

## SUPPLEMENTAL MATERIAL

## CLINICAL SUMMARY

With the exception of fish, few major dietary protein sources have been studied in relation to the development of coronary heart disease (CHD). Our objective was to examine the relation between foods which are major dietary protein sources and incident CHD. We prospectively followed 84,136 women aged 30-55 years in the Nurses' Health Study with no known cancer, diabetes, angina, myocardial infarction, stroke, or other cardiovascular disease. During 26 years of follow-up, we documented 2210 incident nonfatal infarctions and 952 deaths from CHD. In multivariate analyses including age, smoking, and other known cardiovascular risk factors, a higher intake of red meat was significantly associated with an elevated risk of CHD. Higher intakes of poultry, fish, and nuts were significantly associated with lower risk. In a model controlling statistically for total energy intake, one serving/day of nuts was associated with a 30% (95% CI: 17% to 42%) lower risk of CHD, when compared to one serving/day of red meat. Similarly, when compared to one serving/day of red meat, one serving/day of low-fat dairy was associated with a 13% (95% CI: 6% to 19%) lower risk, one serving/day of poultry was associated with a 19% (95% CI: 3% to 33%) lower risk, and one serving/day of fish was associated with a 24% (95% CI: 6% to 39%) lower risk. These data suggest that high red meat intake increases risk of CHD, and that risk of CHD may be reduced importantly by shifting the sources of protein in the U.S. diet.

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**Appendix Table: Serving Sizes of Major Protein Sources on Food Frequency Questionnaires  
in the Nurses' Health Study, 1980-2002**

	<b>1980</b>	<b>1984</b>	<b>1986</b>	<b>1990</b>	<b>1994</b>	<b>1998</b>	<b>2002</b>
<b>Milk (incl. skim, 1%, 2%, whole)</b>	8oz	8oz	8oz	8oz	8oz	8oz	8oz
<b>Cream</b>		1 tbs	1 tbs	1 tbs	1 tbs	1 tbs	1 tbs
<b>Sour cream</b>		1 tbs	1 tbs	1 tbs	1 tbs	1 tbs	1 tbs
<b>Yogurt (incl. flavored and plain)</b>	1 cup	1 cup	1 cup	1 cup	1 cup	1 cup	1 cup
<b>Ice cream</b>	½ cup	½ cup	½ cup	½ cup	½ cup	½ cup	½ cup
<b>Cottage or ricotta cheese</b>	½ cup	½ cup	½ cup	½ cup	½ cup	½ cup	½ cup
<b>Hard cheese</b>	1 slice or svg	1 slice or 1oz svg	1 slice or 1oz svg	1 slice or 1oz svg	1 slice or 1oz svg	1 slice or 1oz svg	1 slice or 1oz svg
<b>Cream cheese</b>		1 oz	1 oz	1 oz	1 oz	1 oz	1 oz
<b>Butter</b>	1 pat	1 pat	1 pat	1 pat	1 pat	1 pat	1 pat
<b>Chicken w/o skin</b>	6-8oz	4-6oz	4-6oz	4-6oz	4-6oz	3oz	3oz
<b>Chicken w/skin</b>	6-8oz	4-6oz	4-6oz	4-6oz	4-6oz	3oz	3oz

<b>Hamburger (incl. regular and lean)</b>	1 patty	1 patty	1 patty	1 patty	1 patty	1 patty	1 patty
<b>Hot dog</b>	1 hot dog	1 hot dog	1 hot dog	1 hot dog	1 hot dog	1 hot dog	1 hot dog
<b>Chicken or turkey dog</b>					1 chicken or turkey dog	1 chicken or turkey dog	1 chicken or turkey dog
<b>Processed meats * Sandwich  * Other (sausage, kielbasa, et)</b>	1 piece or slice	1 piece or slice	1 piece or slice	1 piece or slice	1 piece or slice	1 sandwich  2oz	1 sandwich  2oz
<b>Bacon</b>	2 slices	2 slices	2 slices	2 slices	2 slices	2 slices	2 slices
<b>Beef, pork, lamb sandwich or mixed dish (stew, casserole, lasagna, etc)</b>	Not quantified	Not quantified	Not quantified	Not quantified	Not quantified	Not quantified	Not quantified
<b>Beef, pork, lamb as main dish (steak, roast, ham,</b>	6-8oz	4-6oz	4-6oz	4-6oz	4-6oz	4-6oz	4-6oz

etc.)							
<b>Pork as a main dish (eg, ham or chops)</b>					4-6oz	4-6oz	4-6oz
<b>Beef as a main dish (eg, steak or roast)</b>					4-6oz	4-6oz	4-6oz
<b>Liver</b>		3-4oz					
* Beef			4oz	4oz	4oz	4oz	4oz
* Chicken			1oz	1oz	1oz	1oz	1oz
<b>Eggs</b>	1 egg	1 egg	1 egg	1 egg	1 egg	1 egg	1 egg
<b>Fish</b>	6-8oz						
* Canned tuna		3-4oz	3-4oz	3-4oz	3-4oz	2-3oz	2-3oz
* Dark meat fish (mackerel, salmon, sardines, bluefish, swordfish)		3-5oz	3-5oz	3-5oz	3-5oz	3-5oz	3-5oz
* Other fish (eg, Cod, Haddock, Halibut)		3-5oz	3-5oz	3-5oz	3-5oz	3-5oz	3-5oz

<b>* Breaded fish cakes, pieces, or fish sticks</b>					1 svg	1 svg	1 svg
<b>Nuts (incl. peanuts, walnuts, other nuts)</b>	1oz	Small packet or 1oz	Small packet or 1oz	Small packet or 1oz	Small packet or 1oz	Small packet or 1oz	Small packet or 1oz
<b>Beans or lentils, baked or dry</b>	½ cup	½ cup	½ cup	½ cup	½ cup	½ cup	½ cup