



## Permanente Abstracts

*Abstracts of articles authored or coauthored by Permanente clinicians.*

### **From Northern California: Alcohol Drinking and Risk of Hospitalization for Ischemic Stroke**

*Klatsky AL, Armstrong MA, Friedman GD,  
Sidney S. Am J Cardiol 2001 Sep  
15;88(6):703-6*

Reported studies are conflicting about the relationship of alcohol drinking to risk of ischemic stroke, and possibly racial disparity in this relationship has been suggested. This is a report of a prospective study in 128,934 KPMCP members. Of these persons, 2014 had at least one subsequent hospitalization for an ischemic stroke. The alcohol-ischemic stroke relationship was studied by Cox proportional hazards models with seven covariates. The results showed that light to moderate drinkers, vs lifelong abstainers, were at lower risk of ischemic stroke, with no major difference related to use of wine, liquor or beer. The alcohol-ischemic stroke relationships were similar in sexes, four racial groups, and multiple subsets. This study, plus plausible mechanisms, support a probable protective effect of light/moderate alcohol drinking against risk of ischemic stroke not primarily due to specific choice of alcoholic beverage.

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**CLINICAL IMPLICATIONS:** Advice about alcohol drinking should always be individualized according to specific risks and benefits. Indiscriminate advice to drink for health is inappropriate. The data in this study support a protective effect of light/moderate alcohol drinking against ischemic stroke risk. Thus, established light/moderate drinkers at high risk of ischemic stroke should not, except for specific reasons, be advised to abstain. —AK

### **From The Northwest: Gender and alcohol use: the roles of social support, chronic illness, and psychological well-being**

*Green CA, Freeborn DK, Polen MR. J Behav  
Med 2001 Aug;24(4):383-99*

Men and women differ in their use of alcohol, in their rates of chronic illnesses and psychological symptoms, and in the social support they receive. In this paper, we assess how the latter three factors are associated with alcohol use, and how these associations differ by gender. Respondents were 3074 male and 3947 female randomly selected Health Maintenance Organization members who responded to a mail survey in 1990. Hierarchical multiple regression analyses indicate that social support is associated with alcohol consumption in similar ways for both genders, yet the associations between some demographic, physical health/functioning, and psychological well-being measures are different for men and women. Men with fewer role limits due to physical health drank more, while women with better psychological well-being drank less. Poor psychological well-being may be a modifiable risk factor for increased alcohol use among women; practitioners should be alert for greater consumption among men with few functional limitations and good health.

**CLINICAL IMPLICATIONS:** The most important message for clinicians is that correlates of greater alcohol consumption appear to differ for men and women. Women with mental health symptoms, and those who were employed, drank more than other women. Unemployed men, and those with good physical health and functioning, drank more than other men. Both men and women with active social lives, especially club attendance, had higher alcohol consumption levels. Persons with these characteristics may benefit from more detailed queries about their alcohol habits. —CG

### **From Northern California: Exposure to environmental tobacco smoke: association with personal characteristics and self- reported health conditions**

*Iribarren C, Friedman GD, Klatsky AL, Eisner  
MD. J Epidemiol Community Health 2001  
Oct;55(10):721-8*

**STUDY OBJECTIVE:** To examine the association between exposure to environmental tobacco smoke (ETS) and demographic, lifestyle, occupational characteristics and self-reported health conditions.

**DESIGN:** Cross sectional study, using data from multiphasic health checkups between 1979 and 1985.

**SETTING:** Large health plan in Northern California, USA.

**PARTICIPANTS:** 16,524 men aged 15-89 years and 26,197 women aged 15-105 years who never smoked.

**RESULTS:** Sixty-eight percent of men and 64% of women reported any current ETS exposure (at home, in small spaces other than home or in large indoor areas). The exposure time from all three sources of ETS exposure correlated negatively with age. Men and women reporting high level ETS exposure were more likely to be black and never married or separated/divorced, to have no college or partial college education, to consume three alcoholic drinks/day or more and to report exposure to several occupational hazards. Consistent independent relations across sexes were found between any current exposure to ETS and a positive history of hay fever/asthma (odds ratio (OR) = 1.22 in men, 1.14 in women), hearing loss (OR = 1.30 in men, 1.27 in women), severe headache (OR = 1.22 in men, 1.17 in women), and cold/flu symptoms (OR = 1.52 in men, 1.57 in women). Any current ETS exposure was also associated with chronic cough (OR = 1.22) in men and with heart disease (OR = 1.10) in women. Self reported stroke was inversely associated with any current ETS exposure in men (OR = 0.27). No associations were noted



for cancer or tumor and for migraine.

**CONCLUSION:** ETS exposure correlated with several personal characteristics potentially associated with adverse health outcomes. Although the study design precluded causal inference, ETS exposure was associated with several self-reported acute and chronic medical conditions.

**CLINICAL IMPLICATIONS:** In this study of the association of exposure to environmental tobacco smoke (ETS) with self-reported health conditions, about two-thirds of never-smoking men and women reported current ETS exposure. Never smokers with high-level ETS exposure were more likely to be young, black, not currently married, less educated, heavier alcohol drinkers, and subject to occupational hazards. Regardless of these factors, ETS exposure increased the risk of hay fever/asthma, hearing loss, severe headache, chronic cough in men, and cold/flu symptoms in both genders and of heart disease in women. These data may be useful in encouraging smoking cessation by persons close to patients with a wide variety of conditions. —CI

*From Northern California:*  
**Beyond screening for domestic violence—A systems model approach in a managed care setting**

*McCaw B, Berman WH, Syme SL, Hunkeler EF. Am J Prev Med 2001 Oct;21(3):170-6*

**BACKGROUND:** Implementation of screening guidelines for domestic violence has been challenging. The multifaceted “systems model” may provide an effective means to improve domestic violence screening, identification, and intervention in the health care setting.

**METHODS:** We developed: 1) a systems model approach using tools for effective referral, evaluation, and reporting of domestic violence; 2) materials for distribution to female patients; 3) training for social service and mental health clinicians

to provide domestic violence evaluation; and 4) strong links to the community.

**SETTING:** A nonprofit, managed care facility in Richmond, California.

**PARTICIPANTS:** Staff and members of the managed care plan.

**MAIN OUTCOME MEASURES:** 1) Increased screening for domestic violence by clinicians; 2) increased awareness of the health care facility as a resource for domestic violence assistance; and 3) increased member satisfaction with the health plan’s efforts to address domestic violence.

**RESULTS:** The number of clinician referrals and patient self-referrals to an on-site domestic violence evaluator increased more than twofold. A preintervention and postintervention phone survey of members seen for routine checkup showed an increase in member recall of being asked about domestic violence. After intervention, statistically significant increases were seen in members’ perception that the health plan was concerned about the health effects of domestic violence ( $p < 0.0001$ ) and about members’ satisfaction with the health plan’s efforts to address this issue ( $p < 0.0001$ ).

**CONCLUSIONS:** A systems model approach improved domestic violence services in a managed care health setting within one year and affected clinicians’ behavior as well as health plan members’ experience. This successful implementation makes it possible to address critical research questions about the impact of a health care intervention for victims of domestic violence in a managed health care setting.

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**CLINICAL IMPLICATIONS:** Domestic violence (DV) is common, seldom obvious, and best addressed in the health care setting by a

coordinated, comprehensive facilitywide approach. As a primary care provider, you should use your exam room and waiting area to convey information that DV is an important health issue and that resources are available. Incorporate routine inquiry about DV into history taking, and know how to effectively and efficiently respond when the answer is “yes.” This response should start with an affirmative statement: eg, “You are not alone; we can help.” Then, document the facts in the medical record, and refer the patient to an appropriate mental health clinician. —BM

*From The Northwest:*  
**Congestive heart failure in type 2 diabetes: prevalence, incidence, and risk factors**

*Nichols GA, Hillier TA, Erbey JR, Brown JB. Diabetes Care 2001 Sep;24(9):1614-9*

**OBJECTIVE:** To estimate the prevalence and incidence of congestive heart failure (CHF) in populations with and without type 2 diabetes and to identify risk factors for diabetes-associated CHF.

**RESEARCH DESIGN AND METHODS:** We searched the inpatient and outpatient electronic medical records of 9591 individuals diagnosed with type 2 diabetes before 1 January 1997 and those of an age- and sex-matched control group without diabetes for a diagnosis of CHF. Among those without a baseline diagnosis of CHF, we searched forward for 30 months for incident cases of CHF. We constructed multiple logistic regression models to identify risk factors for both prevalent and incident CHF.

**RESULTS:** CHF was prevalent in 11.8% ( $n = 1131$ ) of diabetic subjects and 4.5% ( $n = 435$ ) of control subjects at baseline. We observed incident cases of CHF in 7.7% of diabetic subjects free of CHF at baseline (650 of 8460) and in 3.4% of control subjects (314 of 9156). In diabetic subjects, age, diabetes duration, insulin use, ischemic heart disease, and elevated



serum creatinine were independent risk factors for both prevalent and incident CHF. Better glycemic control at baseline, and improved glycemic and blood pressure control at follow-up predicted the development of CHF.

**CONCLUSIONS:** Despite controlling for age, duration of diabetes, presence of ischemic heart disease, and presence of hypertension, insulin use was associated with both prevalent and incident CHF. Why insulin use and better glycemic control both at baseline and follow-up independently predicted CHF deserves further study.

**CLINICAL IMPLICATIONS:** Congestive heart failure is common in type 2 diabetes, increasing steadily as patients age. Because lower HbA1c was associated with CHF, less aggressive glycemic control may be warranted in some patients, especially in those with ischemic heart disease using insulin to control their diabetes. —GN

*From Northern California:*  
**A randomized comparison of home visits and hospital-based group follow-up visits after early postpartum discharge**

*Escobar GJ, Braveman PA, Ackerson L, et al. Pediatrics 2001 Sep;108(3):719-27*

**OBJECTIVE:** Short postpartum stays are common. Current guidelines provide scant guidance on how routine follow-up of newly discharged mother-infant pairs should be performed. We aimed to compare two short-term (within 72 hours of discharge) follow-up strategies for low-risk mother-infant pairs with postpartum length of stay (LOS) of <48 hours: home visits by a nurse and hospital-based follow-up anchored in group visits.

**METHODS:** We used a randomized clinical trial design with intention-to-treat analysis in an integrated managed care setting that serves a largely middle class population. Mother-infant pairs that met LOS and risk criteria were randomized to the control arm

(hospital-based follow-up) or to the intervention arm (home nurse visit). Clinical utilization and costs were studied using computerized databases and chart review. Breastfeeding continuation, maternal depressive symptoms, and maternal satisfaction were assessed by means of telephone interviews at two weeks postpartum.

**RESULTS:** During a 17-month period in 1998 to 1999, we enrolled and randomized 1014 mother-infant pairs (506 to the control group and 508 to the intervention group). There were no significant differences between the study groups with respect to maternal age, race, education, household income, parity, previous breastfeeding experience, early initiation of prenatal care, or postpartum LOS. There were no differences with respect to neonatal LOS or Apgar scores. In the control group, 264 mother-infant pairs had an individual visit only, 157 had a group visit only, 64 had both a group and an individual visit, four had a home health and a hospital-based follow-up, 13 had no follow-up within 72 hours, and four were lost to follow-up. With respect to outcomes within two weeks after discharge, there were no significant differences in newborn or maternal hospitalizations or urgent care visits, breastfeeding discontinuation, maternal depressive symptoms, or a combined clinical outcome measure indicating whether a mother-infant pair had any of the above outcomes. However, mothers in the home visit group were more likely than those in the control group to rate multiple aspects of their care as excellent or very good. These included the preventive advice delivered (76% vs 59%) and the skills and abilities of the provider (84% vs 73%). Mothers in the home visit group also gave higher ratings on overall satisfaction with the newborn's posthospital care (71% vs 59%), as well as with their own posthospital care (63% vs 55%). The estimated cost of a postpartum home visit to the mother and the newborn was \$265. In contrast, the cost of the hospital-based group visit was \$22 per mother-infant pair; the cost of an individual 15-minute visit

with a registered nurse was \$52; the cost of a 15-minute individual pediatrician visit was \$92; and the cost of a ten-minute visit with an obstetrician was \$92.

**CONCLUSIONS:** For low-risk mothers and newborns in an integrated managed care organization, home visits compared with hospital-based follow-up and group visits were more costly but achieved comparable clinical outcomes and were associated with higher maternal satisfaction. Neither strategy is associated with significantly greater success at increasing continuation of breastfeeding. This study had limited power to identify group differences in rehospitalization and may not be generalizable to higher-risk populations without comparable access to integrated hospital and outpatient care.

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*From Southern California:*  
**Developmental follow-up in 15-month-old infants of asthmatic vs control mothers**

*Schatz M, Harden K, Kagnoff M, et al. Pediatr Allergy Immunol 2001 Jun;12(3):149-53*

The purpose of this study was to evaluate mental and psychomotor development in infants of mothers whose asthma was actively managed during pregnancy and to compare the results with those from infants of non-asthmatic mothers. Bayley Scales were assessed at age 15 ± 3 months in 379 infants of asthmatic mothers and 376 control infants. Relationships were assessed between developmental indices and asthma severity, socioeconomic status, and infant prematurity. No significant differences in developmental indices were observed between infants of asthmatic mothers and control infants. No relationships were identified between developmental indices and maternal asthma severity. In the infants of both asthmatic and control mothers, a lower mean psychomotor developmental index was associated with birth weight <2500 g, and a lower mental developmental index with lower socioeconomic status. Hence, in-



fants of asthmatic mothers whose asthma has been actively managed during pregnancy have developmental outcomes at 15 months of age that are similar to those of control infants.

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**CLINICAL IMPLICATIONS:** Although recent studies have suggested that actively managed gestational asthma is not associated with increased perinatal mortality or morbidity, none of these studies have addressed longer-term infant development. This study suggests that infants of asthmatic mothers whose asthma has been actively managed during pregnancy have developmental outcomes at 15 months of age that are equivalent to infants of nonasthmatic mothers. These data provide additional support for the recommendation that maternal asthma should be aggressively managed during pregnancy in order to optimize infant outcome. —MS

### From Northern California: Postmenopausal hormonal support: discontinuation of raloxifene versus estrogen

Kayser J, Eittinger B, Pressman A. *Menopause* 2001 Sep-Oct;8(5):328-32

**OBJECTIVE:** To determine possible differences in continuation among women initiating treatment with the selective estrogen receptor modulator raloxifene, versus those initiating treatment with estrogen-containing regimens.

**DESIGN:** A pharmacy prescription database search for refill patterns. The study subjects were members of Kaiser Foundation Health Plan, a large health maintenance organization; 1394 women age  $\geq 60$  years who filled index prescriptions for either raloxifene ( $n = 331$ ) or systemic estrogens ( $n = 1063$ ) between April 1998 and March 1999. The main outcome measure was discontinuation based on prescription refill patterns through December 2000.

**RESULTS:** At 24 months, the probabilities

of discontinuing were 56% for women starting raloxifene compared to 72% for women starting estrogens. The likelihood of discontinuation was significantly less among women starting raloxifene than among those starting estrogen (hazard ratio = 0.75; 95% confidence interval = 0.64-0.88). Adjustments for age and prescriber specialty did not affect the risk.

**CONCLUSIONS:** We conclude that discontinuation of estrogen by women well beyond the age of menopause is high; more than two-thirds discontinue within two years of starting. Women starting therapy with raloxifene are 25% less likely to discontinue their medication than those starting estrogen, providing some promise that long-term benefits of raloxifene may be more easily achieved than those of estrogen.

**CLINICAL IMPLICATIONS:** Early discontinuation of HRT is common, and largely related to unacceptable side effects. This study of women 60 and older showed the usual high rate of discontinuation among women starting HRT but a lesser rate among women starting raloxifene. Subsequent interview studies showed this difference was related to better tolerability of raloxifene. The challenge is to prescribe and tailor HRT so that it is better tolerated. —BE

### From Southern California: Comparing sports injuries in men and women

Sallis RE, Jones K, Sunshine S, Smith G, Simon L. *Int J Sports Med* 2001 Aug;22(6):420-3

**OBJECTIVE:** To compare the pattern of injury between men and women in seven collegiate sports to determine if gender-specific factors exist which could be modified to reduce the risk of injury to female athletes.

**DESIGN:** Retrospective cohort study of injury reports compiled by certified athletic trainers between Fall 1980 and Spring 1995.

**SETTING:** An NCAA division III College.

**PARTICIPANTS:** Eighteen to 22-year-old male and female college athletes competing in

seven like sports (basketball, cross-country running, soccer, swimming, tennis, track and water polo) at the intercollegiate level, playing similar number of contests and using the same facilities.

**MAIN OUTCOME MEASURES:** Analyses of injury patterns, classified by sport and anatomic location, for men and women in seven like sports.

**RESULTS:** A total of 3767 participants were included in the study, with 1874 sports-related injuries reported among the men and women's teams. Of these injuries, 856 (45.7%) were sustained by female and 1018 (54.3%) by male athletes. Overall, no statistically significant gender difference was found for injuries per 100 participant-years (52.5 for female athlete versus 47.7 for males). A statistically significant gender difference in injury incidence ( $p < 0.001$ ) was seen for two sports: swimming and water polo. Female swimmers reported more back/neck, shoulder, hip, knee, and foot injuries, and female water polo players reported more shoulder injuries. When evaluating all sports concurrently, female athletes reported a higher rate of hip, lower-leg, and shoulder injuries, while male athletes reported a higher rate of thigh injuries.

**CONCLUSION:** Except for some minor gender differences in total injuries for two sports and several differences in total injuries by anatomic location, our data suggest very little difference in the pattern of injury between men and women competing in comparable sports. The increased rate of shoulder injury among female swimmers probably resulted from the more rigorous training philosophy of their coach. Thus, no gender-specific recommendations can be suggested for decreasing the incidence of injury to female athletes competing in these sports.

Sallis RE, Jones K, Sunshine S, Smith G, Simon L. *Comparing sports injuries in men and women. Int J Sports Med* 2001 Aug;22(6):420-3. Georg Thieme Verlag.

### From Northern California: Cohort study of thyroid cancer in a San Francisco Bay area population

Iribarren C, Haselkorn T, Tekawa IS, Friedman GD. *Int J Cancer* 2001 Sep 1;93(5):745-50

Using data from a large health plan, we per-



formed a cohort study of thyroid cancer among 204,964 persons (aged 10–89 at baseline in 1964–1973, 54% female) followed for a median of 20 years. There were 196 incident thyroid cancers (73 in men, 123 in women). Risk was independently and positively related to female gender [relative risk (RR) = 1.56, 95% confidence interval (CI) = 1.12–2.19], Asian race (RR = 2.86, 95% CI = 1.76–4.65), completed college or post-graduate education (RR = 1.76, 95% CI = 1.20–2.59), history of goiter (RR = 3.36, 95% CI = 1.82–6.20), radiation of the neck region (RR = 2.33, 95% CI = 1.28–4.23) and family history of thyroid disease (RR = 2.18, 95% CI = 1.17–4.05). An inverse association was found for black race (RR = 0.55, 95% CI = 0.33–0.91). Cigarette smoking, alcohol consumption, personal history of hyperthyroidism, hypothyroidism, overweight or obesity, weight gain since age 20, height, occupational exposures, reproductive factors, oral contraceptives and hormone use did not show statistically significant relations to thyroid cancer. These results provide further evidence for a role of female gender, radiation, goiter, Asian race, high educational attainment and family history of thyroid disease in the etiology of thyroid cancer.

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**CLINICAL IMPLICATIONS:** We performed a cohort study of thyroid cancer among more than 200,000 Northern California enrollees (54% females, aged 10–89 at baseline in 1964–1973). In follow-up for a median of 20 years there were 196 incident thyroid cancers (73 in men, 123 in women). Our results indicate, the person most likely to develop thyroid cancer is a well-educated Asian woman with an enlarged thyroid gland, whose mother had a thyroid problem and who had neck radiation as a child. — CI

*From Northern California:*  
**Alcohol consumption patterns and health care costs in an HMO.**

*Hunkeler EM, Hung Y, Rice DP, Weisner C, Hu T. Drug Alcohol Depend 2001 Oct 1;64(2):181-90*

We examined the relationship between patterns of alcohol consumption and health care costs among adult members of the Kaiser Permanente Medical Care Program (KPMCP) in Northern California. A telephone survey of a random sample of the

KPMCP membership aged 18 and over was conducted between June 1994 and February 1996 (n = 10,175). The survey included questions on sociodemographic characteristics, general and mental health status, patterns of past and current alcohol consumption; inpatient and outpatient costs were obtained from Kaiser Permanente's cost management information system. Results showed that current non-drinkers with a history of heavy drinking had higher health costs than other non-drinkers and current drinkers. The per person per year costs for non-drinkers with a heavy drinking history were \$2421 versus \$1706 for other non-drinkers and \$1358 for current drinkers in 1995 US dollars. A history of heavy drinking has a significant effect on costs after controlling for sociodemographic characteristics, health status and health practices. Current drinkers have the lowest costs, suggesting that they may be more likely than non-drinkers to delay seeking care until they are sick and require expensive medical care.

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## Power

Our scientific power has outrun our spiritual power.

We have guided missiles and misguided men.

*The Reverend Dr Martin Luther King, Jr, 1929-1968*