

# Health Insights Today

A SERVICE OF CLEVELAND CHIROPRACTIC COLLEGE

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## Nutrition Update

*When reading reports on new research, it is important to remember that no single study should be seen as providing the whole truth. The following reports offer helpful clues but in most cases further research is needed before firm conclusions can be drawn.*

### Diets High in Animal Protein Linked to Increased Diabetes Risk

Dietary recommendations in relation to diabetes risk are focused mainly on relative dietary fat and carbohydrate content. Meanwhile, high-protein diets may contribute to disturbance of glucose metabolism. In a prospective cohort study, researchers analyzed the diets of 38,094 Dutch participants from the European Prospective Investigation into Cancer and Nutrition (EPIC)-NL study, with 10-year follow-up, and found that for every 5 percent of calories consumed from protein instead of carbohydrate or fat, the risk of developing diabetes increased 30 percent. Dietary protein intake was measured with a validated food frequency questionnaire. Incident diabetes was verified against medical records.

Increased animal protein intake coincided with increased intakes of saturated fat, cholesterol, and heme iron, and with increased body mass index, waist circumference, and blood pressure. Vegetable protein intake was not associated with diabetes risk.

Sluijs I, Beulens JW, van der AD, Spijkerman AM, Grobbee DE, van der Schouw YT. Dietary intake of total, animal, and vegetable protein and risk of type 2 diabetes in the European Prospective Investigation into Cancer and Nutrition (EPIC)-NL study. *Diabetes Care*. Jan 2010;33(1):43-48.

### High Plasma Vitamin D Level Linked to Decreased Colon Cancer

Vitamin D is obtained from the diet and synthesized in skin exposed to sunlight. Vitamin D status, assessed by circulating 25-hydroxyvitamin D [25(OH)D], has been associated with a reduced risk of colorectal cancer in previous studies. To complement existing evidence, researchers conducted a case-control study nested within the Multiethnic Cohort including men and women of Japanese, Latino, African-American, White, and Native Hawaiian ancestry. Using a direct competitive chemiluminescence immunoassay, 25(OH)D level was determined in plasma drawn before diagnosis from 229 cases and 434 controls matched to cases by area (Hawaii, Los Angeles), sex, ethnicity, birth year, blood draw date and time, and hours fasting.

Odds ratios (OR) were estimated with conditional logistic regression. An inverse trend was observed (OR per doubling of 25(OH)D, 0.68; 95% confidence interval, 0.51-0.92;  $P = 0.01$ ), but when examined in categories, relative to the first quintile ( $<16.8$  ng/mL), the ORs in all other quintiles were quite similarly reduced between 37% and 46%. The association was not significantly heterogeneous among the four largest ethnic groups. In summary, this study provides evidence of an association between vitamin D status and reduced risk of colorectal cancer in an ethnically diverse population.

Woolcott CG, Wilkens LR, Nomura AMY, et al. Plasma 25-Hydroxyvitamin D Levels and the Risk of Colorectal Cancer: The Multiethnic Cohort Study. *Cancer Epidemiology Biomarkers & Prevention*. January 2010;19(1):130-134.

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## Low Calorie Diet Helps Sleep Apnea, Especially in Severe Cases

Sleep apnea is a condition involving one or more pauses in breathing or shallow breaths during sleep. Breathing pauses can last from a few seconds to minutes, occurring 5 to 30 times or more an hour. Normal breathing then starts again, sometimes with a loud snort or choking sound. Sleep apnea, which usually is a chronic condition that disrupts sleep 3 or more nights per week, is one of the leading causes of excessive daytime sleepiness.

Swedish researchers assessed the effect of weight loss induced by a very low calorie diet on moderate and severe obstructive sleep apnea in obese men, in a randomized, controlled trial at an outpatient obesity clinic in Stockholm. The subjects were 63 obese men with moderate to severe obstructive sleep apnea, treated with continuous positive airway pressure. The intervention group received a liquid very low energy diet (2.3 MJ/day) for seven weeks to promote weight loss, followed by two weeks of gradual introduction of normal food, reaching 6.3 MJ/day at week 9. The control group adhered to their usual diet during the nine weeks of follow-up.

The main outcome measure was the AHI, the major disease severity index for obstructive sleep apnea. At week 9, the intervention group's mean body weight was 20 kg lower than that of the control group, while its mean AHI was 23 events/hour lower. In the intervention group, five of 30 (17%) were disease free after the energy restricted diet (AHI <5), with 15 of 30 (50%) having mild disease (AHI 5-14.9), whereas the AHI of all patients in the control group except one remained at 15 or higher. There was greater improvement in AHI in patients with severe obstructive sleep apnea (AHI >30) at baseline compared with those with moderate (AHI 15-30) sleep apnea, despite similar weight loss. The authors concluded that treatment with a low energy diet improved obstructive sleep apnea in obese men, with the greatest effect in patients with severe disease.

Johansson K, Neovius M, Lagerros YT, et al. Effect of a very low energy diet on moderate and severe obstructive sleep apnoea in obese men: a randomised controlled trial. *BMJ*. 2009;339:b4609.