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Tips from Other Journals are written by the medical editors of *American Family Physician*.

The trade names of drugs listed in Tips from Other Journals are based on what is currently available and not necessarily the brand of drug that was used in the study being discussed.

Reducing Hospital-Associated Infections in *Staphylococcus aureus* Carriers

Background: More than 80 percent of health care-associated *Staphylococcus aureus* infections are attributed to endogenous sources (e.g., preexisting patient nasal or skin colonization) among *S. aureus* carriers. However, several trials have failed to show that prophylactic nasal mupirocin (Bactroban) reduces surgical infection rates among *S. aureus* carriers. This may be because of infections arising from the skin reservoir, or because infections were already incubating by the time mupirocin was started based on screening culture results. Bode and colleagues studied if mupirocin or chlorhexidine gluconate soap (Betasept) can prevent hospital-associated *S. aureus* infections.

The Study: The authors screened adult patients admitted to surgical and medical services for *S. aureus* using a real-time polymerase chain reaction assay. *S. aureus* carriers were randomized to start intranasal 2% mupirocin and chlorhexidine gluconate soap (40 mg per mL) or placebo versions within 24 hours of admission. Nasal products were used twice daily, and soap was used as a daily body wash for the first five days of hospitalization. Patients were followed for six weeks after discharge to monitor for *S. aureus* infections. Participants were excluded if they had a known allergy to study products, had used

mupirocin within the previous four weeks, or were pregnant or breastfeeding.

Results: A total of 917 patients were randomized, of whom 88.1 percent underwent a surgical procedure. The mupirocin-chlorhexidine group had a significantly lower *S. aureus* infection rate (3.4 versus 7.7 percent in the placebo group; relative risk = 0.42). Length of hospital stay was also significantly shorter in the treatment group (12.2 versus 14.0 days, respectively). Although all-cause mortality did not differ between the groups, only one patient in the mupirocin-chlorhexidine group died from an *S. aureus* infection, compared with three patients in the placebo group. Adverse reactions were limited to local irritations of the nose or skin, which resolved after study treatments ended.

Conclusion: The authors conclude that rapid detection of *S. aureus* carriers followed by early decontamination of nasal and extranasal sites significantly reduces related health care-associated infections in hospitalized patients, as well as the mean hospital stay. The benefit of such a regimen in nonsurgical patients remains unclear because of the high proportion of surgical patients in this study.

KENNETH T. MOON, MD

Source: Bode LG, et al. Preventing surgical-site infections in nasal carriers of *Staphylococcus aureus*. *N Engl J Med*. January 7, 2010;362(1):9-17.

Eszopiclone Improves Menopausal Symptoms

Background: Sleep disturbances are common during the menopausal transition. They can exacerbate many other symptoms, such as depression and anxiety, and can worsen quality of life. Eszopiclone (Lunesta) has been shown to facilitate sleep onset during menopause. Joffe and colleagues studied the effect of eszopiclone on other sleep parameters and related menopausal symptoms.

The Study: The authors conducted an 11-week randomized, double-blind, placebo-controlled, crossover study of perimenopausal and postmenopausal women who reported at least one month of difficulty initiating and maintaining sleep, in addition to other menopausal symptoms. Symptoms were confirmed by sleep and symptom diaries that were kept for seven days. Baseline assessments included a psychiatric interview and completion of rating scales for anxiety, depression, and psychiatric conditions. Women with clinically significant psychiatric disorders, ▶

sleep apnea, or other sleep conditions (including use of hypnotic medications) were not eligible for the study. Participants were allowed to continue use of hormone or antidepressant therapy if the dosage had been stable for at least eight weeks before the study began.

A total of 59 participants were randomly allocated to initial treatment with 3 mg of eszopiclone or an identical placebo. After four weeks of therapy, followed by a two-week washout period, treatments were reversed for the final four weeks of the study.

Symptoms were monitored using a sleep diary and the Insomnia Severity Index, a seven-item self-reported questionnaire. Other symptoms were monitored with symptom diaries, the Menopause Quality of Life Scale, the Beck Anxiety Inventory, the Montgomery-Åsberg Depression Rating Scale, and the Sheehan Disability Scale.

Results: Overall, 46 women completed the study. Noncompletion was principally attributed to adverse effects or loss to follow-up. Participants were approximately 52 years of age, were predominantly white (71 percent), and had a mean body mass index of 27.5 kg per m². Hormone use was reported by 8.5 percent and antidepressant use by 15.3 percent. The groups were comparable in demographic and symptom measures when entering the study. All participants initially reported hot flashes, with initial averages of 2.4 episodes during the day and 2.1 at night. Sleep disorders and depressive symptoms were common and equally represented in the two treatment groups.

Treatment with eszopiclone was associated with significant reductions in Insomnia Severity Index scores compared with placebo. After four weeks of eszopiclone treatment, 87 percent of participants achieved scores of 7 or less, compared with 34 percent of those in the placebo group. E szopiclone treatment was associated with improvements in all measures of sleep duration and efficiency. Use of eszopiclone was also associated with a reduction in nocturnal hot flashes, but not diurnal episodes. Improvements were noted in measures of depression, quality of life, and anxiety. Functional disability scores showed improvement during eszopiclone treatment, but this trend did not achieve statistical significance.

Conclusion: The authors conclude that eszopiclone treatment improves sleep disturbances in perimenopausal and postmenopausal women and is associated with significant improvements in depressive symptoms and quality-of-life measures.

ANNE D. WALLING, MD

Source: Joffe H, et al. E szopiclone improves insomnia and depressive and anxious symptoms in perimenopausal and postmenopausal women with hot flashes: a randomized, double-blinded, placebo-controlled crossover trial. *Am J Obstet Gynecol*. February 2010;202(2):171.e1-171.e11.

SPECT V/Q Scintigraphy Is an Option for Diagnosing Pulmonary Embolism

Background: Computed tomography (CT) pulmonary angiography is up to 90 percent sensitive and 95 percent specific for diagnosing pulmonary embolism, and has largely replaced traditional ventilation-perfusion (V/Q) scintigraphy for this purpose. However, up to 24 percent of patients with acute pulmonary embolism have relative contraindications to CT pulmonary angiography. For instance, CT pulmonary angiography's high radiation dose (10 to 50 mGy) to breast tissue of premenopausal and pregnant women can exceed the levels shown to increase cancer risk, and the associated intravenous contrast media can cause complications from contrast allergy or renal impairment. Single-photon emission computed tomography (SPECT) V/Q scintigraphy has the potential to use much less radiation (e.g., 0.28 mGy), and maintains a similar level of accuracy as CT pulmonary angiography in detecting pulmonary embolism. Miles and colleagues compared SPECT V/Q scintigraphy with CT pulmonary angiography to determine the best method for diagnosing pulmonary embolism.

The Study: The authors conducted a prospective observational study of patients 50 years and older with clinically suspected pulmonary embolism. Participants were scheduled to have CT pulmonary angiography and both traditional and SPECT V/Q scintigraphy within 24 hours of presentation. Deidentified scans were reviewed by two radiologists (CT pulmonary angiography) or nuclear medicine subspecialists (traditional and SPECT V/Q scans, presented separately). Exclusion criteria included renal insufficiency and inability to complete CT pulmonary angiography and V/Q scanning within 24 hours.

Results: A total of 83 patients received both CT pulmonary angiography and V/Q scanning, but four of these CT pulmonary angiography scans were nondiagnostic. In the remaining 79 patients, CT pulmonary angiography and SPECT V/Q scans were similar regarding the presence or absence of pulmonary embolism 95 percent of the time. None of the four patients who had discordant CT pulmonary angiography and SPECT V/Q results were clinically diagnosed with pulmonary embolism, and they remained in good health three months later. When compared with the reference diagnosis using clinical data and CT pulmonary angiography results, SPECT V/Q scintigraphy had a sensitivity of 83 percent and a specificity of 98 percent in diagnosing pulmonary embolism, with positive and negative predictive values of 95 and 94 percent, respectively.

Conclusion: The authors conclude that SPECT V/Q scintigraphy is a viable alternative to CT pulmonary

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angiography for diagnosing pulmonary embolism, and uses substantially less radiation. They recommend SPECT V/Q scintigraphy for patients in whom CT pulmonary angiography is contraindicated, such as those with allergy, renal impairment, diabetes mellitus, or critical illness, and in women who have proliferating breast tissue.

KENNETH T. MOON, MD

Source: Miles S, et al. A comparison of single-photon emission CT lung scintigraphy and CT pulmonary angiography for the diagnosis of pulmonary embolism. *Chest*. December 2009;136(6):1546-1553.

Which Treatments Are Effective for Reducing Adolescent Alcohol Abuse?

Background: National studies indicate that 16 percent of eighth graders report having consumed alcohol within the past 30 days. Among 10th and 12th graders, the percentages are 33 and 44, respectively. Alcohol misuse is common among adolescents. More than one half of 12th graders report having been drunk, 30 percent report binge drinking, and 3 percent report drinking daily. Several different interventions have been proposed to reduce adolescent alcohol abuse, but no recent research has

compared the effectiveness of the many common treatments. Tripodi and colleagues conducted a meta-analysis of substance abuse interventions applied to adolescent alcohol abuse.

The Study: The authors identified studies performed between 1960 and 2008 concerning treatment of alcohol abuse in patients 12 to 19 years of age. They systematically searched multiple databases from medical, mental health, criminal, and drug or alcohol abuse sources to identify eligible studies. Manual searches were also conducted of references from identified studies, pertinent textbooks, and government publications.

The criteria for inclusion in the meta-analysis were active interventions targeting patients 12 to 19 years of age, quantified alcohol use in outcomes, use of a comparison group, and use of psychosocial interventions with or without pharmacologic therapies. Two researchers independently abstracted data from eligible studies. Each study was also rated for methodologic quality. The principal outcome measured was frequency of alcohol use by number of drinking days and number of drinks consumed. ▶

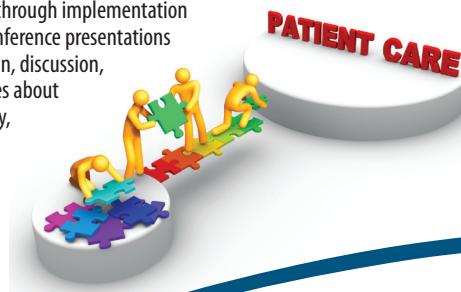
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Results: From 64 initially identified studies, 16 met criteria and were used in the meta-analysis. About 90 percent were published between 2000 and 2008. All studies involved U.S. participants younger than 19 years. Most (60 percent) of the studies tested individual-based therapies, and approximately one third evaluated family therapies. Two studies used a quasi-experimental design; the remainder used an experimental design. Follow-up was six to 11 months in 56 percent of studies. Only 38 percent of studies successfully maintained 85 percent or more of their study entrants.

All studies reported reductions in alcohol use, but only seven achieved highly significant statistical reductions ($P < .001$). The range of the standardized effect for reduction of alcohol use was -0.09 for brief motivational interviewing to -1.991 for cognitive behavior therapy integrated with the 12-step approach. The effects of interventions diminished over time. In studies that reported outcomes after 12 months or longer, behavioral treatment had more enduring effects than supportive counseling, and multidimensional family treatment was more effective than family education or group therapy.

Conclusion: The authors conclude that several interventions show evidence of effectiveness in reducing adolescent alcohol abuse. In this meta-analysis, individually-based interventions had larger effects than those based on family therapies, but effectiveness for all interventions decreased over time.

ANNE D. WALLING, MD

Source: Tripodi SJ, et al. Interventions for reducing adolescent alcohol abuse: a meta-analytic review. *Arch Pediatr Adolesc Med*. January 2010;164(1):85-91.

Comparison of Psychological Treatments for Binge Eating Disorder

Background: Several psychological treatments have shown promise in treating binge eating disorder. Interpersonal psychotherapy can effectively treat binge eating and associated psychopathology, but requires specialized training. Behavioral weight loss treatment and guided self-help based on cognitive behavior therapy can be implemented by a wider range of health professionals than interpersonal psychotherapy and have been shown to have short-term benefits against binge eating disorder. However, their long-term effectiveness is unknown. Wilson and colleagues compared short- and long-term treatment results for binge eating disorder using specialized therapies.

The Study: A total of 205 adults who met the *Diagnostic and Statistical Manual of Mental Disorders*, 4th ed. criteria for binge eating disorder were randomly assigned to

Table. Likelihood of Two-Year Remission in Binge Eating Disorder Using Different Psychological Therapies

Intervention	Odds ratios
Interpersonal psychotherapy vs. behavioral weight loss treatment	2.6
Guided self-help based on cognitive behavior therapy vs. behavioral weight loss treatment	2.3
Interpersonal psychotherapy vs. guided self-help based on cognitive behavior therapy	1.2

receive 19 sessions of interpersonal psychotherapy, 20 sessions of behavioral weight loss treatment, or 10 sessions of cognitive behavior therapy. All participants had an initial body mass index (BMI) between 27 and 45 kg per m^2 (i.e., overweight or obese). Participants were reassessed after the treatment phase, and then followed for 24 months to assess binge eating habits and weight. Exclusion criteria included uncontrolled psychiatric conditions (e.g., psychosis), substance abuse, current participation in a structured weight loss program, pregnancy, or use of medications that would affect weight.

Results: The interpersonal psychotherapy group had significantly less attrition than the other groups (7 versus 28 percent for behavioral weight loss treatment and 30 percent for cognitive behavior therapy). All three methods initially yielded similar binge eating disorder remission rates of approximately 64 percent, but after two years patients using cognitive behavior therapy or interpersonal psychotherapy were more likely to remain in remission than those using behavioral weight loss treatment (see accompanying table). Similar proportions of patients in each group maintained a 5 percent or greater body weight reduction after two years (21 percent for interpersonal psychotherapy, 23 percent for cognitive behavior therapy, and 27 percent for behavioral weight loss treatment).

Conclusion: The authors conclude that interpersonal psychotherapy and cognitive behavior therapy are more effective than behavioral weight loss treatment in reducing binge eating behaviors after two years, with no difference in BMI noted among the groups. Cognitive behavior therapy should be considered a first-line treatment for most patients with binge eating disorder. Interpersonal psychotherapy should still be considered the treatment of choice for those who are more likely to benefit from more structured management (e.g., low self-esteem and a high level of specific eating disorder psychopathology).

KENNETH T. MOON, MD

Source: Wilson GT, et al. Psychological treatments of binge eating disorder. *Arch Gen Psychiatry*. January 2010;67(1):94-101. ■