including age, coronary risk factors, and HRT use as independent variables, yielded HRT as the only variable determining the presence of coronary calcium (odds ratio = 0.2; 95% confidence interval, 0.06, 0.63; P=.006).

The lower incidence of coronary calcium observed in the HRT users suggests that HRT is associated with decreased prevalence of coronary calcification.

Shemesh J, Frenkel Y, Leibovitch L, et al: Does hormone replacement therapy inhibit coronary artery calcification? *Obstet Gynecol* 1997;89:989-992.

Antioxidants and memory in the aged

A longitudinal and cross-sectional comparison study was conducted in Basle, Switzerland, to substantiate the hypothesis that plasma antioxidant vitamin levels correlate with cognitive performance in healthy older subjects.

Participants were 442 subjects aged 65 to 94 years (mean, 75 years) selected from a random sample. There were 312 men and 132 women. Subjects were tested for memory, and plasma vitamin levels were measured for three antioxidants, α-tocopherol, ascorbic acid, and βcarotene in 1993. These vitamin parameters, measured previously in 1971 in the same sample, were integrated in the analysis. Also taken into account were plasma cholesterol and ferritin levels and systolic blood pressure. Priming, working-memory, free recall, recognition, and the WAIS-R vocabulary test (semantic memory) were the memory variables.

Correlations showed significant stability of the plasma antioxidants over the 22-year interval (α -tocopherol: r=.47; P<.001; β -carotene: r=.43, P<.001; ascorbic acid: r=.22, P<.001). Free recall, recognition, and vocabulary—but not priming and working-memory—correlated significantly with ascorbic acid and β -carotene in the cross-sectional 1993 data as well as in the longitudinal 1971–1993 analysis. These two antioxidants remained significant predictors,

especially of semantic memory, after controlling for possible confounding variables, such as age, education, and gender, when analyzed by multiple regression and ANOVAs.

On the basis of these findings, it is concluded that among people 65 years old and older, higher ascorbic acid and β -carotene plasma levels are associated with better memory performance. These results indicate the important role played by antioxidants in aging of the brain, and they may have implications for prevention of progressive cognitive impairments.

Perrig WJ, Perrig P, Stähelin HB: The relation between antioxidants and memory performance in the old and very old. *J Am Geriatr Soc* 1997;45:718-724.

One-leg balance as predictor of falls in elderly

Data from a longitudinal cohort study limited to volunteers older than 60 years with no known serious medical conditions were analyzed to determine if one-leg balance (the ability to stand unaided for 5 seconds on one leg) is a significant predictor of falls and injurious falls. The subjects were 316 entrants (mean age, 73 years) in the Albuquerque (New Mexico) Falls Study. Most of the participants lived at home or in residences for older persons. They were followed up for 3 years

Independent variables in addition to one-leg balance included baseline measures of demographics, history, physical examination, Iowa Self Assessment Inventory, and balance and gait assessment.

At baseline, 267 (84.5%) of the subjects could balance on one-leg. (Impairment was associated with advancing age and gait abnormalities.) During the 3-year follow-up, 71% had had a fall and 22%, an injurious fall. The only independent significant predictor of *all* falls using logistic regression was age greater than 73 years. However, impaired one-leg balance was the only significant independent predictor of *injurious* falls (relative risk, 2.13; 95% confidence interval, 1.04, 4.34; *P*=.03).

Therefore, it is concluded that one-leg balance appears to be a significant and easy-to-administer predictor of injurious falls, but not of all falls. In the current study, it was the strongest individual predictor. Because so many diverse factors are involved in falling, no single factor seems to be accurate enough to be relied on as a sole predictor of fall risk or fall injury risk.

Vellas BJ, Wayne SJ, Romero L, et al: One-leg balance is an important predictor of injurious falls in older persons. *J Am Geriatr Soc* 1997:735-738.

Cognitive impairment and low blood pressure in the very old

A population-based, cross-sectional study was conducted to examine the clinical correlates of low blood pressure in a representative population of very old adults. Participants were 319 men and 1070 women (mean age, 85.0 years; SD=5.8) living in two neighboring communities in Stockholm, Sweden.

Trained nurses recorded blood pressure, counted pulse rate, and conducted Mini-Mental State Examinations (MMSE). Subjects self-reported information on illness condition and activities of daily living (ADL) status, or proxy respondents supplied such information. The computerized inpatient register system was also used for collecting data of illness condition. Systolic pressure less than 130 mm Hg and diastolic pressure less than 70 mm Hg were defined as low systolic and diastolic pressure, respectively. Cognitive impairment was indicated by MMSE scores less than 24.

Multiple logistic regression analyses showed that low systolic blood pressure was related to slower pulse rate (≤60/min), heart failure, ADL limitation, and cognitive impairment. It showed that low diastolic blood pressure was related to increasing age, slower pulse rate, cardiac dysrhythmia, ADL limitation, and cognitive impairment. People with diabetes mellitus were less likely to be in the group having low systolic blood pressure. The population attributable risk per-

14