

# Clinical Briefs in Primary Care<sup>™</sup>

The essential monthly primary care update

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## Daily Vitamin E and Multivitamin-Mineral Supplementation and Acute RTI in Elderly Persons

Source: Graat JM, et al. *JAMA*. 2002;288:715-721.

VITAMIN SUPPLEMENTATION HAS been shown to improve cellular immune parameters, but whether vitamin E or multivitamins/minerals (MVIM) have an effect on clinical events has not been clearly elucidated. Since respiratory tract infections (RTI) may become especially consequential for senior citizens, the question of whether vitamin E or MVIM alter the frequency, severity, or duration of such infections is of great clinical relevance.

Graat and associates studied the effect of MVIM, containing traditional RDA levels of multiple vitamins and minerals, including zinc, selenium, iron, magnesium, copper, iodine, calcium, manganese, chromium, molybdenum, and silicon, as well as a separate vitamin E supplement of 200 mg. Study subjects (n = 652) were comprised of noninstitutionalized persons older than age 60 who were followed for 15 months. At baseline, a very small proportion of individuals had suboptimal serum levels of either ascorbic acid (6%) or alpha-tocopherol (1.3%).

MVIM supplementation demonstrated no clinically or statistically significant effect upon RTI incidence, severity, duration, number of symptoms, or restriction of activity. Vitamin E supplementation demonstrated worse outcomes than placebo in reference to illness

severity, duration, symptoms, fever, and restriction of activity. Graat et al caution that not only do their data discourage employment of MVIM due to lack of efficacy, but also due to a deleterious effect of vitamin E. ■

## B-Type Natriuretic Peptide Levels and Outcome in Patients with Heart Failure

Source: Bettencourt P, et al. *Am J Med*. 2002;113:215-219.

BRAIN NATRIURETIC PEPTIDE (BNP) levels reflect the degree of cardiac ventricular wall stress and are useful to diagnose chronic heart failure (CHF), as well as differentiate other dyspnea syndromes (in which BNP levels are not elevated) from CHF. BNP levels correlate with severity of CHF, hence, in any one episode of CHF, their degree of elevation might provide prognostic information. Bettencourt and colleagues examined the relationship between hospital BNP levels (on admission and discharge) in persons with acute decompensation of CHF, and subsequent hospital CHF readmission or death.

All subjects (n = 43) received "standard" CHF treatment, including diuretics (furosemide, and in some cases, spironolactone) and ACE inhibitors. Subjects were followed for 6 months.

When patients were hospitalized for CHF, BNP levels typically decreased with treatment. After hospital discharge, in the group that remained event free during follow-up, the decline in BNP during hospitalization (47%) was much more substantial than the

decline in persons who required readmission (17%). Patients whose BNP increased during the index admission were more than 3 times more likely to require readmission or die during follow-up. BNP, and its response to treatment, provides important prognostic information in persons with CHF. ■

## Companion Influence During Primary Care Medical Encounters

Source: Schilling LM, et al. *J Fam Pract*. 2002;51:685-690.

IT IS COMMONPLACE IN PRIMARY CARE SETTINGS for patients to be accompanied by family, friends, or caretakers in the examining room during some portion or all of the clinician-patient interaction. The effect of the "third person" (3P) has received little literature scrutiny. Schilling and colleagues studied 226 adult medical encounters, approximately half of which included another accompanying adult who spent any portion of the visit in the examining room. Patients, companions, and clinicians rated the influence of the companion upon the visit. Aspects of the clinical encounter that were monitored included physician understanding, patient understanding, counseling time, length of visit, treatment, referrals, and number of tests ordered.

Physicians reported that having a companion present generally was either neutral to or increased physician and patient understanding. Almost universally, physicians perceived no effect upon treatments, referrals, or number of tests ordered whether a companion was present. On the other hand, 25-32% of physicians felt that the 3P caused an increase

in the length of visit or time spent counseling. Although overall the presence of an adult companion may enhance physician and patient understanding, it appears to be potentially at the expense of greater time required for counseling and the visit itself. ■

## Efficacy of Handrubbing with Alcohol-Based Solution vs. Standard Handwashing with Antiseptic Soap: Randomized Clinical Trial

**Source:** Girou E, et al. *BMJ*. 2002; 325:362-365.

**H**ANDWASHING (HWS) IS GENERALLY recognized as the single most influential factor to reduce transmission of nosocomial infections. Unfortunately, studies indicate that half or less of clinicians comply with appropriate HWS recommendations. Despite interventions to increase adherence with handwashing (eg, more

sinks, educational programs), results have been disappointing. Although handrubbing with alcohol (HRA) is suggested as an alternative to HWS, its acceptance has been impeded by lack of clinician confidence that an alcohol based, waterless hand antiseptic is sufficiently effective in reducing bacterial contamination.

Girou and associates performed a prospective, randomized, blinded trial in 3 intensive care units. Subjects (health professionals) were randomly assigned to chlorhexidine 4% (Hibiscrub) or handrubbing with an alcohol-based solution. Hand cultures were performed immediately before, and 1 minute after cleansing.

Both maneuvers were effective in reducing bacterial contamination, but HRA was substantially more effective (83% vs 58% reduction in contaminating bacteria). HWS and HRA occupied essentially the same mean amount of time (about 30 seconds). Previous in-vitro studies have shown that HRA is more effective than soap. Incorporation of HRA may enhance control of nosocomially transmitted infections but may require enhanced clinician education for endorsement. ■

## A Program To Prevent Functional Decline in Physically Frail, Elderly Persons Who Live at Home

**Source:** Gill TM, et al. *N Engl J Med*. 2002;347:1068-1074.

**M**OST LITERATURE THAT ADDRESSES restoration of function in elders focuses upon rehabilitation of persons who have recently suffered a morbid event, such as a stroke or hip fracture. Whether other frail elders might benefit from 'prehabilitation' strategies is little studied. To that end, Gill and colleagues recruited a population (n = 188) of seniors (> age 75) who were defined as "frail" by means of a rapid-gait test and a mobility test (ability to rise from a chair with arms folded).

The intervention program included instructions in safe techniques for moving in bed and outdoors, gait training, removal of environmental hazards (eg, loose rugs,

cords, clutter) and installation of adaptive equipment in bathrooms. Interventions were monitored for 16 visits over 6 months, with last follow-up at 12 months.

The recipients of the home intervention had significantly less disability and less admission to a nursing home. Interventions included the service of a physical therapist, but the entire mean cost of intervention, including equipment and supplies, was \$1998 per participant. The subjects who suffered severe disability at baseline continued to experience deterioration over time, despite receiving the same interventions. Gill et al comment that though the frequency of physical therapy visits is in excess of that allowed for reimbursement by Medicare, the overall cost-per-patient is comparatively moderate. ■

## Treatment of Chronic Painful Diabetic Neuropathy with Isosorbide Dinitrate Spray

**Source:** Yuen KCJ, et al. *Diabetes Care*. 2002;25(210):1699-1703.

**P**AINFUL DIABETIC NEUROPATHY (PDN) is a troublesome and often refractory clinical dilemma. Nitric oxide (NO) production is impaired in PDN and is suspected of playing a pathogenetic role in producing pain and burning. All clinical formulations of nitrates are NO donors. Based upon anecdotal observations that individual PDN patients reported a favorable effect of isosorbide dinitrate (ISDN) spray on pain symptoms, Yuen and colleagues initiated a formal clinical trial.

Patients (n = 22) had all suffered chronic PDN and had failed traditional treatments, such as acetaminophen, amitriptyline, or gabapentin, either due to lack of efficacy, intolerance, or both. The trial was structured such that patients received either 40% propylene glycol (placebo) or 30 mg isosorbide dinitrate (1 spray) QHS in a double-blind crossover fashion for 2 sessions of 4 weeks each, punctuated by a 2-week washout period.

Use of ISDN spray produced a statistically significant reduction in pain and burning. Side effects (transient headache) were mild. ISDN may be of value in treatment of PDN, perhaps through a mechanism of increased delivery of NO. ■

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