Sea Grant MAS NOTE
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**SEAFOOD IS GOOD FOR YOU**

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Seafood is good for you! Nutritionists, dieticians, and health and food educators have known for years that seafood is a nutrient-dense, high-protein food. It's generally low in calories and total fat—the fat that is found in seafood is rich in polyunsaturates and omega-3 fatty acids. Most seafood is also high in protein, low in sodium, and packed with vitamins and minerals. Seafood is easier to digest than red meats and poultry. And perhaps best of all, seafood tastes good and is easy to prepare.

The U.S. Department of Health and Human Services and the U.S. Department of Agriculture recommend that you eat a variety of foods; maintain a desirable weight; avoid too much fat, saturated fat, cholesterol, sodium, and sugar; eat foods with adequate starch and fiber; and if you drink alcoholic beverages, do so in moderation.

Seafood can go a long way toward helping consumers achieve these dietary goals. Most finfish and shellfish are low in fat, with a total composition of less than 5% fat; many varieties have less than 1% fat. Thus, with such a small amount of total fat, most seafood provides only 90–190 calories for a 3-ounce serving, cooked. What may add unwanted fat and calories to seafood is the way it is prepared, such as deep-frying or serving it with a cream sauce. Cooking techniques such as broiling, barbecuing, poaching, microwaving, or steaming on a rack with minimal fat added can help keep the amount of fat in your dish down.

Another U.S. dietary guideline is to "reduce cholesterol consumption to about 300 milligrams (mg) per day." Fish averages only about 30–90 milligrams cholesterol per 3 ounces, cooked. Shellfish tend to contain only slightly higher amounts of cholesterol: crustaceans (crabs, lobsters, shrimp) contain 80–160 mg per 3 ounces; mollusks (clams, oysters, scallops) contain 48–90 mg per 3 ounces, while squid and octopus contain relatively high levels—396 mg and 122 mg per 3 ounces, respectively.

**The Bonus—Fish Oils**

Consequently, seafood consumption is a good idea—it's compatible with optimum dietary practices and recommendations and can help maintain a balanced nutrient intake in the context of a low-fat diet. The bonus, the consumption of fish oils, may provide added significant health benefits.

Fish oils, like other fats or lipids, are composed of glycerol to which three fatty acids are attached. The fatty acids contain chains of carbon atoms that are linked by single and/or double bonds. Polyunsaturated fatty acids (PUFAs) contain several double bonds between carbon atoms in the chain—the more double bonds, the higher the degree of unsaturation. Fish oils are unique in that they contain a large proportion of highly unsaturated fatty acids, called omega-3 fatty acids.

The most important omega-3 fatty acids found in seafood are eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA). Fish and shellfish ingest and accumulate omega-3 fatty acids through the food chain from algae and phytoplankton, the primary producers of omega-3 fatty acids. Humans cannot manufacture omega-3 fatty acids; therefore, we need to obtain them through our daily foods.

Most nutrition researchers say that eating seafood once or twice a week may be beneficial in preventing coronary heart disease. The high content of polyunsaturated fatty acids in seafood lowers serum cholesterol levels. Omega-3 fatty acids change the critical balance of certain blood components called lipoproteins, thus reducing the low-density lipoproteins (LDL) and the very low density lipoproteins (VLDL) that deposit cholesterol along the artery walls. The omega-3 fatty acids also lower the levels of blood triglycerides, another type of fat involved in heart disease. Also, omega-3 fatty acids form a different pattern of prostaglandins (hormone-like compounds), diminishing the clotting of blood cells, reducing the number and stickiness of blood platelets, and making red blood cells more flexible so that they flow more smoothly.

Researchers suggest that other health problems also may be controlled or alleviated by consuming omega-3 fatty acids from fish. These include asthma, arthritis, diabetes, multiple sclerosis, hypertension, headaches, cancer, and some kidney diseases. Fish oil capsules or supplements that contain concentrated amounts of omega-3 fatty acids are widely available in drug and health food stores. However, these supplements currently are not recommended for the general public. Research has not yet established their safety or effectiveness.

**Getting Seafood into Your Diet—What To Do**

What can you do to increase your seafood consumption level? First, ask yourself what seafood you already like and eat regularly. Review your favorite seafood recipes; then ask your retailer what other fish or shellfish could be substituted for your usual species. Trying new seafood in old recipes will increase the *variety* of seafood you eat.

Next, try substituting seafood in some of your recipes that call for red meat or poultry. You can add seafood to homemade pizza, tacos, or sloppy joes. Seafood is a natural

in many stir-fry recipes. If once a week or once every other week you substitute seafood in recipes in which you formerly used red meats or poultry, you will have taken another step to increase the amount of seafood you eat.

Restaurants are good places to try new types of seafood. Ask the staff what the seafood tastes like and how it is prepared; then you can judge whether or not you might like it. Remember to watch out for butter and cream sauces and fried foods. Ask questions at your favorite market. Your seafood retailer may have some delicious recipes to share.

**Notes to Remember**

The way you prepare seafood is important. Select techniques and recipes that minimize fat. You don't want to spoil seafood's natural low-calorie appeal. If you're going to meet the U.S. Dietary Guideline for reducing total fat consumption to 30% of calories, you need to make food selections that derive low percentages of calories from fat. The chart below identifies calories and some nutrient components, including calories from fat, for selected seafood choices. (The species numbered in parentheses are the 20 most frequently consumed fish in the U.S.)

Calories from fat can quickly add up. Fat supplies 9 calories per gram, more than twice the calories of carbohydrates and protein, which provide 4 calories per gram each. To calculate the percent of calories from fat in your diet or a particular food, multiply the grams of fat by nine, divide by the number of calories in your diet or the food, and then multiply by 100. For example, 3 ounces of light-meat chicken (cooked) without the skin has 148 calories and 3.9 grams of fat; therefore, 3.9 x 9 = 35 and 35 ÷ 148 = 0.23; 0.23 x 100 = 23% of calories from fat.

Now, think about how you like to eat your chicken, possibly batter-dipped and deep-fried—say the breast portion with the skin on. This popular way to eat chicken provides 45% of its calories from fat. This happens to fish, too. A piece of haddock breaded and deep-fried also derives 45% of its calories from fat, but if you broiled that same piece of haddock (without the breading), only 10% of the calories would come from fat.

Remember, seafood *is* naturally nutritious and it's low in calories and total fat. By putting more seafood—prepared healthfully—in your diet today, you may be able to look forward to a healthier future.

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