

Keeping Seafood Safe at Home

by Annette Reddell Hegen
Seafood Consumer Education Specialist
Texas Marine Advisory Service

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Growing public awareness and concerns about seafood contamination have sparked a renewed interest in seafood safety, with inspection becoming a critical issue. Of the 13 billion seafood meals consumed annually, however, very few present risk more severe than other foods of animal origin.

Through the commercial industry's efforts, which are backed by state and federal government regulations, the consumer is assured of receiving a safe, wholesome, nutritious food. The safety and wholesomeness must be maintained through proper handling, storage and preparation — a responsibility that is also the consumers after purchase.

Seafood is no exception when it comes to the importance of handling and preparing foods properly to minimize the risk of food-borne illness.

Purchasing

* Know Your Seafood Retailer.

Buy seafood products from approved licensed stores and markets.

* Purchase Raw Shellfish Carefully.

Buy raw oysters, clams and mussels only from approved, reputable sources. If in doubt, ask the seafood market personnel to show you the certified shipper's tag that accompanies "shell-on" products or check the shipper number on shucked oyster containers. Shell stocked products must be alive when purchased. Do not accept dead oysters, mussels or clams unless they are cooked or the meat is shucked and chilled.

Storage

* Keep Seafoods Cold.

Keep fresh, pasteurized or smoked seafood products refrigerated at 32-38 degrees Fahrenheit. If this is not possible, store seafood "on the rocks." Wrap

it tightly in a plastic wrap or securely in a plastic container and place ice above and below it. Store it in the coldest part of the refrigerator and replace the ice as it melts. Keep frozen products rigidly frozen until ready to use. Store in freezer at 0 degrees Fahrenheit. It is a good idea to check actual freezer and refrigerator temperatures from time to time with a thermometer.

* Refrigerate Live Shellfish Properly.

Live shellfish, such as clams, mussels and oysters should be stored in well-ventilated refrigeration, not in airtight plastic bags or containers. Live lobsters and crabs should also be stored in a well-ventilated area. Cover them with damp paper towels in the refrigerator.

* Keep Live Shellfish Alive.

Do not cook or eat shellfish such as lobsters, crabs, clams, oysters or mussels if they have died during storage. Discard them.

Handling and Preparation

Proper handling of fish and shellfish varies depending on the type of product, the market form (fresh or frozen) and how it is to be prepared.

* Don't Cross Contaminate.

Handle raw and cooked seafood products separately. Thoroughly clean and rinse work space between each step. This also includes cleaning the knives, containers and cutting boards used during preparation. Plexiglass or plastic cutting boards are preferred over wooden ones that cannot be sanitized properly. Keep raw and cooked seafoods from coming in contact with each other.

* Cook Fish and Shellfish Thoroughly.

Fish is cooked when it turns opaque and reaches an internal temperature of

145 degrees Fahrenheit. Follow processors' directions when preparing frozen, packaged seafood products.

* Eating Your Own Catch.

If you catch your own fish or shellfish from local waters, make sure the waters are approved for harvest. Check with your state or local health department. The Texas Department of Health can tell you which bays are open for shellfishing. Call (512) 458-7277 for round-the-clock information on oyster, clam and mussel harvesting.

Frozen Seafoods

Follow the package directions when cooking or heating processed frozen seafoods. Where frozen seafood is to be thawed before cooking, thaw in the refrigerator or in cold water, not in warm water or at room temperature.

* Thawed Seafood May Be Refrozen.

There will be some quality loss, but it will not make you ill.

* For Convenience, Head Shrimp Before Freezing.

Shrimp may be frozen with heads on, but it makes for a bulky package and additional work at preparation time. Also, the sharp shrimp rostrum (head) may puncture the package material and cause dehydration.

Raw Seafoods

Many consumers enjoy raw or lightly marinated seafoods. Just as the consumption of raw or rare meat, raw eggs and raw milk carries a risk of food-borne gastrointestinal illness, so does consumption of raw fish (sashimi, sushi and ceviche) and raw oysters, clams and mussels.

Here are some special tips to reduce this risk:

* If not previously frozen, hard freeze

Seafood is the Cause of Human Illness Only When

- * It comes from contaminated waters and you eat it raw.
- * You eat it raw and it has spoiled because of improper handling.
- * It spoils because it has not been handled properly either by the fisherman, the dealer, the restaurant or you at home.
- * It spoils because there is damage to the package and bacteria has entered.
- * It contains toxins produced by or found naturally in that species of fish.
- * You are allergic to the seafood and you inhale fumes from that species of seafood, either raw or cooked. Food poisoning is often mistaken for food allergy.
- * It contains certain parasites that have not been destroyed because it is served raw or lightly cured.

product intended for preparation of sashimi, sushi or ceviche for seven days to avoid the slight risk of problems with parasites.

Be certain that oysters, clams and mussels come from certified growing waters. Make certain they are kept well refrigerated until use. Do not buy dead oysters in the shell, dead mussels in the shell or uncooked whole crabs if they are dead.

Although parasites are usually harmless, few of us would consider eating infested fish on purpose. Removing the "worms" or cutting away the affected portions leaves the fish perfectly edible. Fish parasites do not produce poisons. Parasites too small to see may be present and these are completely destroyed by cooking, freezing for at least 72 hours or by hot smoking. They may survive other procedures, such as brining, pickling, cold smoking and marinating. The occurrence of parasites depends on biological cycles. Virtually any species can be a host if the environmental conditions are right. The likelihood of encountering a seafood parasite is greatly enhanced by eating raw seafood.

To avoid all risk from parasites, enjoy your seafood cooked.

The food supply available to U.S. consumers is not only abundant and of wide variety, but it also is fundamentally safe.

This basic food safety, often taken for granted, is the responsibility of the food industry and assured by the regulatory activities of the federal Food and Drug Administration and the U.S. Department of Agriculture, as well as by state and local food regulatory agencies.

Consumers, too, have a responsibility to handle, store and prepare foods of all types properly to assure continued safety.

Individuals with chronic liver disease or compromised immune systems should avoid consuming raw or partially cooked oysters. The FDA has advised that a common saltwater microorganism, *Vibrio vulnificus*, carried at times by oysters especially in summer months from Gulf coast waters, can be the cause of severe illness and death for individuals with such medical conditions as:

Liver disease, including cirrhosis

and hemochromatosis; chronic alcohol abuse; cancer (especially if taking anti-cancer drugs or radiation treatment); diabetes mellitus; chronic kidney disease; inflammatory bowel disease (or any person receiving immunosuppressive drugs); steroid dependency (as used for conditions such as chronic obstructive pulmonary disease, etc.); achlorhydria (a condition in which the normal acidity of the stomach is reduced or absent).

Since the microorganism is destroyed by heat, consumers with these conditions are advised to enjoy shellfish in their many delicious, cooked preparations.

Keep it safe, refrigerate. Refrigerate food you'll use quickly. Freeze raw seafood you can't use in one or two days. Your freezer should register 0 degrees Fahrenheit; your refrigerator, 32 to 38 degrees Fahrenheit.

Don't thaw food on the kitchen counter. Bacteria multiply fast at room temperature. Thaw in cold water, in the refrigerator or in the microwave oven.

Wash hands in warm, soapy water before preparing food. Wash hands and utensils after touching raw seafoods. Wash cutting boards and work surfaces, too. Don't let bacteria migrate from raw foods to other dishes.

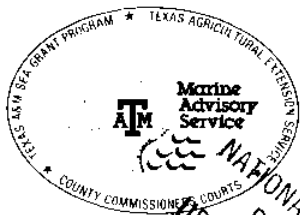
Never leave perishable seafoods out for more than two hours.

Thoroughly cook raw products.

Freeze or refrigerate leftovers promptly. To reuse, heat to bubbling, 175 to 185 degrees Fahrenheit.

References

- FDA Consumer, February 1989, p. 25.
- National Fisheries Institute, Washington, D.C., 1989.
- Seafood and Health, Joyce Nettleton, Osprey Books, 1987.
- Tufts University Diet and Nutrition Letter. Vol. 7 No. 4. June 1989.



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Sea Grant College Program
Texas A&M University
P.O. Box 1675
Galveston, Texas 77553

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