

Health Benefits of SEAFOOD



A 3-ounce serving of seafood provides 50-60 percent of an adult's daily protein needs.

All seafood is relatively low in fat.

Most seafood is low in cholesterol except for shrimp, squid and fish roe.

Seafood provides the diet with iron, iodine, zinc, niacin, B-complex vitamins and phosphorous.

Fatty species of fish provide generous amounts of vitamins A and D.

Fish with bones, like canned salmon and sardines, are good sources of bone-building calcium.

An average 3-ounce serving of fish cooked without fat has about 85 calories, making it a low-calorie food.

Try not to add extra calories by frying or using cream or cheese-based sauces with seafood.

Benefits of Eating Fish and Shellfish

Fish and shellfish have been on restaurant menus for years. Now consumers are including more seafood on their menus at home.

Including fish and shellfish as part of an overall balanced diet can provide many health benefits. Seafood is fairly inexpensive, quick and easy to prepare, and provides lots of nutrition. It is an excellent source of lean protein and is low in saturated fat. Also, seafood provides essential omega-3 fatty acids, which help lower rates of heart disease, reduce hypertension, relieve some arthritis symptoms and prevent cancer.*

According to the American Heart Association, consumers should eat two servings of fish per week to prevent coronary heart disease. The U.S. Food and Drug Administration recommends that pregnant women or those who are breast feeding consume two to three servings per week. They also recommend that children eat one to two servings per week beginning at 2 years of age to promote development and growth.

Will the choice of seafood you eat make a difference? It's difficult to say there is a "best" fish or shellfish. "Oily" fish, like salmon, tuna, mackerel, herring and sardines are higher in omega-3 fatty acids. Fish and shellfish that are lower in fat, like cod and crab, are perfect alternatives for other protein foods that are higher in saturated fats, like red meat and pork. But all seafood – no matter your choice – will provide a diet with healthful benefits. The best advice is to include more fish and shellfish in the diet and not to worry about the type you may be eating.

**See the chart on page 2 for omega-3 content of seafood.

Food Safety Notes

As with any type of food, guidelines should be followed on safety and handling of seafood to avoid foodborne illnesses. Some people worry that fish contains methylmercury. A few fish species do accumulate high levels of methylmercury as they get older. Species such as shark, swordfish, king mackerel and tilefish should be avoided. The good news is that these fish are not readily available to consumers. The fish that are most common in restaurants or markets are the ones that are ranked as low and are recommended to consume.

The most commonly eaten fish that are LOW in methylmercury are redfish, speckled trout, black drum, croaker, catfish, shrimp, oysters, crabs, crawfish, cod, pollock, halibut, mahi mahi, canned light tuna, rainbow trout and other coldwater trout species, and tilapia.

Certain groups of people are at a greater risk for foodborne illness and should stay away from eating raw or partially cooked fish or shellfish. People who should avoid eating raw oysters or raw sushi include:

- Pregnant women
- Young children
- Older adults
- Persons with compromised immune systems
- Persons with decreased stomach acid

Another concern with food safety and shellfish are foodborne illnesses caused by bacteria and viruses. Follow these food safety precautions to avoid these problems:

- **Listeriosis.** This bacterial disease can be avoided by not eating refrigerated smoked seafood unless it is canned or shelf-stable, or it is in a cooked dish.
- **Vibriosis.** This disease is caused by eating raw or undercooked seafood. Safe shellfish preparation is necessary to avoid illness, especially among high-risk groups.
- **Norovirus.** This virus is the leading cause of foodborne illness and outbreaks. Norovirus is associated with eating undercooked shellfish, such as oysters or clams. If infected, it is highly contagious.

Oysters that are pasteurized or treated with high pressure before they are served are considered safe and ready-to-eat. However, re-contamination during transportation, storage and display may still occur and could raise a concern for listeriosis, especially in high-risk groups.

The best food safety rule of thumb to follow is to cook seafood thoroughly. If you choose to eat raw fish, it is best to eat fish that has been previously frozen. Freezing kills any parasites that may be found in some types of fish. But be aware that freezing will not kill all of the harmful microorganisms that may be present. The USDA recommends cooking all seafood to an internal temperature of 145° F.

Omega-3 Content of Fish and Shellfish Amounts are in grams per 3 ounce portion*		
Finfish	Catfish: channel, farmed	0.2
	Cod: Atlantic	0.1
	Flatfish: flounder and sole species	0.4
	Salmon: Atlantic	1.8
	Salmon: Chinook	1.5
	Salmon: Chinook, smoked (lox)	0.4
	Salmon: chum	0.7
	Salmon: coho, wild	0.9
	Salmon: pink, canned, solids w/bone & liquid	1.4
	Tuna: light, canned in water, drained solids	0.2
	Tuna: white, canned in water, drained solids	0.7
	Tuna: yellowfin, fresh	0.2
Mollusks	Clam: mixed species	0.2
	Scallop: mixed species	0.3
Shellfish	Crab: Alaska king	0.4
	Crab: Alaska king, imitation	0.5
	Crab: blue	0.4
	Shrimp: mixed species	0.3

*Cooked without added fat or sauces.
Source: USDA Nutrient Database for Standard Reference.

Shopping for Seafood

To make sure you are getting the safest seafood possible, buy fish that is refrigerated or properly iced. Look for seafood to be displayed on fresh ice, and buyers beware when you see ice melting. Seafood should also be displayed in a case or under some type of cover.

When choosing fresh, whole fish look for these features: clear, bulging eyes; elastic, firm flesh; red gills; shiny skin; and close-fitting scales. Fresh or previously frozen seafood should have a pleasant and firm texture. If it smells bad and looks bad, it probably is bad and should not be eaten.

Look for fish fillets and cutlets that have moist flesh, firm texture and no discoloration or dryness. If touched, the flesh should spring back. Flesh that looks dull could mean the fish is old.

When selecting fresh shellfish, look for the tag or label on the packages. These tags and labels will give specific information about the product, including a certification number for the processor.

In addition, follow these general guidelines:

- Throw away any dead, cracked or broken shellfish.
- Perform the “tap test.” Clams, oysters and mussels that are alive will close up when their shells are tapped.
- Look for moving legs. Live crabs, crawfish and lobsters will show leg movement.

How much fish should you buy for one person?

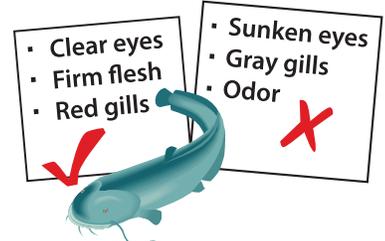
Whole:
10-12 ounces

Fillets:
3-5 ounces

Fish portions:
3.5-5 ounces

Fish cutlets:
5-8 ounces

Remember:



Storing Seafood

Once you buy seafood, you should store it on ice, in the refrigerator or in the freezer immediately. Follow these guidelines for safe storage:

- After buying, store it in the refrigerator if you will use it within two days.
- If you won't use it for three or more days after purchase, freeze it using one of the following methods.

Fillet

- Vacuum packaging is the best way to freeze fish fillets or steaks to prevent freezer burn and development of off-flavors. If you don't have vacuum packaging equipment, use heavy-duty freezer bags or moisture-vapor proof plastic wrap. Place each fillet in a separate freezer bag or wrap individually in plastic wrap without adding water. Eliminate as much air as possible from the freezer bag or wrapped fish.
- Freeze individually wrapped fish as quickly as possible. The frozen fish may be packed together in larger bags or other containers.
- Small fish with skin on freeze well in water. Place in a waxed milk carton or other watertight container, add ice water and freeze.

Whole Dressed Fish

- Leave skin on and wrap in moisture-vapor-proof plastic wrap, or glaze the fish. Glazing helps prevent both dehydration and freezer burn. To glaze, freeze the fish quickly, remove from freezer and dip in ice-cold water. The water freezes and forms a thin layer of ice. To protect the glaze from cracking or chipping, wrap fish with freezer paper or heavy-duty aluminum foil.

Shrimp

- Shrimp can be frozen raw or cooked, in or out of the shell. For maximum storage life and quality, freeze shrimp raw, with heads removed, but shells still on. Be sure to wash and drain the shrimp if frozen uncooked. Shrimp also may be frozen in water in a freezer container or zipper bag.

Crabmeat

- Freeze crabmeat in a sealed bag (preferably vacuum-sealed). Do not add water to prevent flavor and texture loss.

Crawfish

- Peel cooked or blanched crawfish tails and rinse with cold water to remove all fat. To blanch, put live crawfish in boiling water to cover them, bring back to a boil and boil for 7-8 minutes for a large pot. To prevent darkening, dip peeled tails in a solution of lemon juice and water (one-third cup lemon juice to 1 quart water.) Drain and package in freezer bags, removing as much air as possible.

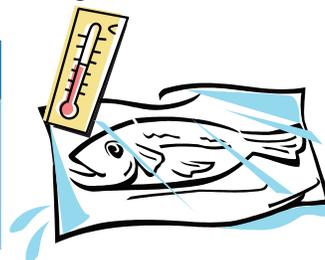
Oysters

- Freeze oysters in juice in freezer bags or freezer containers for use in cooked or baked products.

Thaw frozen fish and shellfish in the refrigerator on a bottom shelf to prevent dripping on other foods. For faster thawing, place frozen fish or seafood in a waterproof bag in a pan in the sink under cold running water. It can also be thawed in the microwave on the defrost cycle. Stop the cycle when the fish is still icy but pliable. Cook immediately after thawing.

Recommended storage times for seafood

	Refrigerator	Freezer
Fish	1-2 days	3-8 months
Shellfish	1-2 days	3-12 months



10 Tips to Add More Seafood to Your Diet

- Use fish or shellfish in place of meat or poultry in your favorite recipes. They will put a new spin on your favorite casseroles, salads, soups and pasta recipes.
- Do you have a meat lover at home? Use "meatier" varieties of fish like swordfish, fresh tuna, halibut and shark to satisfy their craving for meat.
- Not used to eating much seafood in your diet? Try adding one menu that includes fish or shellfish to the family's meals and work your way up from there.
- Add extra flavor to seafood by using lemon and lime juice; herbs like dill or basil; onions and garlic; ketchup, tarter sauce and low-fat sauces when preparing recipes.
- Add a cookbook to the kitchen that focuses on low-fat seafood dishes. Learn to prepare several quick-and-easy seafood recipes that you can add to your cooking routine.
- To prevent overcooking of seafood, remember these tips: high temperature, short time, don't leave it.
- Canned and frozen fish and shellfish can be easy on the food budget, and watch for specials at the supermarket.
- Can't seem to include seafood at dinnertime? Try having it at lunch instead, at least once or twice a week. Enjoy a fresh salad with tuna or shrimp, or how about a broiled or grilled fish sandwich? Stay away from the battered or breaded fish selections; they add lots of calories and fat.
- Instead of hamburgers or meatloaf, why not try fish burgers or fish loaf made using canned salmon or tuna in place of the meat?
- Try new ways of preparing your favorite seafood. Instead of frying, which adds extra calories and fat, try grilling, baking, broiling, poaching in a seasoned liquid or even steaming.



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