



# HARVARD SCHOOL OF PUBLIC HEALTH

Department of Nutrition

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Ms. Carole Davis  
Co-Executive Secretary and Designated Federal Officer  
of the Dietary Guidelines Advisory Committee  
Dietary Guidelines Advisory Committee  
USDA Center for Nutrition Policy and Promotion  
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Dear Ms. Davis,

We appreciate this opportunity to provide comments on the *Report of the Dietary Guidelines Advisory Committee on the Dietary Guidelines for Americans, 2010*. Overall, the report represents progress in moving toward recommendations that are more consistent with science and that will improve the health of Americans. Positive changes include a more explicit and stronger recommendation to reduce consumption of sugary beverages, a greater emphasis on reduction of sodium, and much less emphasis on the percentage of energy from total fat, which is correctly described as not related to weight gain and obesity or any other major health outcome, as reviewed in the document.

The report, however, does have some shortcomings that include the following:

1. The percentage of total fat is still recommended to be less than 35% of calories, and the rationale is to be consistent with the Institute of Medicine (IOM) Dietary Reference Intakes (DRI). However, the DRI recommendation for less than 35% of energy is entirely related to weight control, which the Dietary Guidelines committee concluded has no relation to the percent of calories from fat. The problem is that the DRI's are not reviewed on a regular basis, so it makes no sense to base the Dietary Guidelines on the DRI's, which are out of date. There is really no basis for setting an upper limit on total fat; it will be constrained by the recommendation for saturated fat. This issue is important because often guidelines for total fat lead to replacing fat with refined starch and sugar, which can be harmful, especially if the fats removed are unsaturated fats.
2. The recommendation for three servings of milk per day is not justified and is likely to cause harm to some people. The primary justification is bone health and reduction of fractures. However, prospective studies and randomized trials have consistently shown no relation between milk intake and risk of fractures. On the other hand, many studies have shown a relation between high milk intake and risk of fatal or metastatic prostate cancer (the 2007 World Cancer Research Fund / American Institute for Cancer Research report

concluded that “foods high in calcium,” almost entirely dairy products, were a probable cause of prostate cancer).<sup>1</sup> A likely mechanism, at least in part, is that milk intake increases blood levels of IGF-1, which in turn is associated with higher risk of prostate cancer. The justification for drinking three glasses of milk per day on the basis of increasing potassium intake is also not valid as the extra calories, even with low fat milk, would easily counterbalance the benefit of the extra potassium. (The extremely high potassium IOM DRI of 4.7 grams per day is itself dubious as this is based on a very small number of African-American men who were given potassium supplements, not food, to reverse the effect of salt loading on blood pressure. The better solution clearly would be to not salt load people.) In what we believe was the only randomized trial of a recommendation to drink three glasses of low-fat milk per day,<sup>2</sup> the group randomized to milk gained significantly more weight compared to the control group, and there was no effect on blood pressure. The DASH study is often cited as justification for three servings of milk per day, but that study also changed many other factors in the diet, so any effect cannot be attributed to a single factor, except fruits and vegetables, which were examined separately. Also, the food was prepared and given to subjects isocalorically, so weight was controlled—an outcome that one would not expect from telling individuals to increase milk intake (and hence calorie intake).

Of course milk consumption, at least in moderation, may have benefits; and there is evidence that it will reduce risk of colorectal cancer, although the nonlinear relation suggests that most benefits would be gained by two glasses per day. Also, an important part of this evidence was based on an adenoma recurrence trial by Baron et al.,<sup>3</sup> and in this trial the intervention was a calcium supplement, not diet. Such a supplement has the advantage of no calories and lower cost.

Although consideration of environmental effects was not within the charge to the Dietary Guidelines committee, the recommendation for people of all ages to drink three servings of milk per day is very radical and if adopted, would double dairy production in the US. This would have huge adverse public health and environmental impacts that should be considered in any policy to increase consumption of dairy products. Similar environmental concerns can be raised regarding the Dietary Guidelines committee report’s promotion of beef consumption, already very high in the US. Industrial farming in the US is already taking a heavy toll on human and environmental health, according to a 2008 report by the Pew Charitable Trust and Johns Hopkins Bloomberg School of Public Health.<sup>4</sup> Besides the illnesses and environmental impact caused by animal waste, the report states, “*animal production systems are also highly dependent on intensive animal confinement, which commonly requires the use of antimicrobials to prevent*

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<sup>1</sup> World Cancer Research Fund / American Institute for Cancer Research. *Food, Nutrition, Physical Activity, and the Prevention of Cancer: a Global Perspective*. Washington DC: AICR, 2007

<sup>2</sup> Barr SI et al. Effects of increased consumption of fluid milk on energy and nutrient intake, body weight, and cardiovascular risk factors in healthy older adults. *J Am Diet Assoc.* 2000; 100:810-7.

<sup>3</sup> Baron JA et al. Calcium supplements for the prevention of colorectal adenomas. Calcium Polyp Prevention Study Group. *N Engl J Med.* 1999; 340:101-7.

<sup>4</sup> Pew Commissions on Industrial Farm Animal Production. *Putting Meat on the Table: Industrial Farm Animal Production in America*. Washington DC: Pew Charitable Trust and Johns Hopkins Bloomberg School of Public Health, 2008

*disease, not just to treat it. Together with the use of antimicrobials to promote animal growth, these practices accelerate the emergence of resistant microbes, with obvious risks for both animals and humans.”*

3. The recommendation for high intake of lean meat, especially for premenopausal women, is based on the large amount of heme iron in meat and the high prevalence of iron deficiency in premenopausal women due to regular menstrual losses. This recommendation is worrisome as there is substantial evidence that high intake of heme iron may increase risks of diabetes, and consumption of red meat has been associated with incidence of colorectal cancer.<sup>5</sup> There is no good evidence that the association with colorectal cancer is limited to well done red meat as suggested by the report. Although the data are limited, red meat consumption during adolescence and early adult life has been associated with higher risks of premenopausal breast cancer.<sup>67</sup> Given the complexities and uncertainties, more caution would seem warranted. Non heme iron, such as in an RDA multi vitamin/multimineral supplement, would probably be a better recommendation, because non heme iron is not absorbed if iron stores are adequate, but heme iron is absorbed whether we need it or not.
4. The report seems relatively silent on vitamin D, even though there is strong evidence that blood levels are not optimal for two-thirds of Americans. We recognize that the committee probably appreciated that the IOM report on vitamin D will be forthcoming and did not want to anticipate a specific recommended intake. Supplementation with vitamin D is probably the safest way to increase levels, and it has been shown to reduce risk of fractures in randomized trials if the dose is 700 IU per day or more. The committee recommended foods fortified with vitamin D as preferential to use of supplements which makes little sense, and the foods will bring extra calories. Also, the doses of vitamin D are better regulated in supplements compared to the many small dairies that fortify their products; there have been deaths in New England due to over fortification of milk.
5. The report also does not reinforce adequately the CDC recommendation that women of reproductive age who might possibly become pregnant should take a supplement of folic acid, which is most conveniently done as part of a multiple vitamin. Although folate status has increased due to fortification of grain with folic acid, the CDC recommendation has not changed as there has been no good evidence that it should be changed.
6. The report still suggests that consuming half of grains as refined grains is healthy. Refined grains have adverse metabolic effects and provide many empty calories and minimal benefits. Thus, this is a major part of the US diet that should be reduced as much as possible, along with added sugar. The report suggests that one of the reasons for

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<sup>5</sup> World Cancer Research Fund / American Institute for Cancer Research.

<sup>6</sup> Linos E et al. Red meat consumption during adolescence among premenopausal women and risk of breast cancer. *Cancer Epidemiol Biomarkers Prev.* 2008; 8:2146-51.

<sup>7</sup> Cho E et al. Red meat intake and risk of breast cancer among premenopausal women. *Arch Intern Med.* 2006;166:2253-9

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concern about recommending that all grains be whole grains is their modeling exercise which suggests that not consuming fortified grain products (mainly refined grains) would result in a shortfall in reaching the DRI's for folate and iron. Any concern about this would be mitigated by taking a multiple vitamin/mineral supplement (including an adequate amount of vitamin D), which would be a good alternative to the committee's recommendation to eat processed whole grain breakfast cereals, since such cereals usually include undesirable amounts of added sugar and salt.

Again, the report as a whole represents an enormous effort that is greatly appreciated and that is an important contribution to improving the health of Americans.

Sincerely,



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