

Cook fin fish (baked, broiled, poached, fried, or stewed) 10 minutes for each inch of thickness. Turn the fish over halfway through the cooking time. Add 5 minutes to the cooking time if the fish is wrapped in foil or cooked in a sauce. Properly cooked fish will flake easily with a fork. It is opaque and firm, not translucent.



For molluscan shellfish: Use small pots to boil or steam shellfish. Do not put too many shells in the same pot. Boil- 3 to 5 minutes after shells open. Steam- 4 to 9 minutes. Throw away any clams, mussels or oysters that do not open during cooking.

Shucked oysters: Boil or simmer at least 3 minutes or fry in oil for at least 10 minutes at 375 degrees Fahrenheit. You could bake the oysters for at least 10 minutes at 450 degrees Fahrenheit instead.

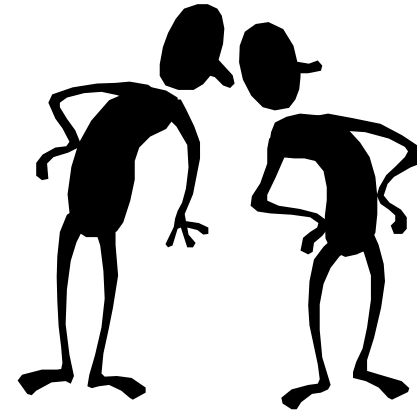
### Food Safety Tips

Follow these food safety tips for buying, storing and cooking to protect you from unsafe seafood:

- ◆ Buy seafood only from reputable dealers.
- ◆ Keep cold seafood at 40 degrees or below in original packages.
- ◆ Cook seafood thoroughly and keep it separate from raw seafood.
- ◆ Keep hot seafood hot at 140 degrees or above
- ◆ Avoid the DANGER ZONE (temperatures from 41-139 degrees Fahrenheit).

For more information on seafood safety, telephone the Center for Food Safety and Applied Nutrition at: 888/723-3366.

## IMPORTANT HEALTH INFORMATION



### Protect Yourself: Only Eat Cooked Seafood

This handout is about the hazards of eating raw seafood. It also has useful information on buying, handling, and storing seafood.

Fish, and shellfish have many good qualities. Seafood is usually low in saturated fat. Some seafood is high in omega-3 fatty acids, which may be good for heart health. Seafood is an excellent source of protein, vitamins and minerals too.

Yet, eating raw or undercooked seafood, especially molluscan shellfish- oysters, mussels, clams, and scallops, can be very harmful to people with:

- ◆ Diabetes, liver disease or hepatitis
- ◆ Gastrointestinal disorders
- ◆ Immune disorders such as AIDS, HIV, and cancer

Raw mollusks sometimes carry bacteria called Vibrios. This bacteria may multiply even with refrigeration. The bacteria are completely killed when shellfish is thoroughly cooked.

Eating raw or partially cooked mollusks with bacteria may make you very sick. Infection with some Vibrios can cause blood poisoning that leads to death. Symptoms include: fever, chills, diarrhea, confusion, weakness, cellulitis (red and painful skin), and/or blisters (often on legs). Get evaluated by your health care provider if you have any of these symptoms within five days after eating raw or undercooked seafood.

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## *How Does Contamination Occur?*

Mollusks usually live where rivers and seas meet. Many cities are located near those places and waters are more likely to be polluted. Shellfish harvesting is forbidden in contaminated areas.

**If you eat mollusks raw, you also eat the live viruses and bacteria.**

Mollusks feed by filtering water through their systems. They are more likely to store bacteria or viruses from the water. If you eat mollusks raw you also eat the live viruses and bacteria. Parasites may also be found in seafood.

Naturally occurring algae blooms called "Red Tides" are another source of contamination. The Food and Drug Administration (FDA) and coastal states test for these blooms. The waters are closed to all fishing when they appear.

Norwalk viruses can contaminate molluscan shellfish and cause severe diarrhea in people who eat them. Thorough cooking kills the virus.

## *Is Raw Fin Fish Safe to Eat?*

Raw fish dishes, such as sushi and sashimi, can be safe for most people to eat if they are made with very fresh fish. The fish must be commercially frozen (at temperatures lower than in home freezers). It is then thawed before eaten. This kills parasites. Freezing, however does not kill bacteria so people with immune disorders should not eat raw fin fish.

Parasites are also killed by thorough cooking. Persons with immune disorders need to take extra precautions to thoroughly cook all fish.

## Seafood Safety Tips

### *Shopping*

Fresh seafood should not smell "fishy." Fresh fish steaks and fillets should be moist, not dry or browning. Fish eyes should be bright and

clear, not cloudy or sunken. Scales should cling tightly to the skin and not be "slimy". Gills should be bright pink or red. Frozen fish should not have freezer burn or damaged packaging.

The shells of a live clam, oyster, mussel, or scallop are tightly closed or close when tapped or iced. To test for freshness, hold the shell between your thumb and forefinger and press as though sliding the two parts of the shell across one another. Do not buy the shellfish if the shells move because it is not fresh.

Be careful when buying seafood. Do not buy it from the back of a pickup truck. Ask to see the shipper's tag for molluscan shellfish. Buy seafood only from reputable dealers.

Cook fish no later than two days after you buy it.

### *Storage Tips*

- ⇒ Keep fresh fish in the same wrapper it had in the store. Keep it in the coldest part of your refrigerator, until it is ready to cook and serve.
- ⇒ Store live mollusks in refrigerator containers covered loosely with a clean, damp cloth. Do not put them in water or airtight containers.
- ⇒ After you open canned fish put it in a clean, covered glass or plastic container and refrigerate it.



Always refrigerate smoked, pickled, vacuum-packed, and modified atmosphere-packed fish products. Keep cooked and raw seafood separate.

### *Cooking For Safety*

The safest way to thaw frozen seafood is in the refrigerator in its own container. Allow about one day for defrosting.