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Editor's Note— “‘I have good news and bad news,’ the doctor said. ‘The good news is you have less than twenty-four hours to live.’ ‘If that’s the good news,’ exclaimed the patient, ‘what’s the bad?’ The doctor replied, ‘I couldn’t reach you yesterday.’”¹

Due to the tremendous explosion of knowledge in medicine, the hospital/clinical setting has become infused with stress. Because there is such a vast array of tests that can be done and medicines that can be prescribed, the diagnosis and treatment of disease has become more complicated. Health care professionals are under enormous pressure to keep up with the technological advances and ever-increasing paperwork. This limits the time they can spend with patients. An average patient visit is 2 minutes,² and there are as many as 98,000 fatal mistakes made in American hospitals each year.³

The stress of illness or injury is often compounded by the stress of treatment expenses, inability to understand the medical procedures or technical language, and frustration with the impersonal system of health care delivery. There is an urgent need to improve doctor-patient rapport. Humor can improve communication with patients and can help prevent health professionals from experiencing burn-out and stress-related illnesses.⁴ Humor also has therapeutic value on a physiological level, in that laughter can ease pain, boost the immune system, and provide cardiovascular exercise. A humor agenda may prove to be an indispensable part of the health care package for both the receivers and providers of

medical care! The following article will include some effective examples of how to turn glum into fun.

Humor: Definitely!

The Oxford English Dictionary defines “humor” as “that

quality of action, speech, or writing which excites amusement; oddity, jocularity, facetiousness, comicality, fun.” In psychological terms, humor includes cognitive, behavioral, psychophysiological, emotional, and social elements. Humor can refer to “a stimulus (eg, a

comedy film), a mental process (eg, perception or creation of amusing incongruities), or a response (eg, laughter, exhilaration).” Laughter is “a respiratory-vocal-behavioral pattern” that produces a certain set of psychophysiological responses, and an emotional state of exhilaration.”

Theoretically, humor has therapeutic value. While the positive effects of laughter are readily measured, it is more difficult to evaluate the benefits of humor to date because of the many variations in definition and the resulting inconsistencies in methods of research. Further studies with better controls are needed to resolve the sometimes inconclusive or anecdotal results of the existing studies.⁵ Regardless of strategic difficulties in evaluation, humor does unquestionably create a positive and healthy atmosphere for patients and doctors.

Humor Therapy: A Historical Perspective

“A good laugh and a long sleep are the two best cures.”—Irish Proverb¹

An Overview of the Science and Practice of Humor—HA!

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The word humor is derived from the Latin root “umor,” which means fluid or liquid. In the Middle Ages, humor was thought of as an energy that determined one’s health and emotional state, and was related to one’s body fluid. A sanguine humor, for example, was a cheery disposition associated with blood, while a choleric humor was an angry temper associated with bile.⁶

The healing properties of joy and mirth have been valued throughout history. In biblical times, it was believed that “a merry heart doeth good like a medicine” (Proverbs 17:22; [King James Bible]). In the early 13th century, there were a handful of physicians and philosophers who claimed that laughter provided physical exercise to both the muscles and inner organs of the body, improved digestion, increased respiration, enriched the blood, and improved circulation.⁵ Henri de Mondeville, a professor of surgery in the 1300s, proclaimed, “Let the surgeon take care to regulate the whole regimen of the patient’s life for joy and happiness, allowing his relatives and special friends to cheer him, and by having someone tell him jokes.”⁶ Dr. Thomas Sydenham, a 17th century physician was convinced that, “The arrival of a good clown exercises more beneficial influence upon the health of a town than of twenty asses laden with drugs”⁷ (see Figure 1). Florence Nightingale wrote in the 1860s that the fears suffered by patients in hospitals concerning their physical condition and confinement were “far better dismissed by a real laugh.”⁸

The Beginnings of Clinical Research

The first clinical laughter research in the United States was conducted in the 1930s by Dr. H.A. Paskind, who examined

how laughter affects muscle tone, closely followed by Dr. E.L. Lloyd’s documentation of its respiratory benefits. In 1953, Dr. William Fry began researching the emotional, psychological, and physiological effects of laughter. One of his important findings was that it enhances alertness, learning, creative thinking, and memory.⁵

The modern medical community did not start seriously exploring the validity of humor therapy until the 1970s. Norman Cousins’ 1976 book, *Anatomy of an Illness*, inspired a dramatic acceleration in laughter and humor research. The book described his self-treatment for ankylosing spondylitis, a progressive degenerative disease of the collagen tissue. Cousins initiated his own laughter therapy program of viewing amusing films, and discovered that 10 minutes of belly laughter provided him with 2 hours of pain relief. He found that he was able to sleep comfortably without analgesia or sedation after a good bout of laughing, and he also discovered a decrease in his rate of sedimentation, which correlated with a reversal of the inflammatory response.⁴ In medical parlance, this is called a “sed rate” or ESR, which stands for erythrocyte sedimentation rate. It is a general measure of inflammation in the body and a nonspecific way to tell if somebody has an inflammatory illness or is improving once the diagnosis is made. It is like a fever in that respect since it does not help with diagnosis, but it is a good tool to tell if somebody is ill. After recovering, Cousins spent his final years of life conducting studies at UCLA’s Department of Behavioral Medicine doing research in this area. He started the Humor Research Task Force to support and coordinate international clinical humor research.⁶

Physiological Response

Laughter has been found to have musculoskeletal, endocrine, cardiovascular, immunological, and neural benefits.⁵ The bed-bound patient can enjoy belly laughter as an alternate form of cardiovascular workout⁹ (see Figure 2). It increases heart rate and peripheral vascular flow due to vasodilatation⁴ and reduces blood pressure in the long run.⁹ It has a cleansing effect similar to deep breathing as it increases respiratory rate and depth, and empties the lungs of more air than they take in.⁴ This can be beneficial for patients suffering from respiratory ailments such as emphysema,⁹ although vigorous sustained laughter may aggravate certain conditions such as asthma or bronchitis.⁴ Vigorous laughter is a workout for the diaphragm, abdominal, intercostal, respiratory accessory, and facial muscles. Even the muscles in the arms, legs, and back are sometimes involved if laughter is vigorous enough.⁴

Muscle relaxation is another end result of laughter, since the muscles required to laugh get exercised and then relax when the laughing ends, while those not involved get a chance to relax during the actual laughter.⁹

Psychoneuroimmunology

This area of research explores the neurological system’s mediation of the relationships between human emotional experience and immune responses.⁶ Psychoneuroimmunological studies prove the interrelation of mind and body; positive emotions enhance the immune system, while negative ones suppress it.⁴

Laughter is an effective distraction for patients with pain. It

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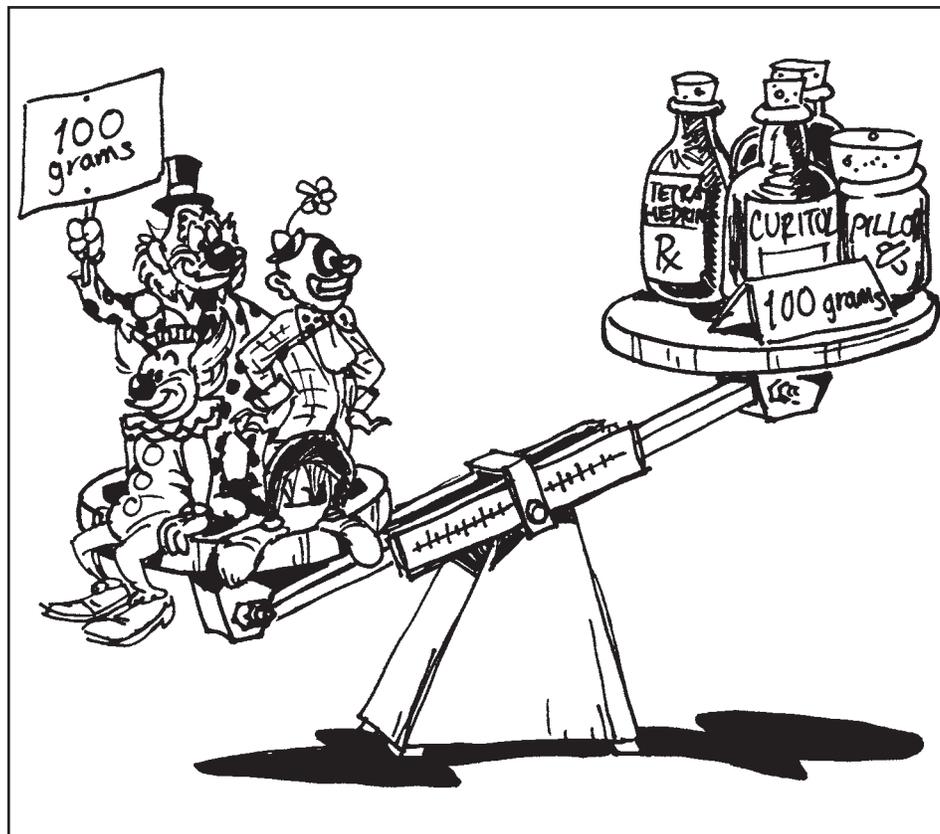
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Figure 1.



also can be particularly useful as intervention for painful medical procedures because it raises the threshold for discomfort, and its effects can last for 10 minutes or longer after the laughter subsides.¹⁰ It also facilitates communication between technician or doctor and makes the procedure more tolerable if not more comfortable.

The immune system has been shown to be positively influenced by laughter-induced changes in catecholamine and cortisol levels. According to the studies of widely renowned laughter researchers, Dr. Lee Berk and Dr. Stanley Tan, laughter induces a eustress state. This positive state boosts the immune system by causing an increase in the number and activity level of defensive immune cells, including activated T cells (which attack and kill viruses and tumor cells), antibody IgA (salivary immunoglobulin A, which fights upper respiratory tract infections), gamma interferon, IgB,⁵ (a hormone that regulates cell growth and fights viruses) and Complement³ (which helps antibodies pierce weakened cells).⁵ These increased levels continue in the body until the day following the bout of laughter. Laughter also decreases the levels of neuroendocrine hormones such as epinephrine, cortisol, dopac, and growth hormone,

all of which are associated with stress-induced constriction of blood vessels and suppression of immune activity⁹ (see Figure 3). A recent study into allergen-induced wheal reactions suggests that laughter may alleviate symptoms associated with allergic diseases, such as atopic dermatitis.¹¹

Even forced or pretend laughter has beneficial effects. Dr. Madan Kataria started a movement of Laughter Clubs in India in 1995, which has since been transported to and spread throughout the United States and Canada. This form of laughter therapy involves a series of creative group laughter exercises with no use of humorous prompts to initiate the laughter. In essence, the participant is going through the motions and pretending to laugh. Though the laughter isn't spontaneous, many of the physiological benefits are the same, and it often does turn into true laughter. The act of pretending to be mirthful eventually tricks the body into believing it. Laughter leaders across the United States have observed positive responses in long-term care facilities. Patients with Parkinson's disease have fewer tremors during the laughter exercises, and their coordination improves. Alzheimer's patients are able to remember the exercises between sessions.¹²

Psychological Response

"One of the most adaptive ways a human being has of dealing with severe illness and also with the finality of death itself is through humor." — Ramond Moody, MD¹

Humor can be an important psychological coping mechanism.

Figure 2.

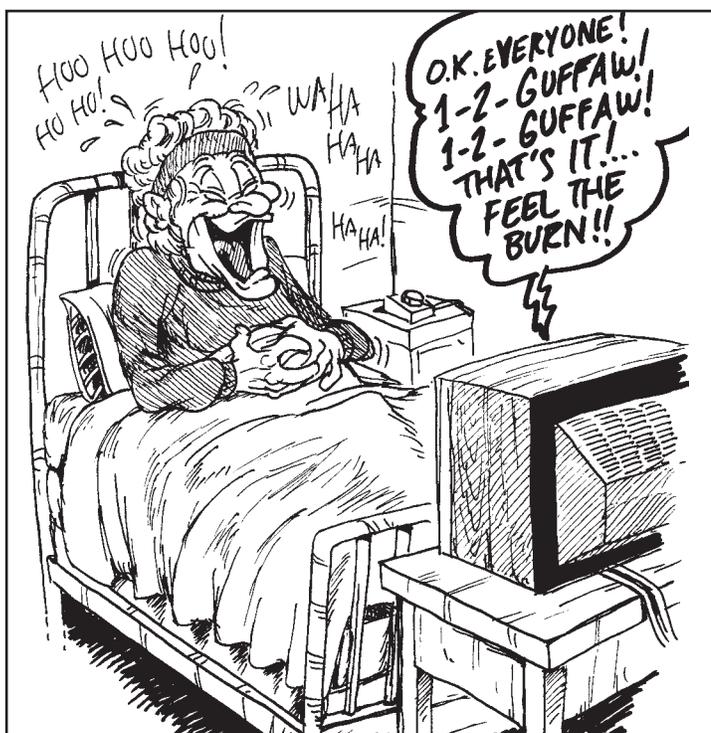
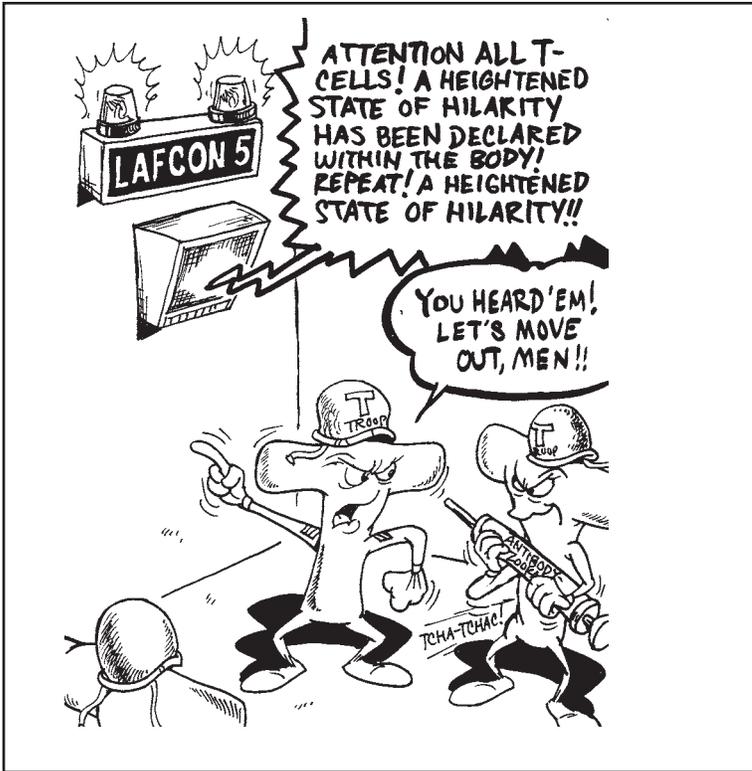


Figure 3.



Laughter can provide a cathartic release of emotional tensions.⁶ Illness and hospitalization often induce fear, anger, depression, a sense of helplessness, and loneliness in patients. The stress that comes from invasive medical procedures, technology and intimidating terminology that is difficult to understand, separation from loved ones, and unfamiliar caregivers can impede recovery.⁴ Humor causes a shift from negative to positive emotions,¹³ influencing perceptions of and responses to change.⁴ By reframing perspective, humor shares something in common with and can help supplement cognitive behavioral psychotherapy, which focuses on helping patients rethink things in less depressing terms. It is based on the premise that depressive thinking is a learned behavior and thinking pattern and can be reprogrammed. It is one of the more successful methods to treat depression outside of medication. It allows the detachment and the “positive reinterpretation” necessary to cope with distress (see Figure 4). Being able to laugh at our problem fosters a feeling of power and superiority over it, and helps to prevent slipping into feelings of depression or helplessness. Those who have more humor in their lives experience less mood disturbance from stressful circumstances than those who are lacking the ability to sense and appreciate humor. In the words of Bill Cosby, “If you can laugh at it, you can survive it.”⁶

Humor aids in healthy, positive interpersonal relations by promoting social bonding, intimacy, and conflict resolution.¹³ It humanizes the doctor and all his or her interactions with patients. Robin Williams starred in the hit movie *Patch Adams* released in 1998, the true story about a clown doctor dedicated to fun and free health care. The success of this film may have reflected a societal craving for and interest in better bedside manner. According to recent Scandinavian research, a patient laughs an

average of 4 times during a visit with the doctor. The doctor gives no response 70% of the time, and only reciprocates with laughter 10% of the time. This creates an awkward dynamic between doctor and patient. Laughter is an invitation to share on a deeper level with the patient, and when it isn't returned, the “professional” distance and neutrality is often a barrier in communication¹⁴ (see Figure 5). Humor is an effective way for health professionals to improve communication and patient education. It captures attention, enhances the retention of information, and dissolves the tensions that impede the ability to learn.⁴ It also increases the chances of a patient asking important questions and complying with the treatment protocol. Since compliance is the most important step in treatment, this is no small consideration.

Humor is also an effective tool for overcoming the hurdles of working in the health care profession. Health care providers are prone to “compassion fatigue” —that burnt out feeling of having little left to give.⁶ Further, employees in a stressful environment such as a hospital or clinic are at risk for coming down with stress-related illnesses.⁴ Tension between co-workers in a health care facility can also make patients feel uncomfortable. Finding ways to infuse fun and humor into the health care environment promotes a more relaxed and nurturing atmosphere for both staff and patients.

NOT a Laughing Matter!

Humor can be destructive if it undermines the patient's

Figure 4.

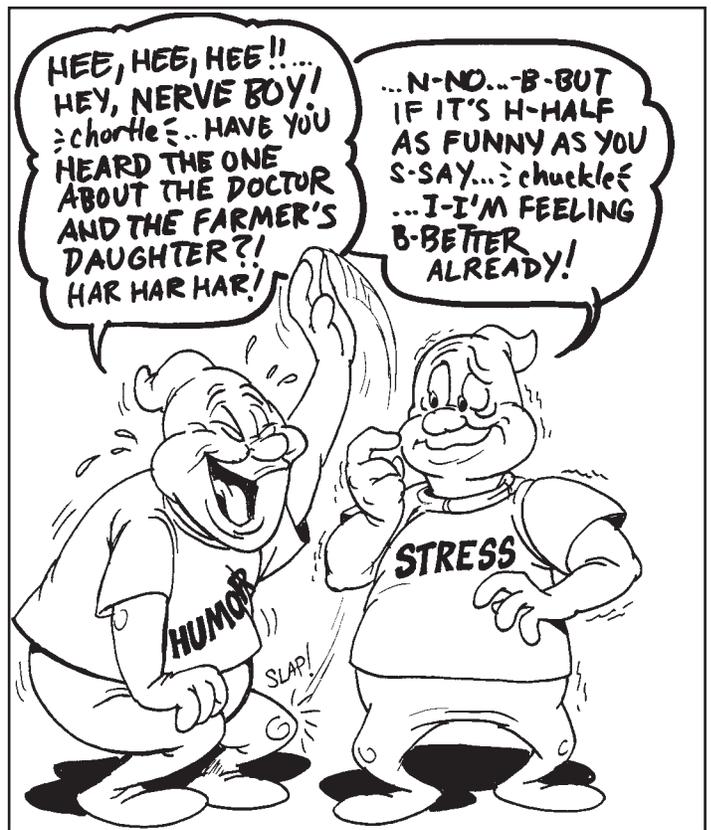
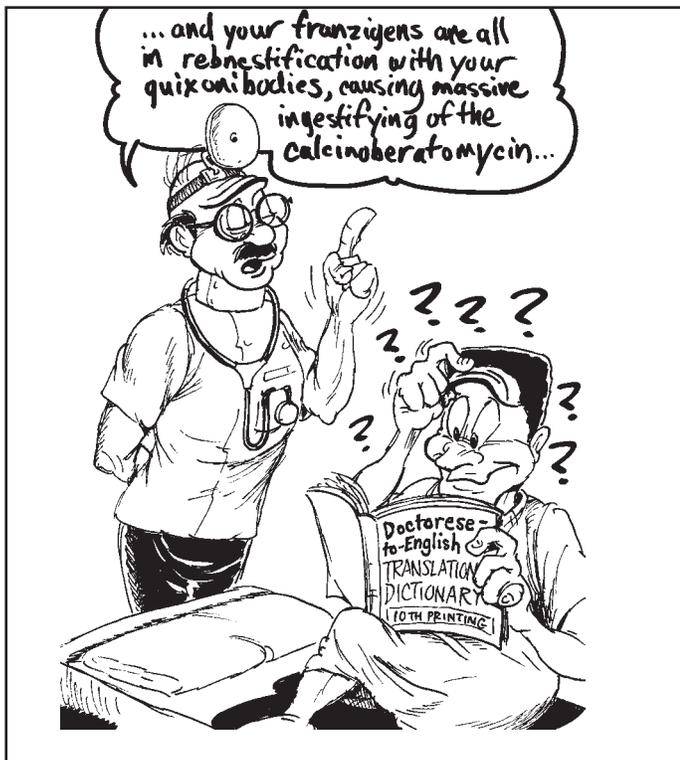


Figure 5.



feelings and wishes.⁴ There are inappropriate moments to poke fun, and everyone's sense of humor is different. If attempts at levity aren't working, just stop the joking around. Make sure to not make exclusionary inside jokes between staff within range of sight and sound of the patient. Never use material that may be ethnically, racially, or sexually offensive. Apologize in earnest if a patient or their family is insulted or misinterprets the humorous intentions. The aim of using humor is to make the patient feel comfortable, not ostracized.⁴ The safest way to initiate humor is to get to know the patient first and establish a sense of trust. But always end on a more serious note letting the patient know that you are taking them and their illnesses and treatment seriously.

Even when good patient-doctor rapport is established, there are inappropriate moments to poke fun in a medical setting. Although laughter can be helpful in reducing the patient's anxieties prior to surgery, it can cause the patient physical pain to laugh in the time immediately following surgery. In general, humor is appropriate in a chronic situation or when things have settled down and not in an acute situation.

There are also times when laughter is not a healthy behavioral response. Too much joking around can also indicate a denial of the seriousness of an illness.¹ Laughter can also be a physical manifestation of the illness a patient suffers. Pathological laughter sometimes accompanies conditions such as multiple sclerosis¹⁵ or the suffering from a traumatic brain injury.¹⁶ Although this is rarely a problem, pathological laughter from patients is less common than pathological seriousness among doctors.

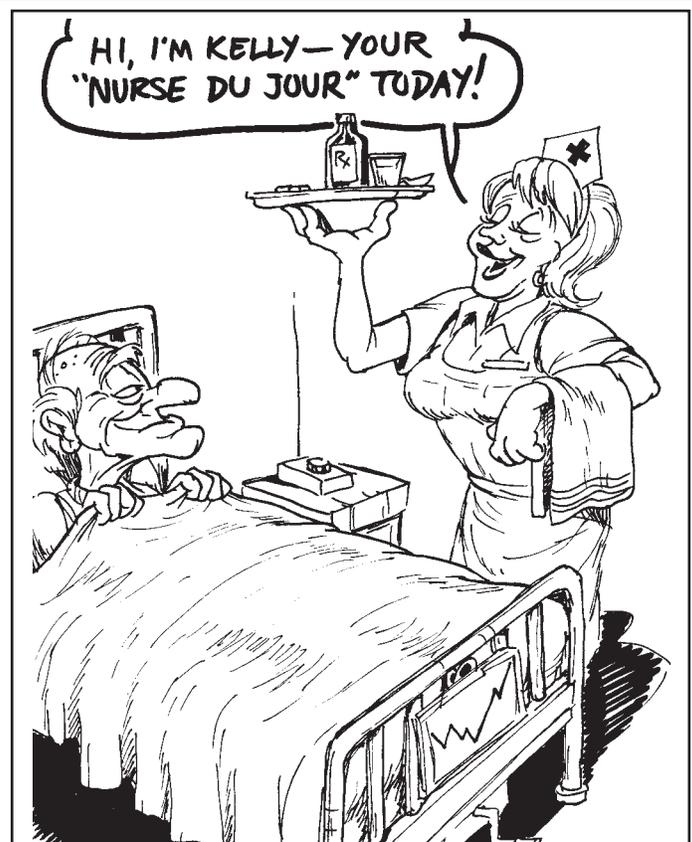
On the Job: Humor Inserts

In a serious situation, sometimes the most helpful thing a

health professional can do is give the patient permission to laugh! While illness and death are not funny, many of the things that happen around them are. The hospital, while far from being a funny place, is the breeding ground for all sorts of absurd occurrences. Encourage patients to keep a journal of all the absurd things that happen during their illness.¹⁷ Just because they are a patient does not mean they cease to have the sense of humor with which they came into the hospital. If they had no sense of humor (and who really doesn't or would admit to it?), this is as good a time as any to develop one.

Humor can be a vehicle for health workers to express their empathy for the struggles of the patient. Shared laughter unites individuals and helps physicians/nurses and patients to connect on a more human level.¹ The complaint about a hospital gown being too short or revealing can be met by a comment such as, "Well, you know you're being admitted for observation." Humor also serves to reframe unpleasant circumstances or anxiety-inducing situations, such as being in the hospital. For example, when instructing the patient in the use of the call light, the health worker can liken it to a room service button. After completing a ventilator check or blood gas analysis, the health worker can smile and say, "Well, you look good on paper. How does it feel on the inside?" These types of comments may not be side-slappingly funny, but they can help to relax the patient and create an environment of lightheartedness⁴ (see Figure 6). A computer questionnaire called SMILE (Sub-

Figure 6.



jective Multidimensional Interactive Laughter Evaluation) is one of a number of humor aids currently available to hospitals and doctors. It provides a customized humor prescription of material appropriate for the patient's tastes and personality.¹⁸

There are a growing number of humor enthusiasts infusing the medical world with laughter. The following are just a few examples of success stories in the realms of the ridiculous. Morton Plant Hospital in Clearwater, Fla, has a volunteer Comedy Connection program run by Leslie Gibson, RN. It has been a model for hospital humor projects worldwide for more than 10 years. The Comedy Connection has a troupe of volunteer clowns who make patient visits on a regular basis, as well as a storeroom full of Comedy Carts stocked with humorous video tapes and vcrs, audio tapes and cassette players, books, toys, tricks, and games that patients can use free-of-charge during their hospital stay.

In 1986, New York's Big Apple Circus developed a Clown Care Unit (CCU) of professionally trained circus clowns who dress up like doctors and make clown rounds in children's hospitals, administering "red nose transplants, kitty 'cat' scans, and chocolate milk transfusions," to young patients. The CCU has since spread to other major cities, including Boston, Chicago, Miami, Seattle, Washington, and Atlanta, and there are now also affiliate programs in France, Germany, and Brazil.¹⁹

At Washington University in St. Louis, they take their funnies seriously. The school of medicine has developed a 'Clown Doc' program of real doctors who dress up as clowns to do their rotations at the children's hospital. Medical students can take a Medicine of Laughter class, and learn how to make clown rounds for credit towards their degree, under the tutelage of Dana Abendschein PhD (see Figure 7).

The real Patch Adams started the Gesundheit! Institute in West Virginia in 1971. He and his national crew of clowns and doctors promote and conduct humorous house calls to hospitals and orphanages through newsletters, web sites, workshops, and international onsite visits. They hope to build the world's first silly hospital, where fun and play will be the foundation. Patch encourages doctors to try wearing a costume or clown nose to work, to stock their pockets with tricks and fun props, and to look to both the masters of comedy and to children for the creative inspiration to find fun in everyday encounters.⁷

Even in circumstances in which health professionals feel uncomfortable trying any funny stuff in their interactions with patients, there are many ways to incorporate humor into the medical workplace. Laughing at oneself is a great start for lightening the mood. Post photos of each staff member at 1 month old in the waiting room and ask the patients to identify who is who (see Figure 8). Keep an eye out for the real life bloopers that happen every day, and share anecdotal stories with patients. Encourage patients to tell their humorous stories of what they have experienced. There are some very funny books about illness and recovery authored by former patients, such as *Surviving the Cure* by Janet Henry, *Please Don't Stand on my Catheter* by T. Duncan Stewart, and *Patients at Large* by cartoonist Tom Jackson.⁴ There are also doctor-authored humorous books that demystify medicine. Some examples are

Figure 7.

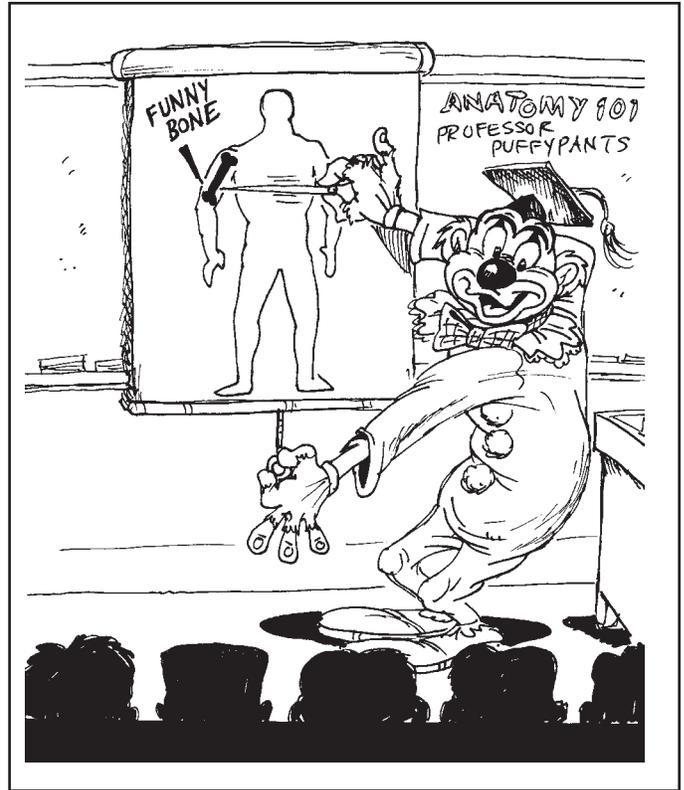
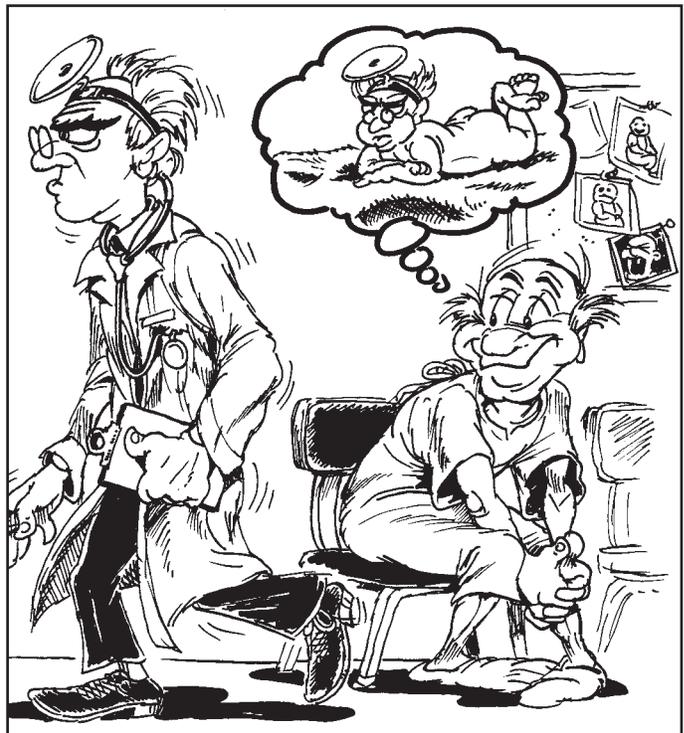


Figure 8.



Finally...I'm a Doctor,²⁰ *101 Ways to Know if You're a Nurse*,²¹ and the children's book, *What's in a Doctor's Bag?*²². Humorous books and magazines make great fodder for doctors' waiting room tables. Pinning up cartoons on walls and doors can also brighten up the clinical atmosphere. Spread cheer by sending out humorous newsletters to staff and patients. Throw a party for all the patients on a ward. Mime a serenade of appreciation to a fellow staff member. Be inventive! Readers are invited to share their innovative approaches to using humor in their practices at www.dochollywood.com.

Summary

Humor is a social lubricant that is invaluable to the stress-infused medical environment. It aids in communication, promotes relaxation, and is one of the best coping tools for both patients and health professionals. Laughter not only makes the mind feel good, but it does the body good. It eases physical pain, it has cardiovascular and respiratory benefits, and it strengthens the immune system. A sense of humor is a crucial component in the delivery of quality health care. As long as it's not at the expense of others, the creative possibilities for boosting the laughter levels are limitless!

References

1. Klein A. *The Courage to Laugh*. New York, NY: Penguin Putnam Inc; 1998:3-66.
2. Shulman N, Sobczyk R. *Your Body Your Health*. Amherst, NY: Prometheus Books; 2002: 15.
3. Medical Errors & Patient Safety. Agency for Health Care Research and Quality. www.ahrq.gov/qual/errorsix.htm
4. Wooten P. Laughter as Therapy for Patient and Caregiver. In: *Hodgkin (ed) Pulmonary Rehabilitation*. Philadelphia, Pa: Lippincott; 1993.
5. Martin RA. Humor Laughter, and Physical Health; Methodological Issues and Research Findings. *Psychological Bulletin*. 2001; 127:504-519.
6. Wooten P. Humor: An Antidote for Stress. *Holistic Nursing Practice*. 1996;10:49-55.
7. Adams P, Mylander M. *Gesundheit!* Rochester, Vt: Healing Arts Press; 1998: 65-75.
8. Brennan B. Depressed? Ya gotta Laugh. *The Calgary Herald*. Calgary, ON; Oct. 18, 1998.
9. Humor: Therapeutic Benefits of Laughter. *Holistic-online*. www.holisticonline.com/Humor_Therapy/humor_therapy_benefits.htm.
10. Pasero CL, McCaffery M. Is Laughter the Best Medicine? *Am J Nurs*. 1998;98:12-14.
11. Kimata H. Effect of Humor on Allergen-Induced Wheal Reaction. *JAMA*. 2001;285:738.
12. Kwan J. How Clowns Can Share the Soul and Spirit of Laughter Clubs With Seniors. www.worldlaughtertour.com/pdfs/Kwan-Hosp%20clown%20newsletter.pdf.
13. Keltner D, Bonanno GA. A Study of Laughter and Dissociation: Distinct Correlates of Laughter and Smiling During Bereavement. *J Pers Soc Psychol*. 1997;73:687-702.
14. Dobson R. Doctors fail to see the joke. *BMJ*. 2002;325:561.
15. Feinstein A, et al. Prevalence and neurobehavioral correlates of pathological laughing and crying in multiple sclerosis. *Arch*

Neurol. 1997;54:1116-1121.

16. Zeilig G, et al. Pathological laughter and crying in patients with closed traumatic brain injury. *Brain Inj*. 1996;10:591-597.
17. Klein A. *The Healing Power of Humor*. New York, NY: Penguin Putnam Inc; 1989: 178-181.
18. SMILE Programs and Services. www.humoru.com/smile-what-is.htm
19. Big Apple Circus Clown Care Unit. www.bigapplecircus.org/CommunityPrograms/ClownCareUnit/
20. Shulman N. *Finally...I'm a Doctor*. Decatur, Ga: Rx Humor; 1996.
21. Shulman N. *101 Ways to Know if You're a Nurse*. Decatur, Ga: Rx Humor; 1998.
22. Shulman N, Fleming S. *What's In A Doctor's Bag?* Decatur, Ga: Rx Humor, 1994.

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CME Questions

1. Psychoneuroimmunology is the field of research that:
 - a. explores psychological immunity to neurotic and psychotic behavior patterns.
 - b. explores the psychological and physiological effect of poor doctor-patient relations.
 - c. explores the effect of inflammation on behavior patterns and personality traits.

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- d. explores the neurologically-mediated relationships between emotional states and immune responses.
 - e. explores psychiatric disorders which release sexually-related hormones and stress-induced hormones.
2. Laughter induces a eustress state that:
- a. increases the activity level of Complement 3 in the body.
 - b. decreases the activity level of antibody IgA in the body.
 - c. increases the activity level epinephrine in the body.
 - d. decreases the activity level of gamma interferon in the body.
 - e. increases the activity level of dopac in the body.
3. The name of the organization Cousins established to support and coordinate clinical humor research is:
- a. the Medicine of Laughter Research Institute.
 - b. the Humor Research Task Force.
 - c. the Subjective Multidimensional Interactive Laughter Evaluation Group.
 - d. the Institute for Comedy Connection.
 - e. the Clown Care Unit Evaluation Team.
4. Humor is an effective way for health care professionals to:
- a. improve communication with patients.
 - b. safe-guard against stress-related illnesses.
 - c. undermine a patient's feelings and wishes.
 - d. a and b
 - e. a and c
5. Vigorous sustained laughter may aggravate certain conditions, such as:
- a. multiple sclerosis or traumatic brain injury.
 - b. Parkinson's disease or Alzheimer's disease.
 - c. asthma or bronchitis.
 - d. lupus or any peripheral vasculitis.
 - e. atopic dermatitis or ankylosing spondylitis.
6. Humor is a psychological coping mechanism that:
- a. provides a cathartic release of emotional tensions.
 - b. allows the detachment necessary to cope with distress.
 - c. fosters the feeling of superiority over a problem.
 - d. All of the above
 - e. None of the above

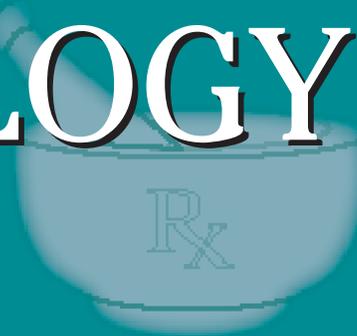
CME Answers

1. d; 2. a; 3. b; 4. d; 5. c; 6. d

In Future Issues:

**Lipids—
Michael E. McIvor, MD**

PHARMACOLOGY WATCH



FDA Approves Claritin For OTC Use For Seasonal Rhinitis

After years of legal wrangling, the FDA has approved loratadine (Claritin, Schering-Plough) as an over-the-counter (OTC) product for the treatment of seasonal rhinitis. Loratadine is considered a nonsedating antihistamine, and its OTC approval was linked with the FDA's work with the National Transportation Safety Board to improve public awareness about the concerns of drowsiness while driving associated with older antihistamines. The OTC switch also comes within months of loss of patent protection for loratadine and the entry into the market of generic equivalents. The OTC switch applies to all 5 formulations of Claritin, and at least 1 generic house plans to market "Reditabs." Meanwhile, Schering-Plough continues to aggressively market desloratadine, the active metabolite of loratadine under the trade name Clarinex, in an attempt to protect its \$3 billion Claritin market.

Simpler Atrial Fibrillation Management

Management of atrial fibrillation (AF) may be simpler in the future based on the results of 2 studies published in the December 5, 2002, *N Engl J Med*. The larger of the 2 studies (AFFIRM) enrolled more than 4000 patients in the United States and Canada with AF and at least 1 other risk factor for stroke such as hypertension, coronary artery disease, diabetes, congestive heart failure, or age older than 65. Patients were randomized to a rhythm control strategy with cardioversion followed by amiodarone, sotalol, propafenone, or older antiarrhythmics such as procainamide or quinidine; or a rate control strategy with digoxin, beta-blockers, and/or calcium channel antagonists. All patients in both groups were anticoagulated with warfarin. The primary end point was overall mortality. The 5-year death

rate was 23.8% in the rhythm control group and 21.3% in the rate control group ($P = 0.08$). Rhythm control was associated with more hospitalizations and more adverse drug effects. In the second study from The Netherlands, 522 patients with persistent AF after electrical cardioversion were randomized to treatment aimed at rate control or rhythm control. Both groups received oral anticoagulation, and the composite end point was death from cardiovascular causes as well as bleeding, implantation of a pacemaker, or severe adverse effects of drugs. After a mean duration of nearly 2.5 years, the primary end point occurred in 44 patients in the rate control group (17.2%) and 60 patients in the rhythm control group (22.6%) ($P = 0.11$). Although both studies showed trends toward adverse outcomes with rhythm control, neither study reached statistical significance. The authors of both studies suggest that a rate control strategy for the treatment of AF is at least as good as the rhythm control strategy. In an accompanying editorial, Michael D. Cain, MD, states that "on the basis of these data, rate control can now be considered a primary approach to the treatment of atrial fibrillation." He also suggests that nonpharmacologic treatments for AF will still be pursued with the goal toward maintaining

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sinus rhythm (*N Engl J Med.* 2002;347:1825-1833; 1834-1840; 1883-1884).

Oral Anticoagulation Vs Aspirin in AF

In a related study, oral anticoagulation was found to be superior to aspirin in preventing stroke in patients with atrial fibrillation (AF) or paroxysmal AF. The study was a pooled analysis of 6 trials of more than 4000 patients who were randomized to receive therapeutic doses of oral anticoagulant or aspirin with or without low-dose oral anticoagulants. Patients receiving oral anticoagulation were significantly less likely to experience stroke (2.4 vs 4.5 events per 100 patient years; hazard ratio [HR], 0.55), ischemic stroke (HR, 0.48), or cardiovascular events (HR, 0.71) but were more likely to experience major bleeding (2.2 vs 1.3 events per 100 patient years; HR, 1.71). Anticoagulant therapy also showed benefit on all-cause mortality but only after 3 years of therapy. Interestingly, more benefit was seen for anticoagulation vs aspirin in patients younger than 75 compared to those 75 years or older. A lesser benefit was also seen for women compared to men. The authors suggest that oral anticoagulation is more effective than aspirin in decreasing the risk of stroke and other cardiovascular events in patients with nonvalvular AF (*JAMA.* 2002;288:2441-2448).

Immunization Does Not Cause Autism

A new study should put an end to concern regarding the MMR (measles, mumps, and rubella) vaccine and its possible link to autism. Researchers in Denmark looked at the records of all children born between January 1991 and December 1998, representing a cohort of almost 540,000 children. Of those, 82% (440,655) received the MMR vaccine. In the cohort, 316 children were diagnosed with autism and 422 were diagnosed with other artistic spectrum disorders. After adjustment for potential confounders, the relative risk for artistic disorder in the vaccinated children compared to the unvaccinated was 0.92 (95% CI, 0.68 to 1.24). The relative risk for other artistic spectrum disorders was 0.83 (95% CI, 0.65 to 1.24). The authors also looked for a possible association between age at the time of vaccination, the time since vaccination or the date of vaccination, and development of artistic disorder and found no relationship. They also found no temporal clustering of cases of autism at any time after immunization (*N Engl J Med.* 2002;347:1477-1482).

Statins May Lower CRP Levels

C-reactive protein (CRP), an inflammatory marker, has shown to be a strong predictor of cardiovascular events, perhaps even more predictive than LDL cholesterol levels (*N Engl J Med.* 2002; 347:1557-1565). Most physicians have looked at these studies with interest but have been unsure what to do with an elevated CRP level in an individual patient. Perhaps even more importantly, it is unclear whether lowering CRP affects cardiovascular outcomes. Until an answer is found to this important question, an increasing body of evidence is suggesting that statins may lower CRP levels.

Simvastatin Reduced CRP Plasma Levels

A recent study reviewed the use of simvastatin in 130 patients with mixed hyperlipidemia and 195 patients with hypertriglyceridemia in a placebo-controlled, double-blind trial. After 6 weeks of treatment with simvastatin 20, 40, and 80 mg, significant reductions in CRP plasma levels were noted vs placebo ($P < 0.05$) (*Am J Cardiol.* 2002;90:942-946). CRP lowering by statins appears to be a class effect with multiple reports of benefit with various statins in the last 2 years.

FDA Actions

Roche's pegelated interferon alfa-2a (Pegasys) has been approved for use in combination with a ribavirin for the treatment of hepatitis C. The drug was approved in October 2002, but Roche has been eagerly awaiting the approval for combination treatment in order to compete with Schering-Plough's Peg-Intron/ribavirin combination for the same indication.

Eli Lilly has received approval to market atomoxetine (Strattera) for the treatment of attention deficit hyperactivity disorder (ADHD). Unlike other drugs for this indication, atomoxetine is not a stimulant and is not listed as a controlled substance. Rather, the drug is a selective norepinephrine reuptake inhibitor, which seems to play a role in regulating attention, impulsivity, and activity levels. Strattera is approved for treatment of ADHD in children, adolescents, and adults.

Eli Lilly has also received approval to market teriparatide injection (Forteo) for the treatment of osteoporosis in postmenopausal women who are at high risk for fracture. Teriparatide is a portion of human parathyroid hormone, which stimulates new bone formation in the spine and hip. The drug is given by daily injection in the thigh or abdomen. ■

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Effects of Losartan on Cardiovascular Morbidity and Mortality in Patients with Isolated Systolic Hypertension and LVH

Source: Kjeldsen SE, et al. *JAMA*. 2002;1491-1498.

SINCE THE EARLY 1990S IT HAS BEEN recognized that left ventricular hypertrophy (LVH) is an important prognostic indicator for cardiovascular morbidity and mortality. More recently, it has been suggested that angiotensin receptor blockers (ARBs) might exert a particularly favorable effect upon LVH, perhaps even independent of blood pressure (BP) effects. The LIFE (Losartan Intervention for Endpoint Reduction) study was designed to test the hypothesis that losartan (LSN) exerts preventive cardiovascular effects, beyond simply controlling BP. To this end, a randomized, controlled trial (n = 1326) of LSN vs atenolol (ATN) was initiated in persons with isolated systolic hypertension and LVH, with a primary composite end point of cardiovascular death, stroke, and MI.

Despite the fact that BP reduction was equal in both groups (28/9 mm Hg), there was a 25% relative risk reduction in the primary end point (CV death, stroke, MI) in favor of losartan. Additionally, LVH reduction was much more vigorously achieved by LSN than ATN. Stroke reduction was particularly favorably affected by LSN, in which a 40% reduction compared to ATN was seen.

Lastly, LSN demonstrated a more favorable tolerability profile than ATN: discontinuations due to drug-related events were half as frequent in recipients of LSN than ATN. ■

Increase in Nocturnal Blood Pressure and Progression to Microalbuminuria in Type 1 Diabetes

Source: Lurbe E, et al. *N Engl J Med*. 2002;347:797-805.

IT HAS BEEN NOTED THAT AMONG persons with type 1 diabetes (DM-1), hypertension (HTN) often develops concomitantly with occurrence of microalbuminuria (MAU). Closer investigation with ambulatory BP monitoring (ABPM) suggests that nocturnal blood pressure elevations (NBP) are particularly associated with MAU; however, whether the NBP causes the MAU (or they are concomitant) has been uncertain.

Lurbe and associates prospectively studied ABPM in adolescent DM-1 patients (n = 75) who were normoalbuminuric and normotensive at enrollment. Subjects were periodically monitored by ABPM and urinary albumin measurements for more than 5 years. MAU developed in 19% of study subjects, and was preceded by a modest elevation in BP, but it was only the NBP in which change was manifest. Over time, in the group that ultimately developed MAU, the NBP increased by

5 mm Hg compared to baseline; in the normoalbuminuric group, NBP did not change. The subtlety of these findings is reflected by the fact that neither office BP, nor mean daytime BP predicted MAU. Hence, ABPM may detect modest BP patterns, which lead to early prediction of target organ damage. ■

HRT, Lipid, and Glucose Metabolism in Diabetic and Nondiabetic Postmenopausal Women

Source: Crespo CJ, et al. *Diabetes Care*. 2002;25:1675-1680.

LIKE CARDIOVASCULAR DISEASES, type 2 diabetes (DM-2) increases in postmenopausal women. Prospective randomized interventional trials have not shown a benefit for hormone replacement therapy (HRT) in improving cardiovascular outcomes. The effect of HRT upon lipids and glucose among diabetic populations has been little studied. Crespo and colleagues evaluated subjects (n = 2786) in the Third National Health and Nutrition Examination Survey (NHANES III) seeking the relationship between HRT, diabetes, and lipids.

In diabetic women, total cholesterol and non-HDL levels were significantly lower in women who used HRT than never users, but there was no difference in HDL levels. In contrast, in nondiabetic women HDL levels were higher in HRT users than

nonusers. Fasting glucose levels (FBS) in diabetic women were significantly lower in HRT recipients than never users (112 mg/dL vs > 150 mg/dL). Crespo et al conclude that menopausal HRT is associated with improved FBS, total cholesterol, and non-HDL in diabetics. The fact that these findings are observational in nature suggests cautious interpretation until their clinical relevance is ascertained through interventional trials. It may be that other, undetected factors in women who choose to use HRT are influencing lipid and glucose metabolism. ■

Effects of Long-Term Treatment With ACE Inhibitors in the Presence or Absence of Aspirin

Source: Teo Koon K, et al. *Lancet*. 2002;360:1037-1043.

BOTH ANGIOTENSIN CONVERTING enzyme inhibitors (ACEI) and aspirin (ASA) have a proven

valuable track record in a variety of cardiovascular preventive and therapeutic areas. One of the mechanisms by which ACEI are believed to confer benefit is the production of vasodilatory prostaglandins, including PGI-2 and PGE-3. Since ASA can blunt production of prostaglandins, it is conceivable that the combination of the 2 might “cancel out” beneficial effects. To date, evaluation of large clinical trials in which both ASA and ACEI were used have provided conflicting data. Hence, Teo and associates undertook a systematic review of long-term randomized trials in which ACEI and ASA were coadministered (n = 22,060) for meta-analysis.

ACEI treatment in these trials (including the SOLVD treatment, SOLVD prevention, SAVE, AIRE, TRACE, and HOPE studies) produced overall a 22% reduction in major clinical outcomes. Concomitant use of ASA was not associated with a statistically significant diminution of benefit. Based upon this information, Teo et al suggest that for persons who are receiving either ACEI or ASA, if the other agent is indicated, clinicians may feel confident that the combination will not reduce beneficial effects. ■

Long-Term Risks Associated with Atrial Fibrillation: 20-Year Follow-up of the Renfrew/Paisley Study

Source: Simon S, et al. *Am J Med*. 2002;113:359-364.

MOST OF THE STUDIES OF ATRIAL fibrillation (AF) that address cardiovascular (CV) consequences provide only short-term or intermediate-term insight (6 months-24 months). Long-term consequences of AF are much less studied. Simon and colleagues evaluated CV outcomes (including hospitalizations and deaths) over a 20-year follow-up in 15,000 persons enrolled in Renfrew and Paisley, Scotland. The population was middle-aged (45-64 years) at enrollment.

At entry enrollment (1972-1976), 100

persons had AF. During the extended follow-up, women manifest a 5-fold increase in cardiovascular hospitalization or death, and risk in men was 2-fold increased. Lone AF (AF in the absence of discernible cardiovascular disease) did not confer a statistically significant increase in cardiovascular risk. The increase in CV risk associated with AF was expressed primarily as stroke and heart failure. This new information indicates substantial long-term risk from AF. Simon and colleagues suggest that strategies to prevent CHF, as well as those already commonly practiced for stroke prevention, may be of benefit in persons with AF. ■

Olfactory Impairment in Older Adults

Source: Murphy C, et al. *JAMA*. 2002;288:2307-2312.

DESPITE WIDESPREAD ATTENTION to the demographics and management of hearing and visual impairments in older adults, there has been little study of olfactory impairments (OLF). Olfactory impairment can result in aggravation of nutritional problems, inability to respond promptly to risk situations such as fire or gas leaks, and reduce quality of life. To better determine the prevalence of OLF, Murphy and colleagues examined data from participants in the Epidemiology of Hearing Loss Study (n = 2491), a cross-sectional study of adults aged 53-97.

Initially, self-report of OLF was assessed by asking the question, “Do you have a normal sense of smell (compared to other people)?” Then, testing for OLF was performed using the San Diego Odor Identification Test (SDOIT), which uses natural home odors such as coffee and chocolate. OLF was defined as inability to identify at least 6 of 8 odorants.

One fourth of the tested population manifested OLF by SDOIT. On the other hand, only 9.5% of the population self-reported deficits in smell. A multiple logistic regression model determined that smoking, nasal congestion, stroke history, and epilepsy were associated with increased risk of OLF. ■

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