

13. The most commonly used inflammatory biomarker is
    a. serum ferritin.
    b. serum albumin.
    c. C-reactive protein.
    d. transferrin.

14. According to Himmelfarb and colleagues, the common factor that links malnutrition and inflammation with atherosclerosis in patients who have chronic kidney disease is
    a. hypoalbuminemia.
    b. oxidative stress.
    c. uremia.
    d. hyperparathyroidism.

15. An early intervention recommended for patients with chronic kidney disease who develop anorexia is
    a. antioxidant medication.
    b. antacid medication.
    c. physical therapy.
    d. total parenteral nutrition.

16. According to several studies, the type of exercise recommended for increasing muscle mass and decreasing inflammation in patients who have chronic kidney disease is
    a. weight training.
    b. racquet sports.
    c. swimming.
    d. walking. ▼
Heart Blood


Lise Poirier is a self-employed artist living in Red Hook, New York. Born and raised in the Canadian province of Quebec, where she initially trained as a nurse, Poirier emigrated to the United States in 1970. She received a master’s degree in printmaking from New York University in New York City. Her work has been exhibited internationally and is held in private and corporate collections. Her scientific illustrations have been used by the American Museum of Natural History and the Ellis Island Museum of Immigration in New York City.

About Heart Blood, Poirier says, “I started this piece in 1988, around the time I was diagnosed with cancer, and worked on it intermittently over the next few years while undergoing treatments. The found arrow symbolizes fate, which can seem inescapably random. The hand holding the heart represents the support one is given, which can be mysterious—whether medical, psychological, familial, or spiritual, sometimes it is there, sometimes it is not. The heart speaks to our vulnerabilities when ill.”

Art of Nursing is coordinated by Sylvia Foley, senior editor: sfoley@lww.com.
Clinical experiences that educate nursing students while they’re serving communities have become more widespread in nursing curricula. This article describes one such initiative: a hearing and vision screening program for preschool children created and implemented by faculty and Graduate Entry Prespecialty in Nursing students at Yale University School of Nursing.

Substantial evidence indicates low rates of preschool hearing and vision screening, even among children connected to primary care services. An opportunity to address this issue came about in 1997, when the Connecticut legislature passed the School Readiness initiative, which required evidence of preschool hearing and vision screening for all participating children. To address the gap between service delivery and program requirements, faculty at the Yale University School of Nursing developed a comprehensive hearing and vision screening program for children enrolled in preschool programs. Nonprofit and publicly funded child care programs participated, and the New Haven Board of Education School Readiness program funded the instruments, materials, and salaries for faculty preceptors. Children received essential services, primary care providers were informed of results, and our faculty and students were seen as active, caring, and capable professionals within the community.

THE NEED FOR EARLY SCREENING
The importance of early detection of visual and hearing impairments is well established.

Vision. During the first six months of life, the visual pathways develop rapidly. However, the myelination of the central visual pathway continues until a child is four years of age, and the development of the visual cortex is not complete until the child is 10. During this time, undiagnosed alterations of the normal course of development put the child at risk for long-term visual loss. According to Mills, “normal visual development requires that a focused image form in each eye that can be fused (superimposed and integrated) by the brain into a single image.” Interference with this process can cause amblyopia, a reduction in vision that “results from altered visual development within the central pathways.” According to the National Eye Institute, amblyopia is the “most common cause of visual impairment in childhood,” affecting “approximately two to three out of every 100 children.” Unless detected within the first few years of life, irreversible loss of vision occurs.

Hearing. Although universal newborn hearing screening is a community norm, other conditions, such as adverse effects of medications and noise levels, can pose threats to hearing. Otitis media (OM), one of the most common reasons for acute care visits among young children, causes temporary hearing loss, and otitis media with effusion (OME; a frequent sequela of OM) is the most frequent cause of conductive hearing loss in young children. In the first year of life, 85% to 96% of all children have at least one episode of OME, and by three years of age at least one-third of children have experienced multiple bouts. Children with hearing loss resulting from persistent OME have difficulty understanding speech under adverse listening conditions such as noisy environments. They may have problems paying attention, and their school performance and behavior can be affected. Studies have demonstrated that the major variable that affects language development in children with hear-
ing loss is the age at which diagnosis is made. Earlier diagnosis means earlier intervention. Children who received appropriate interventions earlier fare better than those who received them at a later age.

**Guidelines.** Both the American Academy of Pediatrics (AAP) and the Early Periodic Screening and Diagnosis Treatment program, which entitles children covered under Medicaid to AAP-recommended well child care services, advise hearing and vision screening for preschool children. AAP guidelines recommend that objective testing (using a standardized method) of vision should begin at three years of age and objective testing of hearing should begin at four years of age. Prior to 2000 the recommendation for initial objective hearing screening was three years.

Despite the support for these screening guidelines, studies indicate that they are not evident in practice. In 2002 Wall and colleagues reported that in a national random sample of pediatricians, only 37% reported performing visual acuity tests in three-year-old children, and 79% reported doing so in their four-year-old patients. Similarly, Marcinak and Yount surveyed physicians and found that only 51% tested visual acuity in children between two and four years of age. The report cited “inadequate time” as the most common reason that children were not being tested.

While few studies have examined the prevalence of hearing screening in preschool children, according to the executive summary of *Children's Health Under Medicaid: A National Review of Early Periodic Screening, Diagnosis and Treatment*, in 1996 only 13% of children eligible for hearing testing through Medicare were screened.

**A COMPREHENSIVE APPROACH**

Our program included the following components: obtaining parental permission and input on the participating children’s history pertaining to hearing and vision; using screening instruments appropriate for preschool children; performing eye and ear examinations; rescreening if results were questionable; distributing copies of the screening results to the parents, the child care program, and the children’s primary care providers; and when necessary, providing information about accessing health care and insurance.

**Patient History.** Hearing and vision screening programs are often implemented without referring to a patient’s history; when that occurs, an important question is neglected: Is the timing of the screening appropriate? For example, a child being treated for OM isn’t an appropriate candidate for screening because an abnormal result is expected. To maximize the benefit of our screenings, we obtained children’s hearing and vision histories by asking the parents to complete a form, which was given to the children to take home and included questions on the parents’ perceptions of the child’s hearing and vision (for example, “Do you think your child’s vision is normal?”), queries about the child’s history of screenings (“Has your child ever had a hearing test?”), and requests for information on past and ongoing problems (“If your child had a vision problem, has it been fixed?”).

**The tools used in vision screening** included the Lea visual acuity test and the Random Dot E stereopsis test. The Lea test is performed with a chart composed of the following symbols: a box, a ball, an apple, and a house. Children can respond by pointing to or naming the symbols. The reliability of this tool is 0.94 and the validity is 0.82 to 0.86. The Random Dot E stereopsis card measures depth perception. Hammond and Schmidt reported that this instrument is an effective screening technique. The eye examination included a check of extraocular movements and red reflex, corneal light reflex, and the cover–uncover test.

**The tool for hearing screening** was the Pilot Audiometer. The child is instructed to point to one of 12 pictures on a chart. These pictures represent spondaic words, or words composed of two equally

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**Seventy-five percent of the children had never received a vision screening through their primary care provider, and 73.5% had never been screened for hearing loss.**
stressed syllables—for example, bathtub, airplane, or wristwatch. The instrument is set initially at a level of 50 dB and decreases in 5-dB increments to 15 dB, the lowest level at which a child with normal hearing can hear. Each ear is tested twice, and a different word sequence is used for each ear. Combs and colleagues found that 97% of 170 children between three and six years were able to be tested using the Pilot Audiometer, and it took five minutes to test both ears twice. Ears were examined before screening to insure there was no cerumen occluding the canal or evidence of OM or OME.

PREPARATION

The director of the School Readiness program sent letters to 30 preschool programs describing the project and inviting them to participate. To conduct a screening, the preschool was required to provide a room large enough to accommodate two testing stations, four nursing students, the preceptor (a pediatric nurse practitioner) and a child care teacher. Six programs signed up. Once a date was set for the initial screening, the programs were sent the pictures used in the Lea and Pilot Audiometer instruments. Using those images, teachers practiced picture recognition with the children before the screenings. Parents were reminded of the screenings, encouraged to bring children’s glasses, and asked to notify the child’s teacher if their son or daughter had an ear infection or any other condition that might affect the screening.

Before conducting screenings at the programs, faculty lead the nursing students in a 90-minute hearing and vision screening training session, during which students were taught how to perform the eye and ear examinations, how to use the Lea and Random Dot E screening tools and the Pilot Audiometer, the criteria for passing each test, and indications for rescreening and referral to a primary care practitioner. They were also taught how to complete the necessary documentation. During the skills lab, the nursing students practiced on volunteers, from preschoolers to adolescents. Accompanied by a parent, these children provided feedback on each student’s technique. A sheet was developed to remind the nursing students of specific details.

IMPLEMENTATION

The screenings began in the spring of 2000. Forty-six students and two pediatric nurse practitioner clinical faculty members took part. Screenings were scheduled over 14 weeks; 10 weeks were designated for initial screenings and four weeks for rescreening. Once a week, four students and one of the clinical
faculty members visited a child care program between 8 AM and noon. Hearing and vision screening took place simultaneously, conducted by the two students assigned to each testing station. After two hours, the students switched stations, so they could gain experience in both testing situations. The students and faculty reviewed each child’s history. At the completion of each screening, the students (under faculty supervision) completed the results forms and recommended one of the following options: screen in one year, rescreen, or refer to the primary care provider for further evaluation.

RESULTS
Of the 283 children between the ages of three and five years in the six preschool programs, 64% (n = 181) participated in our screenings, according to data presented by one of the authors (Bains) in her unpublished master’s thesis. (Hearing screenings were conducted on three-year-old children because this program predated the revised AAP recommendation.) According to parents’ reports, 75% of the children had never received a vision screening through their primary care provider, and 73.5% had never been screened for hearing loss. Furthermore, approximately three-quarters of the children who lacked screening histories were four years old or older.

Twenty-eight (15.5%) of the children we tested had abnormal vision screening results. Of the 20 children who were rescreened (eight were not available), nine (4.9%) had abnormal results. Similarly, 38 children (21%) had abnormal results on their hearing tests. Three were immediately referred to their primary care provider because of extensive hearing loss. Thirty-five (19.3%) were rescreened, and 17 of these (9.4%) were ultimately referred to their primary care provider. The reduction in abnormal results as a result of rescreening was an important aspect of this initiative; by rescreening we were able to assuage parents’ concerns and to lower the rate of referral to primary care providers (reducing the number of unnecessary visits, thereby saving money). All screening and rescreening data were sent to the children’s primary care providers to ensure continuity of care and health records.

A MULTIFACETED SUCCESS
“Know thy community” was a challenge that Annie Goodrich, first dean of Yale University School of Nursing, called upon her students to meet. This project provided “real life” community experiences in which our students—with the guidance of faculty—were able to enter the community, solve, and develop practical technical skills. This experience also demonstrated to our students that the power and breadth of nursing are not contained within institutional walls but are found in a variety of settings. This project represented an opportunity for students to identify unmet health care needs, to plan and implement preventive health care services, and to know their community.

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MEASURING RESPIRATORY RATES IN TRIAGE
A great variability in accuracy is found.

A recently published study reports that the measurement of respiratory rates in triage is often inaccurate. Data pertaining to 159 adult patients who presented consecutively to the ED of an urban teaching hospital between August 4 and December 7, 2002, were recorded. (Patients in critical condition were excluded, and the data pertaining to patients younger than 18 years old were eventually excluded.) Respiratory rates were determined according to both the triage nurse’s assessment and transthoracic impedance plethysmography, performed simultaneously, and the results compared with the “criterion standard” measurements taken by auscultation and observation that are recommended by the World Health Organization (WHO).

To measure respiratory rate electronically, a standard three-lead cardiac monitor was applied to the patient upon entrance to triage. Although the nurses knew that the data were being collected for the study, they were not able to see the monitor or the electronic measurements for comparison with their own assessments. At the end of the triage visit, research assistants immediately performed the two criterion standard respiratory rate measurements, using auscultation and observation, each for one minute. The patients remained in the same position when being assessed by the nurses and the research assistants.

It was determined that neither triage-nurse measurement nor electronic measurement was accurate in detecting measurements of respiratory rate that were abnormal according to the WHO criterion standard.

More than any other vital sign, the respiratory rate is subject to voluntary control. Crying, tremors, anxiety, and the patient’s awareness that he is being observed can cause huge variations, as can overworked or rushed health care workers—all variables that can also alter electronic assessment.

Because the respiratory rate is as important as the other vital signs obtained in triage, the accurate measurement of it warrants further investigation and research.


ASSESSING THE GLASGOW COMA SCALE
A simplified tool may be as accurate.

A recently published study investigated the accuracy of the Glasgow coma scale (GCS), as compared with simpler methods of evaluating for traumatic brain injury. Given the complexity of the GCS, the researchers hoped to determine whether a simpler method could be used in the initial evaluation of traumatic brain injury, an important consideration for emergency providers.

A 2004 report issued by the Centers for Disease Control and Prevention states that, annually, 1.5 million Americans sustain traumatic brain injuries. Since 1974, the GCS, a 15-point clinical scoring system with components for evaluating eye, verbal, and motor response, has been used to assess the extent of such injuries.

The researchers hypothesized that a scoring system simpler than the GCS would yield comparably accurate findings. The study compared the test performance of the total GCS with the test performance of its verbal and motor response components, as well as the test performance of simplified versions of those components, in predicting four clinically relevant outcomes. The four outcomes assessed were ED intubation; neurosurgical intervention (defined as selected procedures performed...
on the brain, including cranial puncture; invasive diagnostic procedures performed on the skull, brain, or meninges; craniectomy or craniotomy; and the placement of an extracranial ventricular shunt; clinically significant brain injuries (including skull fracture, cerebral laceration or contusion, subdural hemorrhage, and other, unspecified intracerebral hemorrhage occurring after injury); and death occurring during the index hospitalization.

From 1990 to 2002, data pertaining to 8,347 patients enrolled in the study were collected at a level I trauma center. The median age of the subjects was 24, and 71.5% of them were male. Patients were excluded from the study if their eye, verbal, or motor GCS data were missing from documentation, but there were no other exclusion criteria. Preverbal and verbal pediatric patients were included in the study, also assessed according to the GCS scoring system, with clinicians using their best judgment to assign verbal scores to the preverbal ones.

The results revealed little difference between the total GCS scores and the simplified methods. When they were compared, the GCS eye score on its own demonstrated a weak predictive value, but the simplified verbal and motor scores showed differences from the total GCS of less than 5%.

The GCS serves as the cornerstone in the assessment of traumatic brain injury, but it may be too complicated to use in emergencies. Additional study of the issue may reveal a more effective and easier method for the measurement of such trauma.


**PREPROCEDURAL FASTING AND ADVERSE EVENTS**

**Duration may not make a difference.**

A recently published study reports that the duration of fasting within the eight hours before procedural sedation and analgesia administration in pediatric ED patients yields no difference in the incidence of adverse events, including pulmonary aspiration.

The study was conducted by the Department of Pediatrics and Section of Emergency Medicine, University of Colorado School of Medicine, in Denver, to determine whether there is an association between preprocedural fasting times and the rate of adverse events in pediatric patients receiving procedural sedation and analgesia in the ED.

Data collected from June 1996 to March 2003 on all patients who received parenteral procedural sedation administered by attending physicians and analgesia in the ED were included in the study. Patients who received sedation for bronchoscopy from pulmonary physicians and those who received oral or intranasal sedation were excluded.

Among the procedures performed were lumbar punctures, fracture reductions, laceration repairs, radiology, dental procedures, burn dressings, eye examinations, wound care, cardiac procedures, gastrointestinal tract procedures, and otolaryngeal procedures. The drugs used for sedation were ketamine (57%), ketamine–midazolam (14%), midazolam–fentanyl (14%), midazolam only (11%), and a variety of other combinations (4%).

A total of 2,085 patients constituted the study group, in which the median age was 6.7 years and 59.9% of subjects were male. Patients were divided into four subgroups according to the fasting periods, zero to two hours, two to four hours, four to six hours, and six to eight hours. Those who had fasted more than eight hours were not included, and the median duration of fasting before sedation was 5.1 hours.

Among all patients included in the study, 309 (14.8%) experienced respiratory adverse events—desaturation, apnea, and laryngospasm—and vomiting. One patient was diagnosed during a procedure with new-onset leukemia and suffered the further complications of pulmonary infiltrates with effusion and pericardial effusion, necessitating thoracostomy tube placement for respiratory insufficiency and impending respiratory failure.

Although adverse events occurred, the results of the study revealed no significant difference in their incidence among the different subgroups. There was no documentation of pulmonary aspiration in any of the study subjects.

There were limitations to the study. Fasting times were not documented in one-fourth of the patients, possibly affecting the results, especially if a large number of them had taken anything orally within the two hours before the procedure was performed. Moreover, the researchers affirm that it would be necessary to conduct a multicenter study in a larger population of patients in order to determine the incidence of pulmonary aspiration under the same conditions.

These findings, however, are similar to those reported in AJN (May 2002), taken from the 1999 American Society of Anesthesiologists guidelines that support revised preoperative fasting guidelines. Those guidelines, which allow for oral nutrition and hydration much closer to general anesthesia and surgery, were found not to have undergone widespread implementation.

By Janet K. Pringle Specht, PhD, RN, FAAN

9

MYTHS OF

INCONTINENCE IN

OLDER ADULTS

Both clinicians and the over-65 set need to know more.

OVERVIEW: Despite progress made in the research into and treatment of urinary incontinence, its incidence is rising among older adults. Many reasons for this disturbing finding have been posed: clinicians’ insufficient knowledge of urinary incontinence, the reluctance of patients to discuss it, and inadequately individualized care. Common misconceptions of bladder health in older adults are explored to address these concerns and help prepare nurses in all settings to provide care that prevents and treats incontinence.

“I’d like to talk with you about how you’re doing with urination.”

Some clinicians may be uncomfortable uttering this sentence to patients, but many older adults suffering silently with urinary incontinence may be relieved to hear it. Many wrongly believe that, like wrinkled skin, incontinence comes with age. Uninformed of treatment options, incontinent older adults make do, possibly restricting social activities and feeling anxious about when the next episode will occur. Indeed, one study found that one-third of independently living incontinent older adults reported that they had never mentioned their incontinence to a physician. They felt that “it was not important enough” and that treatment was appropriate only for younger people.¹
If only they had been asked about it—and informed of the multitude of options.

Over the last two decades, many advances have been made in treating incontinence in older adults, yet the growing consensus is that more is known about the treatment of incontinence than is applied in practice. Certainly, urinary incontinence is a common problem for adults over 65 years old; in fact, the incidence is rising. It affects approximately 45% of all American women; when broken down by age group, the highest incidence (55%) is in 80- to 90-year-old women. An estimated 3.4 million men over the age of 60 are also affected—in fact, Medicare costs for treatment of urinary incontinence in men older than 65 have doubled since 1992. Clearly, it’s a problem that requires significant attention. But how can health care professionals sustain efforts to prevent and treat this problem? How can we best translate research into action?

Understanding the myths surrounding urinary incontinence is the first step. These myths, rooted in the insidious stereotypes and prejudices of ageism, hinder efforts for both patients and providers. Following are some of the most prevalent of these misconceptions.

**MYTH: URINARY INCONTINENCE IS INEVITABLE WITH AGE**

Although urinary incontinence is not an inevitable consequence of aging, older adults are at increased
risk for it. As the body ages, kidneys become less able to concentrate urine and the bladder has less capacity, becomes more irritable, and may not empty completely. These normally occurring changes may lead to increased urinary frequency, urgency, nocturia, and vulnerability to infection; these changes do make it easier for factors like infection to result in urinary incontinence. Other risk factors include chronic constipation, inadequate hydration, smoking, a high number of vaginal births and difficult deliveries, estrogen deficits, cognitive decline, neurologic disease, detrusor muscle instability, benign prostatic hypertrophy, and excessive nocturia.

Delayed sensation can result in urgency and less time to get to a toilet (further complicated by the slower ambulation that can occur with age). Leakage can result from decreased muscle tone in the pelvic floor. Nocturia may occur because kidneys function more efficiently when the older adult is sleeping or at rest.³

Urinary incontinence is often preventable and may be reversible using behavioral training methods. Many interventions have been successful in assisting people to reduce the number of incontinence episodes, and many older people are able to remain continent; these facts support the assertion that incontinence is not inevitable with age.

Myth: There is only one type of urinary incontinence
This erroneous belief is a detriment to the management of urinary incontinence. In fact, there are numerous types of urinary incontinence; without a precise diagnosis, it’s impossible to intervene appropriately. The most common types are reviewed briefly.

Transient incontinence, which appears suddenly and is present for six months or less, is usually caused by treatable factors, including delirium or confusion secondary to an acute illness; infection, particularly urinary tract infection; atrophic urethritis or vaginitis; increased urine production caused by metabolic conditions such as hyperglycemia, hypercalcemia, or Paget disease; and fecal impaction, which obstructs the urethra. Iatrogenic (or treatment-induced) incontinence, one type of transient incontinence, results from use of restraints, limited fluid intake, bed rest, or IV fluid administration. It can also result from certain medications, including diuretics, anticholinergic agents, antidepressants, sedatives, hypnotics, calcium channel blockers, and α-adrenergic agonists and blockers. Transient incontinence, regardless of etiology, is usually easily treatable and should not last six months if appropriate therapy is provided. (After six months, urinary incontinence becomes established and prognosis is poorer.) In one study of 52 nursing homes, investigators identified potentially reversible causes of urinary incontinence in 81% of the residents.⁶

Urge incontinence is involuntary urination that occurs soon after feeling an urgent need to void. Its definitive characteristics are loss of urine before getting to the toilet and an inability to suppress the need to urinate.⁷ Urge incontinence is the most common type of urinary incontinence in older adults.⁸

Stress incontinence “is loss of less than 50 mL of urine with increased intraabdominal pressure.”⁹ Short urethras and poor pelvic floor muscle tone make women more prone to stress incontinence, which, in fact, was the most common type of incontinence found in a classic study of 200 community-dwelling older women.¹⁰ In men, stress incontinence is associated with prostatectomy and radiation. Rates of urinary incontinence after prostate surgery range from 37% to 65%.¹¹

Overflow incontinence is defined as involuntary loss of urine associated with overdistension of the bladder.¹² It occurs when the bladder becomes so distended that voiding attempts result in the frequent release of small amounts of urine, often in the form of dribbling. Possible causes include an obstruction of the urethra by fecal impaction or an enlarged prostate, smooth muscle relaxants that relax the bladder muscle and increase bladder capacity, or an impaired ability to contract (caused by a peripheral neuropathy secondary to diabetes or a neurologic disease such as multiple sclerosis). Common signs and symptoms include a large amount of residual urine, hesitancy, slow stream, passage of infrequent or small volumes of urine, a feeling of incomplete bladder emptying, sudden leakage of urine when bending or turning, dysuria, and a palpably full bladder.

Functional incontinence is the inability to reach the toilet because of environmental barriers, physi-
tical limitations, loss of memory, or disorientation. People with functional incontinence are often dependent on others and have no genitourinary problems other than incontinence. Data also show that higher rates of functional incontinence are present in older adults who are institutionalized.13

Mixed incontinence is urine loss having features of two or more types of incontinence. Older adults often experience a mix of both stress and urge incontinence. For example, with increasing age many women who already have stress incontinence begin to experience urge incontinence.

Reflex incontinence and total incontinence are less common types. In reflex incontinence, the bladder empties autonomically but the person has no sensation of the need to void. Spinal cord injuries may lead to reflex incontinence. Total incontinence refers to a continuous and unpredictable loss of urine. It usually results from surgery, trauma, or a malformation such as an ectopic ureter. With total incontinence, the reflex control is intact, but urination can’t be controlled because of anatomical abnormalities.

MYTH: THERE ARE NO EFFECTIVE TREATMENTS FOR URINARY INCONTINENCE—IT’S UNAVOIDABLE IN NURSING HOME RESIDENTS

On the contrary, there is much evidence showing that urinary incontinence is treatable. In 1996 the Clinical Practice Guidelines for Managing Acute and Chronic Urinary Incontinence identified many effective treatments and recommended their application in practice. Effective treatments were again explored in 2002 and 2003, during the State of the Science on Urinary Incontinence symposium and the International Nursing Summit on Incontinence. Furthermore, as highlighted by these conferences, many interventions fall within nursing’s scope of practice. A number of behavioral interventions have a good research base and can be implemented without extensive and expensive evaluation. These interventions will do no harm and if there’s no improvement, further evaluation can be sought. A comprehensive assessment should be completed before interventions are selected. The following have been tested in long-term care facilities.

Scheduled voiding is used to treat urge and functional incontinence. This method can be used for people with intact cognition or cognitive deficits. A person establishes a schedule by using a bladder diary or by following common voiding patterns (such as going to the toilet first thing in the morning, before and after meals, mid-morning, mid-afternoon, and at bedtime). Generally, a voiding “appointment” will be scheduled at two-to-four-hour intervals, resulting in a reduction of incontinent episodes. If episodes persist, the schedule is adjusted.

Prompted voiding combines scheduled voiding with monitoring, prompting, and praising. When this intervention is used with people who are cognitively intact, the objectives are to increase self-initiated voiding and decrease the number of incontinence episodes. Success requires communication between patient and caregiver as well as the patient’s active participation—responding to questions, agreeing to use the bathroom, or even going there himself when prompted.

When prompted voiding is done consistently with people with dementia, they often begin to anticipate that someone is coming to take them to the bathroom and start preparing on their own; they may get out of bed, head toward the bathroom, or even quip, “It must be time to go to the bathroom again,” when a staff person arrives in the room. Prompted voiding may improve incontinence in 25% to 50% of incontinent residents in long-term care facilities.14 It can also be successful
**Fecal Incontinence**

**What to know about this often-hidden problem.**

Harry Stein, a 74-year-old who presented with an exacerbation of eczema, was halfway out the door when his wife stopped and started prodding him to ask me something.

“He keeps having accidents, you know, bowel movements in his pants. You never know when it’s going to happen. We had to leave our grandson’s birthday party last week—Harry went out to the car without saying a word to anyone and I made up some excuse. It was awful. This is the first time he’s left the house since."

I closed the door and asked Mr. Stein and his wife to sit down. I told him I understood his reluctance to talk about this subject and that he was not alone.

**OVERVIEW**

It’s difficult to accurately determine the prevalence of fecal incontinence—defined as the involuntary passage of gas, mucus, or stool—because, like Mr. Stein, so many people with the problem don’t seek help. They hide the problem out of embarrassment or the misconception that nothing can be done about it. Indeed, less than 50% of community-dwelling older adults with fecal incontinence talk to their primary care provider about the problem. Studies show prevalence rates ranging from 2.2% to 19% in this population; in nursing home residents the prevalence can be as high as 50%. Dual incontinence, a combination of urinary and fecal incontinence, is also a problem for many—in one recent study, 14.5% of 4,277 adults over the age of 75 had dual incontinence. After cognitive disorders, fecal incontinence is the second most common reason for nursing home admission.

**Types of fecal incontinence.** Fecal incontinence can be transient or persistent. The most common causes of transient incontinence are diarrhea, fecal impaction, and acute illness. Any time there is a new episode of incontinence with liquid stool without a recent solid stool, impaction should be the first consideration. Once the underlying condition is resolved, interventions such as dietary changes, behavioral methods, or medication will usually restore continence.

If the incontinence doesn’t resolve, or has been present for one month or more, the patient has persistent fecal incontinence. Risk factors for persistent fecal incontinence include diarrhea, neurologic diseases (including diabetes), poor mobility, decreased functional status, cognitive disorders, irritable bowel syndrome, ano-rectal pathology, stroke, and injury to the pudendal nerve or sphincter muscles during childbirth. Patients who present with any of these conditions should be questioned specifically about incontinence. If persistent fecal incontinence is revealed, a thorough work-up is necessary.

**PATIENT ASSESSMENT**

The first step in treating fecal incontinence is to try to identify the cause and to rule out any underlying serious pathology.

**The patient history** should include special attention to the gastrointestinal system. Review the duration of incontinence, stool consistency and frequency, use of laxatives or enemas, presence of abdominal pain or bloating, diet, presence of fatigue or weakness, difficulty with performance of activities of daily living, sexual history, surgical history, obstetrical history, changes in medication, bathroom facilities at home (for example, are there stairs on the way to the bathroom), what remedies they have tried, and how the incontinence has affected the patient’s life. Since depression and anxiety are so often associated with fecal incontinence, discuss the signs and symptoms of these conditions and offer the patient an opportunity to talk about the emotional effects of this condition.

**A physical examination** should include a digital rectal examination to identify the presence of a mass, impaction, or occult blood and to evaluate sphincter tone and integrity. Women should receive a pelvic examination to check pelvic floor muscle tone and for the presence of masses or prolapse of the uterus or bladder. Observe gait, strength, and reflexes. Screen for cognitive impairment using the Mini–Mental State Examination.

**Diagnostic tests** include X-rays, anal manometry to measure the resting and squeeze pressures of the anal canal, anorectal ultrasonography to view the anal sphincters, anal electromyography to evaluate innervation of the external anal sphincter, and defecating proctography, which visualizes the active process of defecation. Patients who present with diarrhea may need a stool culture. Anyone with changes in their bowel habits should have a sigmoidoscopy or colonoscopy. Referral to a gastroenterologist may be necessary.

**TREATMENT**

Biofeedback and pelvic floor exercises can enhance muscle control of the sphincter and pelvic floor muscles. Those with nerve conduction deficits of the anal sphincters may benefit from sacral nerve stimulation, in which a low level of electrical current is continuously transmitted to the nerves of the sacral plexus. This is a minimally invasive procedure with low risk and excellent
efficacy. In the long-term care setting, a bowel-training program should be initiated and residents should be given the opportunity to use the toilet frequently.

Patient education is a crucial aspect of treatment. Always explain what should be expected with any tests that have been ordered. Instruct the patient that it may help to avoid caffeine and lactose, both of which may increase the rate of peristalsis. A daily dietary fiber supplement and the use of medicines such as loperamide (Imodium) can control diarrhea. Care should be taken to maintain skin integrity with thorough cleansing and drying after incontinent episodes and use of a barrier cream if the patient is at risk for skin breakdown. Provide patients who have fecal impaction with information on diet, fluid intake, activity, and fiber supplements. Consider referring community-dwelling older adults to the local visiting nurse service, which can send a professional to assess the person’s physical environment, review diet and medication, and recommend changes (such as a bedside commode if the patient’s bedroom is far from the bathroom).

Surgical interventions include sphincteroplasty to repair a structurally damaged sphincter. Another option is to replace natural sphincters with artificial sphincters; these have inflatable pumps that the patient activates to open and close the anal canal. Though short-term results have been excellent for both interventions, long-term success is poor and infection rates are high. Between 15% and 30% of patients who receive artificial sphincters have them removed because of problems. In some cases of severe, intractable incontinence, colostomy is a final option.—Karen Roush, MSN, RN, FNP, clinical editor

REFERENCES


in homebound adults; Engberg and colleagues attained a 22% reduction in daytime urinary incontinence with cognitively impaired homebound older adults. However, there are concerns about consistency: for example, Schnelle and colleagues found that although they successfully initiated a two-hour prompted voiding schedule among patients at a nursing home, the staff didn’t continue with the intervention after the research team left.

Bladder training aims to extend the time between the urge to void and voiding. Patients follow an established voiding schedule until incontinence episodes cease; once this is achieved, the time between voidings is extended, and the patient is taught techniques for overcoming the urge and postponing urination. Candidates must be mentally and physically capable of taking themselves to the bathroom. People with urge incontinence respond best to this intervention; improvements ranging from 44% to 100% have been reported.

Pelvic muscle exercises, also called Kegel exercises, involve the repetitive contraction of the pubococcygeal muscle, the muscle that forms the support for the pelvis and surrounds the vagina, urethra, and rectum. The goal of this repetitive contraction is to strengthen the pubococcygeal muscle and decrease the number of incontinence episodes. This intervention is recommended for people with stress, urge, and mixed incontinence. Contractions should be repeated 30 to 100 times a day; the contraction should be held for 10 seconds and followed by a 10-second relaxation. Change will not likely be seen until the patient has completed four weeks of exercise. Biofeedback can help people to correctly identify the muscle and visualize the strength and time of the muscle contraction.

Candidates for this intervention need to be cognitively intact and motivated to work on regaining continence. Pelvic muscle exercises are effective for women with mild-to-moderate stress incontinence; one controlled study reported a more than 50% reduction in urine-loss episodes. This intervention also holds promise for older men who’ve undergone prostatectomy. In helping men to identify the correct muscle to contract, it can be helpful to instruct them to perform the contraction required to hold back gas.

There is strong evidence of the benefits of pelvic muscle exercises on stress, urge, and mixed urinary incontinence in older women. In addition, a combined approach of pelvic muscle exercises and bladder training provided by prepared RNs resulted in significantly fewer incontinence episodes than either intervention alone. In 2002 Borrie and colleagues tested a lifestyle (reduced fluid and caffeine intake) and behavioral (most often pelvic muscle exercises, bladder training, and nurse follow-up every four weeks) intervention led by nurses for commu-
nity-dwelling persons who had at least one incontinence episode a week that resulted in a decrease in incontinence episodes.  

Intermittent catheterization can be used in people with urinary retention related to a weak detrusor muscle (as in diabetic neuropathy), in those with a blockage of the urethra (as in benign prostatic hypertrophy), or in those with reflex incontinence related to a spinal cord injury. Intermittent catheterization is a clean (not sterile) procedure. The goal is to maintain 300 mL or less of urine in the bladder. Although most of the research on this procedure has involved children and young adults with spinal cord injuries and myelomeningocele, intermittent catheterization has been found to be successful in older adults who are often able to catheterize themselves.  

Intermittent catheterization represents an important alternative to indwelling catheterization.  

**MYTH: URINARY INCONTINENCE FALLS UNDER THE PURVIEW OF PHYSICIANS; NURSES CAN’T DO MUCH TO HELP**  

Urinary incontinence can be managed with nonpharmacologic treatments implemented by nurses. A thorough assessment will help determine the type of incontinence, the person’s response to the problem (the course of treatment and emotional responses), and the best interventions. The assessment should include  

- **specifics about urine control.** When did the problem begin? When does urine loss occur?  
- **a health history** (surgery, bladder or kidney infection, mode of childbirth, menopause, prostate problems, and spinal cord injury or stroke).  
- **lifestyle history** (smoking [how long and how much], fluid intake [especially caffeine], physical activity, weight, and bowel habits).  
- **functional abilities.** How good is the patient’s eyesight? His mobility? Is he able to transfer out of bed, dress himself, and use the toilet? How much time does it take to get from the bed to the bathroom?  
- **mental status.** Can the patient recognize the need to go to the toilet? Is he able to find it?  
- **environment.** Is the bathroom accessible? Is there a clear path and sufficient lighting? Does the patient have the physical aids required?  
- **physical examination:** presence of rectal or uterine prolapse, condition of skin, height, weight, stool impaction, strength of leg extension, and deep tendon reflexes. Patients should also undergo a provocation test, in which they are asked to cough while wearing a pad. A loss of urine during a provocation test is an indication of stress incontinence.  
- **psychosocial effects.** How has incontinence affected the patient’s personal life? What are the patient’s feelings about it?  

- **three-day bladder diary.** This should record fluid intake, time and volume of voidings, and whether the patient urinated in the toilet or was incontinent. The diary should be updated every one to two hours. It helps to provide a baseline to evaluate improvement.  
- **urinalysis,** to rule out infection.  
- **postvoid residual catheterization** to determine if the patient is retaining 150 to 200 mL of urine.  

**Assessment tools.** Lekan-Rutledge has developed a rapid assessment instrument that can be used for a tentative diagnosis of the type of urinary incontinence in all settings.  

The Hartford Institute for Geriatric Nursing also includes a urinary continence assessment tool through its “Try This” program, available at www.hartfordign.org/resources/education/tryThis.html. (Although the “Try This” tool may be effective, it also incorporates the unfortunate mnemonic “DIAPERS,” which reinforces a stereotype of childlike loss of control that should not be used when treating older adults.)  

**Psychological effects of incontinence** can also be assessed using standardized tools. The Incontinence Impact Questionnaire, developed by Wyman and colleagues, is a well-tested, 26-item questionnaire assessing self-perception, activities of daily living, and social interactions of community-dwelling women.  

The Hartford Institute for Geriatric Nursing also includes a urinary continence assessment tool through its “Try This” program, available at www.hartfordign.org/resources/education/tryThis.html. (Although the “Try This” tool may be effective, it also incorporates the unfortunate mnemonic “DIAPERS,” which reinforces a stereotype of childlike loss of control that should not be used when treating older adults.)  

**MYTH: URINARY INCONTINENCE IS UNMANAGEABLE IN PEOPLE WITH DEMENTIA**  

In a study of 145 nursing home residents with dementia, 48% were incontinent of urine upon admission, and that number rose to 81% six months after admission.  

Mobility, awareness of the need to void, and fewer than six episodes in 24 hours indicated that residents with dementia were in need of intervention and good candidates for scheduled voiding.  

Although urinary incontinence is often concurrent with dementia, cognitive impairment alone hasn’t been shown to cause urinary incontinence.  

While impaired cognition may affect a patient’s ability to find a bathroom or to recognize the urge to void, it doesn’t necessarily affect bladder function. Prompted voiding has been demonstrated to be effective in improving dryness in cognitively impaired and dependent nursing home residents.  

The biggest difficulty with implementing and sustaining prompted voiding is sustaining staff efforts.  

In one alternative living setting for people with
dementia, continence was promoted through visible toilets and staff assisting residents to the bathroom at regular intervals or according to individual voiding patterns. Using these methods, continence was maintained in residents with middle-to-late stages of dementia for more than two years. The importance of environment was also highlighted in a study that documented an “eight-fold-increase in the use of toilets” that were visible rather than concealed.31

Because caregivers often have problems coping with incontinence, special attention should be given to address them. Often, the only advice caregivers are given is that the patient should wear pads or use incontinence aids; scheduled voiding or other potential interventions may never be discussed. In fact, such interventions have proven successful even in cognitively impaired homebound older adults. For example, Jirovec and Templin initiated a scheduled voiding protocol that significantly decreased episodes of incontinence in a group of memory-impaired adults.34 Engberg and colleagues used a prompted voiding protocol that reduced episodes of daytime incontinence by 60% in treatment subjects compared with 37% in the control group.15

**MYTH: COMPLETE CONTINENCE IS THE ONLY INDICATION OF SUCCESSFUL TREATMENT**

Until recently, continence and incontinence were viewed as opposite ends of a spectrum with nothing in between. It was only with the start of clinical trials of urinary interventions, which began in 1982 with studies on pelvic muscle exercises by Thelma Wells and Carol Brink at the University of Michigan School of Nursing, that continence began to be measured on a continuum. Gradations of successful treatment may include dryness at night or during the day, fewer episodes of incontinence, a greater percentage of dry time, and an increase in the number of times a person urinates in a toilet.

In fact, any improvement can be seen as significant progress. For example, a patient who reduces episodes of incontinence in a 24-hour period from six to two will be more comfortable. Caregivers should consider such improvements a success and acknowledge both their own efforts and those of the patient. Skin breakdown on the perineum and buttocks (which occurs in as many as 35% of incontinent hospitalized adults and 41% of incontinent adults in long-term care2) will improve, and the patient will spend less money on protective garments and less time worrying about accidents and changing clothes or pads. Other improvements can be seen in self-esteem, social interaction, mood, and odor. Nursing outcomes and interventions for specific types of incontinence are described more fully in the chapter by Specht and Maas in Nursing Care of Older Adults: Diagnoses, Outcomes, and Interventions and are included in the Nursing Outcomes Classification and Nursing Interventions Classification.

**MYTH: OLDER ADULTS DON’T MIND BEING INCONTINENT AND WEARING PADS**

It’s not unusual to hear an older adult say “I’m such a baby” or “I’m just no good for anything anymore” after an episode of incontinence. In an early study, Mitteness found that incontinence represented a loss of control and made older adults angry; they grieved the loss and were embarrassed, ashamed, and depressed.6 The feeling of loss of
control is even greater when incontinence is unpredictable.27 (While people who are incontinent most of the time expect it, those with partial incontinence don’t know when to expect it and therefore have trouble planning for it—adding to the sense of a loss of control.) Furthermore, because incontinence often precipitates nursing home placement, it’s often feared and hidden. On the other hand, many community-dwelling older women, unaware of treatment options, have found ways to cope and view urinary incontinence as a social rather than a medical problem.1, 37

Incontinence pads are often referred to as “diapers,” reinforcing the stereotype that a childlike loss of control and dignity accompanies aging. This is an important consideration. Although some older adults wear pads to enhance a feeling of security, others do so because they haven’t been presented with other options. As one resident of a long-term care facility said during a recent study, “When you come here you can forget having control over your life. Here your life is controlled by the way the place is run.”38 The authors noted that the resident claimed to be voicing the opinions of many other residents of the facility.

In fact, Maas told me in a personal communication that when people in nursing homes ask to go to the bathroom, they are often told, “You have a pad on; just go in it. That’s what it’s there for.” The use of incontinence pads communicates the provider’s expectation of residents’ incontinence—before assessment, diagnosis of incontinence, and treatment are attempted. The result is infantalizing, a disservice to older adults. Such use of incontinence pads constitutes a breach of nursing ethics because it presumes that the patient is incompetent and that his feelings don’t matter. It also forces patients to be incontinent when they don’t have to be, and continence is better for the patient both psychologically and physically. Ethical principles call for nurses to do no harm—such reliance on pads is harmful.

Other concerns about pads or briefs are their bulkiness and the noise they make with movement. In addition, these products often make it difficult or even impossible to toilet independently (for example, those who have serious arthritis may be unable to remove the brief), thus ensuring incontinence. Furthermore, pads that aren’t changed frequently enough contribute to skin breakdown, urinary tract infections, and odor. Thus, pads must not be used in lieu of treatment, and their effectiveness must be carefully evaluated.

**MYTH: INDWELLING CATHETERS ARE THE BEST INTERVENTION FOR INTRACTABLE URINARY INCONTINENCE**

In an effort to keep patients dry and to protect their skin, particularly in the face of understaffing, indwelling catheters are used frequently. Although the intentions may be good, these catheters are often used without consideration of the consequences. In the vast majority of cases, indwelling catheters—the most common cause of bacteriuria—are not appropriate for long-term management (more than 30 days) of urinary incontinence.39 Continuous indwelling catheterization may be an appropriate management strategy for only a few patients: some who are terminally ill, some with severely impaired skin integrity, and those with urinary retention unchanged by intermittent catheterization or surgical and pharmacologic interventions.12 The practice of indwelling catheterization of all people receiving hospice or palliative care is unacceptable, exposing the dying person to increased risk and discomfort.

Gokula and colleagues reviewed catheter use in one midwestern teaching hospital for one year.40 They found the majority of inappropriate catheterization was of people over age 65. However, they also found that only 1% of patients were discharged with a catheter in place. Yet because people are discharged from the hospital with catheters, use in nursing homes increases. In addition, one recent study found that 4% of older adults receiving home care were using indwelling catheters.41 Recommendations for the care of people with indwelling catheters (for example, when to change the catheter) are based upon short-term rather than long-term use. There is no evidence base for the care of people who have long-term indwelling catheters.19

Condom catheters are a good alternative to indwelling catheters for men, but again, they should be used only after attempts are made to help the patient regain continence. Men often find the condom catheter more comfortable, less painful, and less restrictive.42 Good hygiene is essential to prevent maceration and irritation of the skin on the penis, and vigilant attention must be paid to ensure the penis is not constricted.
MYTH: PREVENTION IS IMPOSSIBLE

Continence should be fostered as the norm in all health care settings, but this is not the case. One 1998 unpublished report by Brethous, which examined 20,000 records of nursing homes in Missouri, found that 63% of residents who were continent upon admission were incontinent just one year later. Clearly, a higher priority needs to be given to maintaining continence. The first step in maintaining continence is to maintain a patient’s functional abilities. A recent randomized, controlled trial of 256 incontinent nursing home residents found that an exercise and continence program resulted in significant improvements when compared with the control group. Thus, in a long-term care facility, the use of wheelchairs should be combined with prescription for and assistance with walking at least twice each day. In addition, environmental modifications must be addressed.

A recent randomized, controlled trial showed excellent promise for community-dwelling older adults. The study investigated whether a behavior modification program for continent women, 55 years and older, would decrease the incidence of urinary incontinence, increase pelvic muscle strength, and improve voiding control. The intervention was a two-hour classroom presentation on pelvic muscle exercises and bladder training, followed in two to four weeks by individualized evaluation to test knowledge, adherence, and skills and to provide reinforcement of the technique as needed. Follow-up was done by telephone and mail every three months. At 12 months, all participants had in-person clinical evaluations; 195 treatment and 164 control subjects finished the study. Data showed that the treatment group had statistically significant improvements in continence, pelvic muscle strength, and voiding frequency. The researchers report that this is the first randomized, controlled study of the prevention of incontinence in older women in the community. Interventions like this are especially needed for people in transitional living arrangements, and similar efforts need to be made for people who are continent when admitted to nursing homes.

REFERENCES


1. Nocturia is often caused by
   a. delayed sensation.  
   b. decreased pelvic muscle tone.  
   c. polypharmacy.  
   d. more efficient kidney function during sleep or rest.

2. In men, stress incontinence is often related to
   a. overdistension of the bladder.  
   b. prostate surgery.  
   c. poor pelvic muscle tone.  
   d. urinary tract infection.

3. Which type of incontinence affects patients who are incontinent because physical or cognitive limitations keep them from reaching the toilet in time?
   a. transient  
   b. functional  
   c. overflow  
   d. urge

4. Which type of incontinence is characterized by a bladder that empties at regular intervals without producing a sensation of the need to void?
   a. reflex  
   b. stress  
   c. transient  
   d. functional

5. A common cause of overflow incontinence is
   a. urinary tract infection.  
   b. poor pelvic floor muscle tone.  
   c. peripheral neuropathy.  
   d. trauma to the bladder.

6. The most common type of urinary incontinence in older adults is
   a. stress.  
   b. urge.  
   c. overflow.  
   d. functional.

7. Incontinence resulting from medical treatment, such as intravenous fluid or medication administration, is
   a. functional.  
   b. reflex.  
   c. urge.  
   d. transient.

8. People who have urge incontinence and are mentally and physically capable of getting themselves to the bathroom respond best to which type of behavioral intervention for incontinence?
   a. bladder training  
   b. prompted voiding  
   c. pelvic muscle retraining  
   d. scheduled voiding

9. Using prompted voiding consistently in people who have dementia
   a. tends to generate poor results because they do not understand the prompts.  
   b. improves continence in 60% of incontinent residents in long-term care facilities.  
   c. helps them anticipate that someone is coming to take them to the bathroom.  
   d. improves daytime continence in 40% of cognitively impaired home-bound older adults.

10. Kegel exercises
    a. are recommended for patients who have functional incontinence.  
    b. should be done between 20 to 30 times a day.  
    c. involve holding the contraction for 10 seconds then relaxing for 10 seconds.  
    d. are only an appropriate intervention for women.

11. Intermittent catheterization
    a. is used in patients who have urinary retention related to a weak detrusor muscle.  
    b. is inappropriate for patients who have prostate enlargement.  
    c. must be done using sterile technique.  
    d. is contraindicated in patients who have spinal cord injuries.

12. During physical examination of a male patient who has incontinence, the clinician performs a provocation test by
    a. conducting a digital rectal examination.  
    b. asking the patient to void while being observed.  
    c. asking the patient to perform a Valsalva maneuver.  
    d. asking the patient to cough while wearing a pad.

13. According to the evidence presented by the authors, which of the following is the best intervention for promoting continence in older adults who have dementia?
    a. incontinence aids  
    b. visible toilets  
    c. family presence  
    d. medication therapy

14. Incontinence pads
    a. make it easier for people to toilet independently.  
    b. reinforce the notion that the patient is incompetent.  
    c. help prevent infection from retained urine.  
    d. tend to increase the patient’s sense of control.

15. Continuous indwelling catheterization is
    a. inappropriate after surgical intervention for incontinence.  
    b. appropriate for most patients receiving hospice or palliative care.  
    c. not appropriate for long-term management of urinary incontinence.  
    d. appropriate for most patients who have severely impaired skin integrity.

16. The first step in maintaining continence, particularly in institutional environments, is to
    a. maintain the patient’s functional abilities.  
    b. begin pelvic muscle training on admission.  
    c. assess the patient’s need for bladder catheterization.  
    d. explain the use of incontinence pads to the patient.
Wound Wise

Preventing Pressure Ulcers with the Braden Scale
An update on this easy-to-use tool that assesses a patient’s risk.

By Barbara J. Braden, PhD, RN, FAAN, and Joann Maklebust, MSN, APRN, BC, ADCN, FAAN

M
arie Ingham, the head nurse of orthopedics, is worried. A few days ago, all nurse managers and chiefs of staff at her facility received an internal memo concerning cost overruns on specialty beds and mattress orders. Most of her patients are bedridden and immobile; it’s difficult enough to prevent pressure ulcers without having to worry about the cost of support surfaces. The director of nursing asks Ms. Ingham to develop policies that will guide the use of such surfaces and help predict a patient’s risk of developing pressure ulcers. As she reviews current practices at the institution, Ms. Ingham notices inconsistencies in charting and risk assessment by both nurses and physicians. Based on the documentation, it’s difficult to ascertain why some patients were on a pressure ulcer-prevention protocol while others were not.

After reviewing the literature, in particular that concerning the Braden Scale for Predicting Pressure Sore Risk, Ms. Ingham talks with her staff. Although almost everyone understands the importance of pressure ulcer risk assessment and has heard of the scale, most are uncertain about why and how it should be used.

WHAT IS THE BRADEN SCALE?
Pressure ulcer—prevention measures (including prescribed turning schedules and the use of pressure-reducing support surfaces) are used on the basis of a patient’s assessed level of risk; the Braden Scale is a tool designed to facilitate that assessment. Developed in 1984 by Barbara J. Braden, one of the authors of this article, and Nancy Bergstrom, PhD, RN, FAAN, the Braden Scale consists of six subscales that evaluate a patient’s sensory perception, activity level, mobility, and nutrition status and the skin’s exposure to moisture, friction, and shear forces.

For each subscale, the nurse assesses the patient according to specified criteria and determines the appropriate numeric score. On five subscales (sensory perception, mobility, activity, moisture, and nutrition), patients can receive scores from 1 to 4, with 4 representing the highest. On the remaining subscale (friction and shear) patients are ranked from 1 to 3. Adding the six subscale scores yields a total Braden Scale score, which can range from 6 to 23. Lower total scores are associated with a higher risk of developing pressure ulcers. The scale is available for no charge at www.bradenscale.com/bradescale.htm.

USING THE SCALE
Reviewing reliability and validity. Interrater reliability is a measure of the consistency of results when a tool is administered by different raters. Validity is a measure of the tool’s accuracy. In this case, predictive validity—how accurately the Braden Scale identifies which patients will develop pressure ulcers—is used. Predictive validity is generally expressed in terms of sensitivity and specificity, given as percentages. Sensitivity indicates a tool’s accuracy in differentiating true positives from false negatives; for the Braden Scale this is given as the percentage of people who develop pressure ulcers and were predicted to develop them. Specificity indicates a tool’s accuracy in differentiating true negatives from false positives; in this case it’s given as the percentage of people who don’t develop pressure ulcers and were not predicted to develop them.

The Braden Scale has demonstrated a high degree of interrater reliability (Pearson $r = 0.99$, percent agreement = 88%) for RNs, but unacceptably low interrater reliability for nursing assistants and LPNs (Pearson $r = 0.83$ to 0.87, percent agreement = 11% to 19%). All tests for interrater reliability were done without training participants in use of the Braden Scale. With appropriate training, it’s possible that interrater reliability for nursing assistants and LPNs would improve,
although this has yet to be demonstrated.

In terms of predictive validity, the Braden Scale has demonstrated sensitivities that range from 70% to 100% and specificities ranging from 64% to 90%. The tool tends to overpredict the likelihood of pressure ulcer development; but all screening tools overpredict. While diagnostic tests must have a high degree of accuracy, it’s acceptable for screening tests to have a low-to-moderate degree of accuracy. They should also be relatively inexpensive, simple, safe to administer, and acceptable to patients. The Braden Scale exhibits all of these characteristics and has a moderate-to-high level of accuracy.

On occasion, rating scales for assessing risk of pressure ulcers have been criticized as having limited predictive value. But in comparison with other screening tools, the accuracy of the Braden Scale is quite good—comparable, for example, to that of screening mammography. A recent metaanalysis of breast cancer screening studies demonstrated that mammography has an overall sensitivity of 78% and a specificity of 92%.

Levels of risk. The first study of the predictive validity of the Braden Scale, conducted in the mid-1980s, determined that a total score of 16 resulted in the best balance between sensitivity and specificity; known as the “cut score,” this value represents the point at which pressure ulcer risk begins. In the early 1990s a larger, multisite study found that a score of 18 was necessary to achieve this balance. Based on this research, the following levels of risk of developing pressure ulcers were identified according to score:
- 19 to 23, not at risk
- 15 to 18, mild risk
- 13 to 14, moderate risk
- 10 to 12, high risk
- 9 or lower, very high risk

A lower total score on the Braden Scale indicates a lower functional level and, therefore, a higher level of risk of developing pressure ulcers. As Ayello and Braden have noted, knowing a patient’s risk level helps clinicians to determine how aggressive prevention measures should be and to evaluate their effectiveness. It is also helpful in determining when more aggressive preventive measures are no longer appropriate or necessary.

BENEFITS OF A RISK ASSESSMENT PROGRAM

In clinical situations in which no formal program of risk assessment is in place, preventive interventions may be less frequent than necessary to prevent pressure ulcers. The introduction of risk assessment and protocols linked to either total or subscale scores usually results in dramatic decreases in pressure ulcer incidence and prevalence.

For example, in a retrospective study of two nursing homes, Lyder and colleagues found that the introduction of a pressure ulcer–prevention program, which employed the Braden Scale, resulted in an 87% decrease in incidence in the larger facility and a 76% decrease in the smaller facility. In a study of patients in a large tertiary care ICU, after Horn and colleagues implemented use of the Braden Scale and preventive protocols, the incidence of pressure ulcers among the most critically ill patients decreased from 33% to 9%.

There is also evidence that formal, risk-based pressure ulcer–prevention programs reduce care costs. This may occur because, in the absence of formal risk assessment, nurses tend to identify only those patients at highest risk, and preventive measures appear to be based primarily on deficits in activity and mobility, with little attention to other risk factors.

In general, risk assessment has become part of standard health care; most external agencies that review or accredit health care facilities require that risk assessment and related protocols be used. Thus, facilities that rely on informal assessment of pressure ulcer risk without associated protocols are themselves at increased risk for loss of accreditation and...
litigation. Moreover, because the use of the Braden Scale in clinical practice allows nurses to institute appropriate pressure ulcer–prevention strategies with patients at risk, resources are more likely to be used judiciously.

Why the Braden Scale shouldn’t be altered. Although it’s not uncommon for clinicians to shorten or otherwise alter a risk assessment tool, we strongly advise against it. The complete tool has been tested for reliability and validity; even minor alterations may influence reliability or accuracy. For example, the Braden Scale provides definitions for each subscale and specifies criteria associated with each level of risk. If any or all of this information were deleted or changed, patient assessment findings could not be matched correctly with the numeric ratings for each subscale. This in turn would adversely affect the accuracy and the predictive value of the total score. The tool’s copyright restrictions prohibit alteration as well.

**ASSessment Frequency**

Recommended intervals for assessing pressure ulcer risk are based on the stability of the patient’s condition, the severity of illness, and the clinical setting. Clinicians should also bear in mind the patient’s prognosis. Patients who are at risk but whose condition is improving rapidly are unlikely to require reassessment as often as those whose condition is deteriorating. According to updated guidelines written by the University of Iowa Gerontological Nursing Interventions Research Center and summarized at the National Guideline Clearinghouse Web site (see www.guideline.gov/summary/summary.aspx?view_id=1&doc_id=3458&nbr=2684), recommended assessment intervals for various care settings are as follows:

- **Acute care patients** should be assessed on admission, then reassessed at least every 48 hours (many acute care facilities do so more often because patient status can change rapidly). ICU patients whose condition is stable should be reassessed daily; those whose condition is unstable should be reassessed every shift.

- **Long-term care patients** should be assessed on admission, then reassessed every 48 hours for the first week, weekly for the first month, and monthly to quarterly thereafter, or whenever health status changes.

- **Home health care patients** should be assessed on admission, then reassessed at every visit. Family members should be shown how to perform skin assessment.

When nurses use these intervals, it may seem that some patients whose condition is stable are being assessed more often than necessary. Nevertheless, it’s important to assess at regular intervals to avoid overuse or underuse of preventive measures. At her institution, Marie recommended daily risk assessments using the Braden Scale as the basis for the new pressure ulcer–prevention policies and procedures. As a result, no one had to guess which patients needed preventive measures, and the allocation of resources was based on the best evidence available.

**REFERENCES**

KIDS CARE: Improving Partnerships with Children and Families

A model from the Children’s Hospital of Philadelphia.

By Ana Rita Figueroa-Altmann, RN, CPN, Laura Bedrossian, Elizabeth A. Steinmiller, MSN, RN, and Steven M. Wilmot, MSW

In the hospital business, patients and their families are the customers. Responsibility for good customer relations rests largely with nurses, who must combine clinical proficiency with skill in forging caring and helpful bonds. It’s a tall order, especially in pediatrics, an area in which parents are often the decision makers and partners in patient care, yet have needs of their own. Research shows that those needs—for information, comfort, privacy, and so on—can be overlooked or misunderstood by staff because of differing perceptions of what they are. One study found significant differences in how nurses and families of hospitalized children defined parents’ most critical needs. Family members said their primary need was to “feel hospital personnel care about their child,” whereas nurses thought families most wanted to “know how their child is being treated medically.” Such differences can lead to tension, miscommunication, and ultimately, customer dissatisfaction.1 2

KIDS CARE is a training program for nurses developed at the Children’s Hospital of Philadelphia (CHOP) that aims to take the guesswork out of these important relationships. The acronym stands for Knock, Introduce, Determine, Safety, Clean hands, Advocate, Respond, Explain, which are categories of simple actions nurses can take to promote relationships with patients and families. KIDS CARE combines widely accepted principles of family-centered care (respect, the sharing of information, and collaboration; see www.familycenteredcare.org) with those of good customer service and it defines specific actions nurses can take to enhance relationships with patients and families. The program was designed in 2002 for nurses in a pediatric setting, but its principles easily adapt to other settings, and training can be extended to other medical and support staff who interact with patients and families. Currently, KIDS CARE is part of CHOP’s orientation program for newly hired nurses.

The idea for KIDS CARE came out of discussions between a bedside nurse at CHOP, a clinical nurse specialist in mental health, and the mother of a chronically ill child. Several upsetting encounters with an increasingly hostile father led the bedside nurse to examine her role in the situation and seek advice from the mental health nurse and the mother of the patient. The discussions were such a powerful aid in mending fences with the father that the trio set out to design a nurse-training program, combining current research on customer service with practical tips on bridging gaps among patients, families, and medical staff. To that end, CHOP’s KIDS CARE training team includes a parent—called a “family consultant”—whose child has had frequent hospitalizations.

KIDS CARE gives busy nurses a procedural framework for engaging in candid give and take with patients and families. Potential benefits go beyond simply easing tensions with medical staff during a child’s hospitalization. Research shows that mothers of chronically ill children gain confidence as caregivers when they have good rapport with the medical care

Ana Rita Figueroa-Altmann is a clinical IV staff nurse, Laura Bedrossian is a family consultant, Elizabeth A. Steinmiller is a clinical nurse specialist in mental health, and Steven M. Wilmot is coleader of the Youth Advisory Council at the Children’s Hospital of Philadelphia. Contact author: altmann@email.chop.edu.
The parent's perspective given in these sections is that of Laura Bedrossian, the program's original family consultant, whose chronically ill and disabled son receives care at CHOP.

**K = KNOCK**

**Parent's perspective.** Hospital stays are anxious times for parents. My son, Teddy, was born in 1989, with numerous physical abnormalities—webbed fingers and toes, a cleft palate, an asymmetrical face—resulting from a rare chromosome imbalance. Today he’s nonverbal, has an intractable seizure disorder, suffers from renal failure, and requires gastrostomy feedings every few hours. Despite my son’s more than 70 hospitalizations, I’m never prepared for the invasive nature of the hospital. Working daily in a hospital, medical staff may forget that the small space patients and families occupy becomes their personal territory, however temporary. Whether I’m in the middle of a diaper change or trying to calm my son, a soft knock on the door signals that staff has arrived.

**Nursing perspective.** When patients or family members are in a hospital room or clinical office, knock or ask permission before entering. This alerts the occupants and helps to prevent awkward situations. It’s also a means of demonstrating respect for patients’ need for physical and conversational privacy. It’s culturally sensitive, too, especially in cases involving older female patients or family members who may need to clothe themselves or cover certain areas of their bodies before seeing professionals.

**I = INTRODUCE**

**Parent’s perspective.** Too often, nurses assume a family member knows who they are, and they dive immediately into gathering information for the patient’s chart. My son often feels frightened when a new person enters the room. Taking a minute to smile and say your name eases confusion and helps him and me relax.

**Nursing perspective.** In the first interaction with patients and families, state your name, role, and length of shift. This helps orient the patient and family to the staff they will interact with that day or night.

**D = DETERMINE**

**Parent’s perspective.** I like it when nurses ask me or my son, “How would you like me to address you?” My son’s name appears on the chart as Edward III. However, we would never refer to him as anything but Teddy, an endearment that maintains our image of him as our cuddly rascal. When staff use this name, I’m reassured that they have the right child, and Teddy feels recognized as a person, not just a chart. As for parents, many of us feel offended by being called “Mom” or “Dad.” These are generic, depersonalizing terms that fail to differentiate us from any other parent in the hospital.

**C = CLEAN HANDS**

**Parent’s perspective.** I cringe when nurses touch my child if I haven’t actually witnessed them washing their hands. Parents won’t always say something about their concern because they fear offending the nurse.

**S = SAFETY**

**Parent’s perspective.** Safety is every parent’s concern when children are in the hospital, and they need help in keeping their child safe. For example, they may not know how to secure bed rails or how to use a wheelchair. Parents also worry about staff diligence. Nothing upsets me more than finding a syringe or cap or something else left in the bed that could harm Teddy. I feel more relaxed when I see nurses taking safety precautions.

**Nursing perspective.** Every institution has patient-safety requirements, such as washing hands and checking identification bracelets. Make a point of demonstrating to family members strict adherence to these standards, explaining the reasons for them. In doing so, you both reassure family members and model behaviors and techniques they can employ as partners in the child’s care.
attention to infection-control standards and also sets an example for family members to follow.

**A = ADVOCATE**

**Parent’s perspective.** Parents need to feel that they are advocates for their children and can be helpful to medical staff. For example, when Teddy is admitted, it’s much easier to start an IV while he’s still in his wheelchair, rather than on the treatment table, where it requires four nurses. Letting me contribute this information makes Teddy’s treatment less of a struggle for everyone.

**Nursing perspective.** Listen to the issues families raise, and when it’s indicated, respond with open-ended questions to elicit specific information: “Does Teddy have any preferences for this procedure?” or “Do you have any concerns you’d like me to convey to the doctor?” This signals parents that the nurse will carry advocacy on behalf of the patient to the larger medical team. Information gathered from these discussions can inform treatment decisions and improve patient comfort and outcomes.

**R = RESPOND**

**Parent’s perspective.** Parents understand that nurses have to see other patients, but it’s reassuring to know when they’ll return and how to get help in the meantime. I’m also grateful when nurses take a moment to ask if I need anything before they move on to other patients. Parents can be so overwhelmed or exhausted by their child’s medical crisis or the admissions process that they neglect needs of their own.

**Nursing perspective.** Let families know how you can be reached, the location of the call bell, and who will cover if you’re unavailable. Before leaving the room, ask family members if they need anything. This elicits information they may have forgotten to convey. A final inquiry is also a respectful way for a nurse to signal that it’s time for her to leave.

**E = EXPLAIN**

**Parent’s perspective.** My son Teddy doesn’t understand verbal prompts and becomes startled when medical staff make movements toward him. I appreciate nurses’ giving me a heads-up; it allows me to tell him what is about to happen. Families are usually more than happy to offer suggestions on how best to get a child to cooperate. This can make your job easier in the end, and helps put patients and families at ease.

**Nursing perspective.** This last letter of the acronym guides all interactions between nurses, patients, and families. Explaining why you are in the patient’s room and what you are going to do allows time for questions and helps ease anxiety. For example, if you are going to take an infant’s blood pressure, mention that the cuff will be wrapped around the leg and that the baby may cry as the cuff tightens. If the patient’s developmental level allows, include him in these explanations.

**PROGRAM STRUCTURE**

The family consultant position at CHOP is a full-time job supported by a Title V grant from the Pennsylvania Department of Health. The most important qualification is experience as the parent and primary caregiver of a child with special health care needs. Job responsibilities include providing educational resources for families and facilitating communication between family members and staff. The latter may involve acting as a liaison for family members who feel uncomfortable discussing certain issues with staff.

The work of KIDS CARE is complemented at CHOP by the Youth Advisory Council, a voluntary group of frequently hospitalized adolescents and their siblings who provide feedback to staff on a range of care issues, such as food, privacy, communication, and room design. While there’s no formal connection with KIDS CARE, the council shares the mission of improving relationships between staff and patients and families. The child life, social work, psychology, and nursing staffs recommend young people for the council and supervise its activities. The council meets monthly.

**MORE THERAPEUTIC RELATIONSHIPS**

Good customer service has many benefits. In the larger community, it enhances a hospital’s reputation and brings repeat business. Within the hospital, it eases relations among staff, patients, and families and contributes to better care. Research also suggests that patients satisfied with interpersonal aspects of their care are more likely to follow treatment instructions and provide accurate information to their health care providers. We believe that KIDS CARE is a useful tool for nurses seeking to provide better relationships with patients and families.

**REFERENCES**

THE DISABLING PROCESS

Older adults 60 times more likely to develop a disability after hospitalization.

The disabling process in people older than 70 usually begins within a month of an illness or injury that results in a period of inactivity lasting as little as half a day, and when it’s associated with hospitalization, the risk of developing a disability is vastly greater, according to the results of the Precipitating Events Project, a prospective cohort study.

Seven hundred fifty-four nondisabled older adults were followed for five years. At the beginning of the study, research nurses performed comprehensive health assessments in the home, including assessments for hypertension; myocardial infarction; congestive heart failure; stroke; diabetes mellitus; arthritis; hip fracture; fracture of a wrist, an arm, or the spine since age 50; leg amputation; chronic lung disease; cirrhosis or other liver disease; cancer; and Parkinson disease. Cognitive status was measured with the Mini–Mental Status Examination, depressive symptoms according to the Center for Epidemiologic Studies Depression scale, and physical frailty with the rapid gait test, assessments that were made again 18 and 36 months later. To be eligible for the study, participants had to be independent in bathing, dressing, transferring from a chair, or walking inside the house.

Every month, research staff members telephoned participants and asked whether they had needed assistance in bathing, dressing, transferring from a chair, or walking inside the house. A new disability was identified when a participant needed assistance with one of more of those activities of daily living during the preceding month but not during the month immediately preceding that one. Researchers also collected data on persistent disability, defined as a new disability lasting at least two months, and admission to a nursing home because of disability.

Restricted activity was significantly associated with the development of a new disability.

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Restricted activity was significantly associated with the development of a new disability, the incidence rates of which (per 100 person-months) were as follows: participants who had been hospitalized, 31.9%; participants who had experienced at least half a day of restricted activity, 3.4%; and participants who had experienced no intervening event, 0.61%. The hazard ratio for hospitalization was 59.8, and for restricted activity only, 5.11. The hazard ratio for nursing home admission within a month of hospitalization was an astonishing 223. Hospitalization was associated with 50% to 80% of new disabilities, and restricted activity at home attributable to illness or injury was associated with 5% to 19% of them. Restricted activity itself, rather than any specific medical diagnosis, was found to be associated with the disabling process. Formerly, the study authors had observed that older adults usually find that they restrict their activities because of a combination of medical problems rather than a single specific diagnosis.

The factors that study participants most often cited in the restriction of their activities were fatigue, pain or stiffness in the joints or back, and dizziness or unsteadiness. Those symptoms are associated with falling—and falls that resulted in injuries necessitating hospitalization carried the greatest risk of the development of a disability. In addition to the direct effects of illness and injury, hospitalization or restricted activity or both may themselves serve as detriments to independent functioning. Because the study included monthly follow-up for an average of more than three years, it suggests that there is a causal connection between restricted activity in general, and hospitalization in particular, and the development of a disability. To understand how the process unfolds after hospitalization and periods of restricted activity, further research is necessary.

Measures to prevent falling at home and outside it, better restorative treatment after hospitalization, and improvements in the treatment of pain and stiffness could result in fewer disabilities and nursing home admissions, improving the quality of life among older adults.

Acute Respiratory Failure: Part 2. Failure of Ventilation

Exploring the other cause of acute respiratory failure.

By Melinda Smyth, MSN, RN, CCRN, CNA

In last month’s issue, we studied the case of Amy Morely, a 53-year-old admitted to the ICU with an exacerbation of chronic obstructive pulmonary disease (COPD) who suffered an acute asthma attack after contracting influenza. She had tachycardia and irregular breathing, as well as restlessness and confusion, ultimately dying of undiagnosed acute respiratory failure.

Ms. Morely presented with acute failure of oxygenation. In this article, we explore the other cause of acute respiratory failure, acute failure of ventilation.

ACUTE FAILURE OF VENTILATION

The patient experiencing acute failure of ventilation, or acute hypercapnic respiratory failure, presents with a partial pressure of carbon dioxide (PaCO₂) level higher than 45 mmHg. Acute hypercapnia leads to severe acidemia, an arterial blood pH of less than 7.3.¹ The low pH level in acute failure of ventilation is a result of the kidneys’ inability to conserve enough bicarbonate to balance the acid contributed by increased PaCO₂. In the case of patients with chronic hypercapnia, renal compensation occurs over a period of time, resulting in a less severely altered arterial blood pH level. But a chronically hypercapnic patient can also become acutely ill with a failure of ventilation. The extent of acidemia in a chronically ill patient who experiences a sudden additional elevation in PaCO₂ level depends upon the prevailing level of serum bicarbonate anions.¹

When assessing a patient with acute failure of ventilation, it’s extremely important to determine the origin of the condition to determine which measures need to be taken. For instance, the condition can result from inadequate central nervous system control of ventilation—as a result of head injury, hemorrhagic or ischemic stroke, drug overdose, or sleep apnea—or from the inability of the respiratory muscles to respond to central nervous system stimulation, as occurs in spinal cord injury or neuromuscular disease. Extreme obesity, COPD, chest trauma, inadequate assisted ventilation, or an increased ratio of dead space ventilation to tidal volume ventilation (VD/VT) can also cause acute failure of ventilation.

SYMPTOMS

Early recognition of acute failure of ventilation and the institution of appropriate measures to support gas exchange are vital. Swift and correct intervention may prevent cellular oxygen debt, anaerobic metabolism, and varying degrees of tissue damage.²,³ Without prompt treatment, the patient suffering from acute failure of ventilation becomes increasingly hypoxemic until the end stage of acute respiratory failure is reached—at which point there is both a failure of ventilation and a failure of oxygenation and an extremely decompensated physiologic state.

Normally, hypercapnia increases the acidity of cerebrospinal fluid, stimulating the respiratory center of the medulla oblongata to increase the rate and depth of ventilation. If a patient is unable to increase alveolar ventilation in response to central nervous system stimulation, the PaCO₂ level will rise.
level higher than 45 mmHg, in combination with a pH value of less than 7.3. To assess the severity of the patient's ventilation failure and determine its cause, certain noninvasive tests, such as the determination of the VD/VT ratio, pulmonary function studies, and capnography, are recommended.

The VD/VT ratio is normally less than 0.6. Because a patient's anatomic dead space is unlikely to change, larger ratios are the result of decreased tidal volume, which can result in hypercapnia. Pulmonary function tests. A timed forced expiratory volume test measuring the percentage of air that can be expelled from the lungs by a forceful effort after maximum inspiration (vital capacity) at specific intervals, is useful in determining the extent of airway obstruction. A peak flow rate (the maximum air flow during forced expiration, used most often in assessing asthma) of less than 100 L per minute indicates severe airway obstruction, although trends are important to evaluate in any acutely ill patient. The test is used to compare the patient’s baseline peak flow rate (personal best) with the current peak flow, according to a percentage. A peak flow rate less than 75% of baseline would indicate a poor prognosis, and one less than 50% of baseline indicates a critical condition.

Capnography, which measures and quantifies the amount of exhaled CO2 gas at the airway, allows specialist health care workers to determine both the severity and pathophysiology of the respiratory failure.

Because acute respiratory failure can be so difficult to diagnose, nurses who suspect that a patient is suffering from acute failure of either oxygenation or ventilation should be extremely vigilant. Because acute respiratory failure can be so difficult to diagnose, nurses who suspect that a patient is suffering from acute failure of either oxygenation or ventilation should be extremely vigilant.
latory effort. If particular drugs, such as benzodiazepines, are prescribed, a physician should be informed of the patient’s precarious respiratory status and the medication order should be questioned.

If assessment reveals acute failure of ventilation, therapeutic management should be prioritized according to the ABCs of resuscitation (Airway, Breathing, and Circulation). Because an extremely high PaCO₂ level may impair cerebral function, the patient’s airway management must be addressed immediately. The decision to use noninvasive airway-management techniques or invasive ones depends upon the patient’s degree of somnolence, as well as the estimated respiratory vigor. If the patient is responsive and able to control the airway and her breathing pattern, noninvasive support such as supplemental oxygen (used at low flow rates in patients in chronic respiratory failure who retain CO₂) and positioning with attention to airway patency may be sufficient. Noninvasive, supportive techniques should not be used in patients who have lost their cough or gag reflexes or who are unable to control their respiratory rates. In such patients, controlled ventilation with invasive airway stabilization is necessary.6-8,10

In patients in whom invasive intervention might be inappropriate, nasotracheal suctioning or pharmacologic bronchodilation can be used to improve alveolar ventilation. Somnolent patients may need stimulation in order to be kept awake. Use of supportive, bilevel positive airway pressure or continuous positive airway pressure ventilatory devices may prove helpful in stabilizing the airway, decreasing the work of breathing and maintaining an adequate tidal volume.

If a patient’s clinical condition is determined to be severe, it’s extremely important to provide immediate, invasive airway management. Indications for the
insertion of an airway and use of controlled ventilation include a respiratory rate greater than 35 beats per minute, a vital capacity of less than 15 mL/kg, forced expiratory volume in one second of less than 10 mL/kg, a negative inspiratory force of less than 25 cm H₂O, an increase in the alveolar–arterial oxygen gradient of more than 450 mmHg, a PaCO₂ level higher than 55 mmHg, or a VD/VT ratio greater than 0.6. Any delay in intervention could result in respiratory arrest. ▼

REFERENCES

In June 2003 a Kansas attorney general issued a controversial opinion that could have a wide-ranging impact on sexually active adolescents and the nurses and other professionals who provide care to them. And ever since that opinion was made public, RNs, nurses’ organizations, and other advocates have been working hard to protect adolescents’ access to health care and patient confidentiality.

Most recently, the ANA and the Kansas State Nurses Association (KSNA) signed on to an amicus or “friend of the court” brief submitted to the federal 10th Circuit Court of Appeals in Denver, objecting to Kansas attorney general Phill Kline’s new interpretation of the state’s mandatory reporting law regarding suspected child abuse.

In the brief, the ANA and other professional groups contend that Kline’s interpretation “rests on an unrebutable presumption that abuse has occurred whenever a person under age 16 has engaged in certain sexual activity.”

The groups also say that mandated reporters such as nurses, social workers, and counselors would be forced to notify authorities when adolescents engage in a range of sexual activities, from intercourse to touching with the intent to arouse, because Kansas law defines sexual abuse so broadly.

“Nurses have always taken their obligation to report suspected abuse seriously,” says Mary Jean Schumann, MSN, RN, CPNP, director of the ANA’s nursing practice department. “It’s part of our Code of Ethics, and it’s something that is taught in every nursing program.

“But this interpretation is changing the whole definition of what constitutes abuse and neglect.”

The interpretation seems so beyond the norm that one patient advocacy group is calling Kline’s version of the mandatory reporting law the “kiss and tell” law.

**AT THE HEART OF THE ISSUE**

There are many concerns raised in the amicus brief and corroborated by nurse leaders and frontline professionals. One focuses on the sanctity of the nurse–patient relationship.

Trust is an important component in all nurse–patient relationships, and perhaps it’s even a more crucial, and potentially more fragile, factor when adolescents are involved.

“When working with teenagers, you have to build trust with them,” says Margot Breckbill, RN, a Kansas childbirth and human sexuality educator and long-time expert on adolescent health issues. “If adolescents think you are talking about their business, they won’t talk to you.”

Breckbill is one of several professionals who sued Kansas state district attorneys in U.S. District Court to prevent reporting the sexual activities of underage patients. That suit led to a district judge issuing a preliminary injunction in July 2004 barring enforcement of the heightened standard, and to the case going before the federal appellate court.

“What the attorney general is doing is setting up a system of mistrust,” Breckbill says.

Terri Roberts, JD, RN, executive director of the KSNA, agrees, saying “A major concern among front-line staff nurses in clinics and ERs is that they’ll be forced to violate the basic principle of nurse–patient confidentiality.”

Under the longstanding mandatory reporting law, nurses, social workers, counselors, and other mandated reporters must notify the state Department of Social and Rehabilitation Services when they suspect that a crime of child abuse or neglect has occurred. Specifically, they are required to disclose highly personal information, such as the name and address of the patient, the name of the parents or guardian, the nature of the injury, and the identity of the person responsible for the injury.

Most professional health care organizations, including the ANA, hold dearly to a code of patient confidentiality, even if the patient is an adolescent. For example, the Society for Adolescent Medicine (SAM), which also signed onto the amicus brief, stated in a 2004 position paper that professionals could only get complete information to treat adolescents appropriately in the context of a confidential relationship.

Furthermore, SAM maintains that “protecting the confidentiality of adolescents’ health information is a professional duty that derives from the moral tradition of physicians and the goals of medicine.”
Kline’s interpretation would remove the ability of professionals to use their judgment in determining what constitutes normal sexual activity—including when it’s consensual and between similarly aged teens—and what constitutes sexual abuse, according to the brief.

“Adolescence by its very definition is a time when teens are beginning to identify who they are, to experiment and engage in risk-taking behaviors,” says Schumann, who’s been involved in teen pregnancy prevention programs. “Such experimentation is not rape or abuse. It’s about hormones and normal growth and development.”

Elizabeth Saewyc, PhD, RN, PHN, is on faculty at the University of British Columbia School of Nursing and has conducted extensive research on adolescents, sexual abuse, and risky behaviors.

She believes that health care professionals working with adolescents generally can discern when teenagers are engaging in sexual activities that are experimental or “romantic,” and when they are the victims of sexual abuse and violence.

“Adolescents have a pretty clear sense of coercion and violence, if something is done against their will or involves an illicit relationship, such as incest,” says Saewyc, a long-time member of the ANA Task Force on Adolescent Health. “So are we really preventing sexual assault and exploitation if we charge two 15-year-olds who engaged in consensual behavior with sexual abuse of each other?” she asks. “Do we want them to have criminal records and have to report as sexual offenders for their rest of their lives?”

Saewyc adds, “When health care professionals are put in the position of acting as the police, they are no longer about giving care. They certainly will not be able to give care for sexually transmitted diseases (STDs), pregnancy testing, or assistance in answering any kind of sexual health question if it becomes known among teens that they might have to report it.”

**A ROAD TO NO HEALTH CARE?**

The ANA and other groups contend that broadening the Kansas reporting law will indeed lead to adolescents delaying care, not seeking care, or not providing honest information necessary for health care professionals to treat them appropriately.

They noted a study published in 2002 that revealed that 59% of single, sexually active girls under 18 years old who were using family planning clinics would stop using health services or delay testing or treatment for
HIV or other STDs if their parents were told that they were seeking prescribed contraceptives. Additionally, the study reported that only 1% of these girls would stop having sexual intercourse.

In the amicus brief, the professional groups maintain that the attorney general’s interpretation would also thwart important public health initiatives, such as reducing the overall incidence of adolescent pregnancy, as well as promoting healthy pregnancies among young girls. (Young mothers tend to have babies with low birth weights, ongoing childhood health problems, and more hospitalizations.)

“We need to be doing whatever we can to help kids, to encourage them not to get pregnant or to learn about birth control or any aspect of human sexuality,” Breckbill says. But the attorney general’s opinion could lead to the decline of many beneficial programs.

Finally, health care professionals are concerned that by forcing mandated reporters to notify authorities of adolescents’ consensual sexual activities, there will be few resources available to pursue actual cases of abuse. In fiscal year 2003, the state received reports of about 40,000 cases of possible abuse and neglect.

“When I consider the difficulty the judicial system seems to have in apprehending, charging, and convicting people who commit really hideous and unambiguous acts of sexual abuse, I have to question the appropriateness of this sort of ‘universal’ approach,” Saewyc says.

She notes that often legitimate victims of abuse are not believed by anyone but health care providers. Ironically, under this broadened law, these same health care professionals could face losing their licenses or even prosecution if they provide responsible, confidential clinical care to consenting, sexually active adolescents without reporting it.

Edwards says that she has talked with Kansas nurses about the attorney general’s opinion and has advised them to file reports only if they feel comfortable doing so. She further advised them that federal privacy law could offer them some protection if they decide to forego reporting cases under Kline’s heightened standard.

Edwards, Breckbill, and others question the motive of the attorney general, who has also launched a very public campaign to open up Kansas clinics’ abortion records.

Says Breckbill about the potential change to the reporting statute, “I don’t think this is coming out of the goodness of his heart.” ▼
Preventing Ventilator-Associated Pneumonia
Elevating the head of the bed is crucial.

Ventilator-associated pneumonia (VAP) is the second most common cause of nosocomial infection in the United States and the leading cause of death from pneumonia. It occurs in 9% to 24% of patients on mechanical ventilation and is associated with a 54% to 71% mortality rate. Mary Jo Grap, PhD, RN, ACNP, a researcher and professor at Virginia Commonwealth University, took an interest in preventing VAP in mechanically ventilated patients. She noted that aspiration is more likely when patients are in a supine position for a long time. In fact, one independent predictor of VAP and mortality is a supine position in the first 24 hours on a ventilator. The Centers for Disease Control and Prevention recommends backrest elevation of 30° to 45° to prevent aspiration and VAP in mechanically ventilated patients, and the Joint Commission on Accreditation of Healthcare Organizations is requiring institutions to report the number of days that such patients have backrest elevation of 30° or higher.

In a longitudinal, nonexperimental study funded by the National Institute of Nursing Research, Grap enrolled 66 patients within 24 hours of intubation. None had evidence of pneumonia or a history of prior intubation during the current hospitalization. Backrest elevation was measured continuously with a transduced measurement system applied to the bed. The research revealed that the average backrest elevation among all patients was 22°; it was 30° or less 72% of the time and 10° or less 39% of the time. About one-fourth of the patients (26%) developed VAP by the fourth day and almost a third (31%) did so after one week. The best predictor of VAP was a combination of illness severity (as assessed according to the APACHE II score) and the percentage of time with a backrest elevation of less than 30° during the first 24 hours of intubation.

Graf points out that on the first day of intubation, patients are likely to be more ill and less stable, and they may not tolerate much backrest elevation. She says that more research is necessary to understand “what happens to the patient’s position to ensure adequate (greater than 30°) elevation.” Graf encourages hospital bed manufacturers to incorporate methods of measuring and tracking backrest elevation into the design of hospital beds so that nurses can monitor it in vulnerable patients. She also encourages nurses to avoid the supine position in ventilated patients if hemodynamically tolerable and to continuously evaluate the patient’s position to ensure adequate (greater than 30°) elevation.—DJM

Care of Patients with Congestive Heart Failure
APN-directed collaborative model.

Congestive heart failure is a costly and serious condition affecting more than 1 million older Americans. It frequently results in disabling symptoms and multiple rehospitalizations. That is why the National Institute of Nursing Research funded a randomized clinical trial, conducted under the direction of researcher Mary Naylor, PhD, RN, FAAN, of the University of Pennsylvania, to test a home care intervention. An advanced practice nurse (APN), in a collaborative care protocol with the patient’s physicians, made home visits for the first three months after the patient’s discharge (hospitalization was for acute heart failure). Patients in the control group received discharge planning, home care, and physician follow-up according to the hospital’s standard procedures.

Patients in the intervention group experienced significantly fewer rehospitalizations and incurred lower costs of care. Furthermore, adherence to the Agency for Healthcare Research and Quality heart failure guidelines was better among physicians in the collaborative care model, compared with those who managed patients alone, findings that were consistent among both APN–generalist physician teams and APN–cardiologist teams, suggesting that APN-directed collaborative care during the posthospitalization period improves both practice and patient outcomes.

Patients in the intervention group received more home visits than did patients in the control group who had been referred to a traditional agency. These findings may have implications in the management and reimbursement of home care services provided to patients with heart failure.—LF

By Diana J. Mason, PhD, RN, FAAN, and Linda Flynn, PhD, RN, BC
The job market for nurses continues to be good in the Northwestern and Mountain states. Stacey Riden, a recruiter at Valley General Hospital in Monroe, Washington, says there are plenty of opportunities for RNs, advanced practice nurses, and nurse managers in her area. “It’s a very competitive market from an employer perspective,” she says. “RNs have plenty of employers to choose from; employers are competing for applicants.”

CHECK OUT THE MAGNET HOSPITALS
The Magnet movement has not caught on in this part of the country as much as it has on the East coast, but Colorado has two Magnet hospitals, and Alaska, Idaho, Oregon, and Washington each have one. The University of Washington Medical Center in Seattle was the very first U.S. hospital to gain Magnet status back in 1994.

SALARIES CLIMBING
RN salaries tend to be higher in the states along the West coast, rather than the more interior areas. Using November 2003 Bureau of Labor Statistics (BLS) figures, the highest average hourly rates in the Northwestern and Mountain states are found in Alaska at $28.39; Washington at $27.73; and Oregon at $26.12. The national average is $25.29. Riden says in her area wages are the same as in the Seattle market, but without the commute and traffic. The BLS figures show RNs in metropolitan Seattle average $29.70 per hour. Riden also reports that emergency, labor and delivery and gero–psych are the nursing specialties that are in demand.

LIVING IN THE NORTHWESTERN AND MOUNTAIN STATES
This is a family–friendly area of the United States. It has outstanding outdoor recreational opportunities including hiking, camping, boating, and world-class skiing in the Rockies. Cost of living varies throughout the region, but Alaska, Washington, and Wyoming are among the few states in the country with no state income tax.
Social Security Reform: Is It Time to Call a Code?

By now most Americans have heard that President Bush has taken on reform of the Social Security program as his main domestic initiative. To advance this idea, he has engaged in a national tour in hopes that he can share his vision with citizens and garner support. However, reports show that the more President Bush promotes his plan, the less people like it and the more frightened they become of the proposed changes. Some members of Congress have chosen to address their concerns about the potential revamping of this program either by introducing legislation that would alter the program to accommodate those concerns or by adopting resolutions that provide an agreement on issues they would like to safeguard. The following provides a glimpse into such proposals. Additional proposals can be located on http://thomas.loc.gov by using the search term “Social Security.”

Representative Michael Michaud (D-ME) introduced a resolution (HJ Res 25) that would prohibit Congress from passing any law altering the fundamental structure of the Social Security program, including fully or partially privatizing Social Security. This resolution was referred to the House Committee on the Judiciary.

Representative Mark Green (R-WI) introduced a resolution (HCON 43 IH), adopted by the House of Representatives and the Senate, that provides that a Social Security reform plan favorably considered by Congress would not negatively affect state and local government employees currently covered under public pensions.

Representative Rosa DeLauro (D-CT) introduced a resolution (HRES 61 IH) that was adopted by the House of Representatives recognizing the obstacles women face in ensuring retirement security and recommended the president consider certain factors when proposing Social Security reform. Many other resolutions and proposals have been introduced to address this issue. Some legislative proposals focus on details related to how much money a worker could invest. Representative E. Clay Shaw, Jr., (R-FL) introduced a proposal (HR 750) that recommends providing individuals with an annual income tax credit of approximately 4% of wages subject to the Social Security payroll tax, up to $1,000. The government would then set aside the money, and workers could invest it in stock and bond funds, similar to the president’s plan. This proposal would not reduce traditional Social Security benefits.

Other proposals are being discussed but have not been introduced. Senator Orrin Hatch (R-UT) has aimed to address the Social Security reform issue based on the perspective that people are living longer, yet they expect to retire at age 65. His proposal aims to address reform by creating financial incentives to postpone retirement. Senator Robert Bennett (R-UT) aims to address the issue by reducing the benefits now promised to the wealthy while allowing workers to put some of their wages into tax-advantaged accounts outside the traditional Social Security system accounts. If Congress were to endorse this concept, after five years workers could divert some of their Social Security taxes into the accounts. These proposals are but a few of the options being discussed.

How does the ANA stand on Social Security reform? In 1999 the ANA House of Delegates considered this issue and agreed to:

• advocate the continuation of Social Security as a social insurance program that is universal and portable with guaranteed benefits.
• promote strong consumer protections to ensure that the Social Security safety net continues to provide for the needs of retirees, the disabled and their dependents, and the surviving spouses and children of deceased workers.
• support funding mechanisms that require those most able to pay to contribute their fair share and those least able to pay to contribute proportionately less to maintain the ongoing solvency of the Social Security Trust Fund.
• oppose individual private investment accounts that substitute and thereby threaten the social insurance structure of Social Security.
• oppose any additional increases in the age of eligibility for full retirement benefits.

The debate on this issue will continue and is not much different from what was discussed in 1999. Therefore, my assessment: Social Security reform remains in critical condition.
Making Al’z Place Their Place

A nurse-led dementia day care keeps older adults at home, ‘in their security.’

It was late February when I accompanied my 80-year-old mother, Doris Jacobson, to Al’z Place, a dementia day care in Gainesville, Florida, where she lives with my father, Ronald, her caregiver. That morning, at a large, circular table, she sat with Susan, Paul, Edie, and Louise. Most of the clients have Alzheimer disease; a few, like my mother, have Lewy body dementia. All have memory impairment. They sat quietly, eating doughnuts, having just completed a 48-piece jigsaw puzzle.

As an editor at AJN, I’ve observed that the best nursing, like the best editing, is often undetectable, yet as critical as a cardiac muscle. Jean Wood, BSN, RN, who at age 56 has been a nurse barely 10 years, is the very strong, and very wise, heart of Al’z Place. “With memory impairment, there’s such a loss of independence,” Wood says. “At Al’z Place we modify the environment to meet their needs, but society doesn’t do that.”

Wood talks a lot about society’s obligations toward the elderly, but she’s no sentimentalist. Rather, she has borne witness to the splintering that can occur in families who can’t care for aging parents. “If you can keep the family together, then the community is strong and the nation is strong,” Wood says. “The way to do that is to provide services to those in need in their homes or in the least restrictive environment. Our clients return home every evening. They’re back in their security, back in that unit. So many of our caregivers say to us, ‘We’ll do anything to keep Mom at home.’”

The daughter of a woman who entered psychiatric nursing after raising children, Wood married young and reared two sons (one of whom is now an orthopedic nurse). She also worked for 22 years at the University of Florida’s Naval ROTC unit, a job in which she took on many roles, including that of “substitute parent” for the students, gaining the patience, she says, to work with older adults. When her youngest boy left home in 1986, she entered community college, and when her mother-in-law was diagnosed with Alzheimer disease in the early 1990s, she determined to learn all she could about memory impairment.

Wood says her mother-in-law’s initial signs of dementia, although harmless, were frighteningly uncharacteristic—she used twist ties as barrettes and tried to tip the priest after mass—and as the...
disease progressed Wood was instrumental in her care. In 1994 Wood resolved to become a nurse—a decision that led to the end of her marriage (her husband “was very threatened” by her independence, she says). In December 2000, shortly before earning her bachelor’s degree in nursing at the University of Florida, she saw a newspaper advertisement for an “Alzheimer’s disease initiative coordinator.” Within a month she was in the position. She now lives alone, works full-time as coordinator of Al’z Place, and is enrolled in the online graduate program in psychiatric–mental health nursing at the University of South Alabama.

In the moment with them. Housed in a specially designed hall of the First Christian Church in Gainesville, Al’z Place was founded in 1987 and maintains a strict 3:1 client–staff ratio. Wood is the staff RN, case manager, and coordinator; Judy Johns, a certified therapeutic recreation specialist, designs “failure-free” activities; two full-time and two part-time certified nursing assistants act as “therapy aides”; and a host of volunteers from the First Christian Church assist on a regular basis (Wood refers to them as “Al’z Angels”). Meals on Wheels brings lunch daily. There’s a monthly support group for caregivers, as well.

“Most people think that if you have memory impairment you can’t learn new things,” Wood says. “And we absolutely go against that.” She and her staff work vigilantly to ward off the despair that can accompany degenerative illness. And they succeed in this—despite the incontinence, confusion, delusion, and physical debility these diseases can produce—by stimulating their clients cognitively, physically, and socially. They may be elderly and frail, but these people can sing, share a meal, toss a balloon, reminisce, stroll in the sunshine. “They are in the moment and we are in the moment with them,” Wood says. “If in the moment they are in Virginia, talking about things that happened when they were 20 years old, we go there with them.”

And they do it with respect. “We never talk about Alzheimer’s disease with our clients—ever,” Wood says. “We’re a club.” For example, if a client says that she is an employee at Al’z Place, that’s just fine. In fact, Wood says, the “higher-functioning” clients can help out others during the cognitive activities.

“Medicare should cover this,” Wood says, but it doesn’t. In addition to private donations and clients’ sliding-scale copayments, Al’z Place receives funding through ElderCare of Alachua County, a part of Florida’s Department of Elder Affairs, which is managed by Shands HealthCare, at the University of Florida. Twenty or so people are on a waiting list at any one time; clients are selected as spaces open, according to a “lower-function-first” standard.

That day in February at Al’z Place was the first time I saw my mother in a wheelchair. She was so pleased that I was there, taking her picture and talking with her friends, that I didn’t panic at the sight. I could see that my mother was all right. She has been a painter, a gardener, a letter writer, a reader, a jazz aficionado, a volunteer, a friend to many: what she has lost can’t be measured. Still, she has gained something at Al’z Place. Jean Wood and her staff make sure of it. That morning my mother tossed a plastic bowling ball and knocked over a few plastic pins. And when her friends broke out in uproarious applause, she laughed and laughed and laughed.—Joy Jacobson, managing editor
Ensure a Long and Safe Career

Inquiring about health and safety during your next job interview.

What questions about workplace health and safety should I ask during a job interview?

Health care ranks as the second highest industry for occupational injury and illness in the country, according to the U.S. Bureau of Labor Statistics. Major concerns are needlesticks, back injuries, workplace violence, and exposure to respiratory agents.

Nurses have the right to a secure and safe workplace environment and to request information on workplace hazards without fear of recrimination. Also, nurses should be offered training and education about workplace safety, and the opportunity to participate on a safety and health committee. One effective approach to ensure a safe workplace begins with the job interview. The following is a list of questions that nurses should ask when interviewing for a job:

Does the facility have a safety and health committee, and are frontline staff nurses encouraged to participate? Involving frontline nurses in hazard identification and decision making is vital. Such involvement reflects the fact that management values employee input.

Does the facility have a safe patient handling or no-lift policy and equipment to prevent injuries among nurses? Manual patient handling places nurses at great risk for back and other musculoskeletal injuries. Safe patient handling programs using lifting equipment greatly reduce this risk because nurses don’t have to bear the physical stress of handling. And equipment offers a more secure, comfortable, and dignified way to handle patients.

Does the facility use safer needle and sharp devices and needleless systems? The Occupational Safety and Health Administration (OSHA) requires the use of safer sharps devices to protect employees from becoming infected with HIV, HBV, and HCV. Health care facilities must have a blood-borne pathogen exposure control plan and review it at least annually. Asking frontline nurses to evaluate safer sharps devices helps to ensure that the purchased devices match clinical needs.

What kind of fit-testing program does the facility have for respiratory protection? OSHA requires respiratory protection and calls for annual medical screening and fit-testing for healthcare workers who risk respiratory agents such as exposure to tuberculosis. An annual fit-test ensures that nurses are protected from unanticipated exposures to other respiratory agents, such as SARS and biological agents used in terrorism.

What precautions does the facility have to limit or remove latex? Health care workers are at high risk for developing latex allergies following sensitization. Exposure occurs primarily from wearing latex gloves or using other clinical products such as IV tubing that contain latex. Facilities have been successful in going latex free, eliminating risk of exposure.

What is the facility doing to become mercury-free? Medical waste incinerators are one of the largest sources of environmental mercury contamination. Mercury is a potent neurologic and reproductive toxin that affects the central nervous system, liver, and kidneys. It can be found in old-style thermometers and blood pressure devices, but alternatives without mercury exist.

What policy is in place to address workplace violence? Violent incidents among nurses can involve patients, their families, visitors, and coworkers. The physical environment, including isolated rooms and hallways, poor lighting, and locked doors, also plays a part in the risk. A comprehensive violence-prevention program involves training and educating employees to recognize potentially escalating situations.

What systems are in place for emergency preparedness? Nurses play an important role in emergency situations such as bioterrorism, mass casualties, or natural disasters. A flexible plan that can be applied to all types of unanticipated hazards is most effective. It’s important to ensure that staff needs from personal protective equipment to physical and psychological issues are met.

Effective safety and health programs are directly correlated to fewer illnesses and injuries. Programs should include training and educating the employee while addressing worksite hazard analysis and prevention. Frontline staff participation is crucial. By working together, nurses can make a difference and ensure safe and long careers for themselves and their colleagues.