



Seafood Health Facts: Making Smart choices

Balancing the Benefits and Risks of Seafood Consumption

Resources for Healthcare Providers and Consumers

Guide to Selecting Seafood [1]

This section provides practical advice for consumers to evaluate the quality and safety of seafood product when purchasing them in retail stores or restaurants.

Buying Seafood

There are a number of things for consumers to consider when purchasing high-quality seafood. First, it's important to buy seafood from reputable dealers - those with a known record of safe handling practices - and avoid roadside stands. And since seafood is highly perishable, purchase it last. Make sure the raw juices from seafood do not drip on other foods, especially those that will be eaten without further cooking. (Bacteria in the raw juices can cause cooked foods to spoil, and since these foods are already cooked, there won't be any chance for the bacteria to be destroyed.) You can avoid cross-contamination in your shopping cart by enclosing individual packages of seafood in plastic bags.

When purchasing seafood, the word "fresh" generally refers to seafood that has not been frozen. Yet "frozen" does not have a bad connotation. Frozen seafood can be superior in quality to fresh seafood, so base your purchase on product quality. (Products labeled "fresh frozen" indicate the seafood was frozen while it was fresh, in many instances within hours of harvest. If fishery products were frozen and thawed for retail sale they should be labeled "previously frozen.")

Food Allergies

There are some safety considerations that consumers should be aware of before they select the types of seafood products they intend to eat. For example, individuals need to be aware of any allergies that they might have to specific types of fish, shellfish (clams, oysters) or crustaceans (shrimp, lobsters, crab). Finfish and crustaceans are two of the eight key allergens that account for 90% of allergic responses from food. Since proper cooking and handling will not remove the allergenic properties of the food, it is necessary for consumers to avoid the food of concern.

Recreational Fish

Fish and shellfish are unique foods in that large amounts are harvested by individuals for their own personal consumption. It has been estimated that one-fifth of the fish and shellfish eaten in the U.S. comes from recreational or subsistence fishing in the ocean, in marine bays or estuaries, or in freshwater lakes, ponds, rivers or streams. Individual fishermen may catch fish from waters that are known to contain elevated levels of contaminants, even though commercial fishing in these waters is banned. Before you go fishing, check to see if there are any health advisories for the body of water or type of fish or shellfish that you intend to catch and follow the advice that is given. Advisories are available from local or state health departments, fisheries agencies, or you can check the [EPA Website](#) [2]. Plan ahead to keep the fish that you catch cold. Bring enough ice to completely surround the fish and a cooler to keep the ice from melting so that the fish will stay cold until you can get your catch home and stored in the refrigerator. Use clean drinkable water when rinsing or cleaning your catch and keep all cutting boards, knives and other equipment clean.

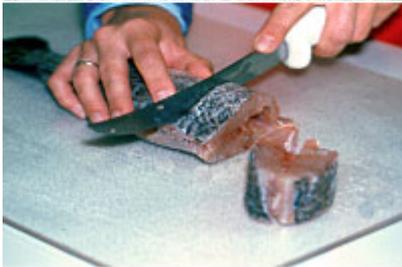
Evaluating Seafood Quality



Once you've made a decision about the type of fish you wish to buy, you will need to assess the quality of fresh seafood that you select. First, look at the display. All fresh seafood should be held as near to 32°F as possible, which is maintained by refrigeration and/or ice. The following information will help you evaluate the quality of the types of seafood available in retail stores.

Whole Fish

Whatever the variety, whole fish have certain characteristics that indicate freshness. They should have bright, clear, full eyes that are often protruding. As the fish loses freshness, the eyes become cloudy, pink, and sunken. The gills should be bright red or pink. Avoid fish with dull-colored gills that are gray, brown, or green. Fresh fish should be free of loose or sloughing slime.



The flesh should be firm yet elastic, springing back when pressed gently with the finger. With time, the flesh becomes soft and slips away from the bone. The skin of a fresh, whole fish should be shiny with scales that adhere tightly. Characteristic colors and markings start to fade as soon as a fish leaves the water, but the skin should still have a bright, shiny appearance.

Fish Fillets or Steaks

Note that fillets and steaks should have firm, elastic flesh and a fresh-cut, moist appearance, with no browning around the edges. Fillets separate if they are left too long in the case. The flesh should be almost translucent - as if you can almost see through it. There should be little evidence of bruising or reddening of the flesh from retention of blood. Prepackaged steaks and fillets should contain a minimum of liquid. Fish fillets stored in liquid deteriorate quickly.

Shellfish

They may be sold live, cooked, or fresh-shucked. Each form and species has different quality signs to examine. Live clams, oysters, or mussels should have shells that look moist and are tightly closed. If the shells gape slightly, have your retailer tap them. If the shells do not close or are cracked, do not purchase them. The bottom shell of an oyster should be well cupped - a sign that the oyster inside is plump and well formed. The "neck" or "snout" of soft-shelled clams should show movement. The meats of fresh-shucked clams, oysters, or mussels should be plump and covered with their liquor. Their liquor should be clear or slightly opalescent (slightly milky or light gray) and free of shell or grit. There should be no strong odor.

Scallops are not usually sold live because they are highly perishable. Typically scallops are shucked at sea

shortly after capture. On occasion, day boats will bring whole scallops to market or local restaurants. Fresh scallop meats have a firm texture and a distinctly sweet odor. A sour or iodine smell indicates spoilage. The smaller bay and calico scallops are usually creamy white, although there may be some normal light tan or pink coloration. The larger sea scallops are also generally creamy white, although they may show some normal light orange or pink color.

Live crabs and lobsters should show leg movement, and the tail of lobsters should curl tightly underneath the body and not hang down when the lobster is picked up. Lobsters and crabs will not be very active if they have been refrigerated, but they should move at least a little bit. Cooked lobsters or crabs in the shell should be bright red and have no disagreeable odor. Picked lobster meat will be snowy white with red tints, while crab meat is white with red or brown tints, depending on the species or the section of the body it was picked from. Cooked, picked lobster or crab meat should have good color and no disagreeable odor.

Raw shrimp meat should be firm and have a mild odor. The shells of most varieties are translucent with a grayish green, pinkish tan, or light pink tint. The shells should not have blackened edges or black spots – this is a sign of quality loss. Cooked shrimp meat should be firm and have no disagreeable odor. The color of the meat should be white with red or pink tints. Tiger shrimp have bluish colored shells with black lines between the segments of the shell (these are not black spots).

Whole squid should have eyes that are clear and full, and the skin should be untornd and the meat very firm. The skin of fresh squid is cream colored with reddish brown spots. As squid ages, the skin turns pinkish and the flesh will yellow.

Label-Dated Seafood

Buy pasteurized crab meat and other products only if the “sell by” or “use by” date has not expired. While helpful, these dates are reliable only if the seafood has been kept at the proper temperature during storage and handling.

Mail-Order Seafood

Gift seafood is a growing specialty market, mainly for gourmet products. Fresh and frozen seafood are also available to people living far away from the resource. Maine lobsters can be shipped anywhere in the United States. Canned salmon, canned chopped clams, seafood seasonings and marinades, and some smoked products are shelf-stable and require no refrigeration. However, any other fresh or frozen seafood product must arrive as cold as if refrigerated in order to be safe. Before ordering such items, ask how and when the product will be shipped to keep the product cold. Try to be home when your order arrives, so you can put it right in your refrigerator or freezer. If you aren't home, give specific instructions about where it should be left. If you receive a package containing live shellfish or fresh or frozen seafood, check the item upon receipt to see if the shellfish are alive, the fresh product is as cold as if refrigerated, and the frozen product is frozen. If it is not, call the mail-order company for a replacement that will arrive cold or request a refund.

Buying Frozen Seafood

Commercially frozen fish is quickly frozen at its peak freshness. Consumers can now find a wide choice of top-quality and wholesome seafood in the freezer case. When properly thawed, frozen fish is comparable to fish that was never frozen. Both exhibit the qualities of freshness described previously. Frozen fish and shellfish should be packaged in a close-fitting, moisture-proof package. Select packages from below the load line of the freezer case. Look for packages that still have their original shape and the wrapping intact with little or no visible ice. Seafood should be frozen solid with no signs of freezer burn, such as discoloration or drying on the surface, and have no objectionable odor. The same guidelines apply for frozen prepared seafood, such as crab cakes, breaded shrimp, or fish sticks. Do not allow the package to defrost during transportation. When properly thawed, frozen fish can be comparable to fish that was never frozen.

Value-Added Seafood

Value-added seafood includes battered and breaded seafood, smoked seafood, dried fish, precooked seafood entrees, fresh minced clams, pre-seasoned fish fillets (such as farm-raised catfish), and others. All these products are semi-prepared and refrigerated or frozen to save you steps when preparing meals at home. Keep in mind the safe handling guidelines, cleanliness, and proper storage and cooking temperatures, and always

read the label and follow the manufacturer's directions, especially as new products are developed and reach the marketplace. To use refrigerated, prepared seafood safely, when purchasing it, make sure the seafood is cold. Also check the "sell by" or "use by" date on the package. Read the label and follow storage and cooking or heating instructions carefully. Use these products within the recommended length of time. When freezing these products, do so as soon as possible after purchase.

Resources for More Information

For those who wish to see additional information, links are provided below to consumer publications that provide tips for selecting and handling seafood to maintain quality and safety.

Food and Drug Administration Consumer Brochure - [Fresh and Frozen Seafood: Selecting and Serving it Safely](#) [3].

University of Delaware Fact Sheet - [A Consumer Guide to Safe Seafood Handling](#) [4].

Virginia Cooperative Extension Consumer Brochure - [Safe and Nutritious Seafood in Virginia](#) [5].

Cornell University & NY Sea Grant Booklet - [Seafood Savvy: A Consumer's Guide to Seafood Nutrition, Safety, Handling and Preparation](#) [6].

New York Sea Grant - [Handling Your Catch: A Guide for Saltwater Anglers](#) [7]. This 48 page booklet by NY Sea Grant and Cornell University Seafood Technology Specialist Ken Gall describes how to handle, store, transport and prepare saltwater fish to maximize quality and safety. It includes numerous illustrations and examples.

[California Sea Grant Seafood Network Information Center Consumer Information site.](#) [8]

University of Georgia Marine Extension Service and California Sea Grant Extension Program - [SafeOysters.org](#) [9], a gateway to *Vibrio vulnificus* information.



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<https://www.seafoodhealthfacts.org/seafood-safety/general-information-patients-and-consumers/guide-selecting-seafood>

Links

[1] <https://www.seafoodhealthfacts.org/seafood-safety/general-information-patients-and-consumers/guide-selecting-seafood>

[2] <http://www.epa.gov/waterscience/fish/states.htm>

[3] <http://www.fda.gov/food/resourcesforyou/consumers/ucm077331.htm>

[4] <http://www.deseagrant.org/products/mas-bulletin-consumers-guide-safe-seafood-handling>

[5] <http://web.vims.edu/adv/seafood/nutrition.htm>

[6] <http://www.seagrant.sunysb.edu/seafood/article.asp?articleID=231>

[7] <http://www.seagrant.sunysb.edu/article.asp?ArticleID=127>

[8] <http://seafood.ucdavis.edu/consumer.html>

[9] <http://safeoysters.org/>