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# General Information on Meat, Chicken, Fish and Seafood

UNIT 7





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## 7.1. The Grouping of Meats

Meat is rich in minerals and protein; thus it takes knowledge and experience to cook it properly, and there are some important factors to consider in the process of cooking meat. Meat that is not cooked with the right technique loses its beneficial substances. Meat can be grouped as follows according to its type:

- a. **Butchery meats:** veal, sheep, goat, beef, kid, pork, piglet
- b. **Poultry:** goose, duck, chicken, turkey
- c. **Game meats:** Hare, partridge, pheasant, roe deer, deer, etc.
- d. **Fish and seafood:** All kinds of oily and non-oily fish, crabs, mussels, shrimp, squid, octopus, etc.
- e. **Offal:** Liver, heart, brain, kidney, etc.

Some important nutritional benefits of consuming meat are as follows:

- It ensures the regeneration of tissues in our body and the development and growth of the body.
- It supports the functioning of hormones.
- Increases resistance against diseases.

## 7.2. Stiffness of Death (Rigor Mortis)

Metabolism continues to function for a while even after slaughter. The ongoing metabolic movements of the animal, whose oxygen intake stops with slaughter, occur in an oxygen-free environment. During muscle movements in an oxygen-free environment, lactic acid is formed, and the animal's body hardens within a few hours after death. This condition is called death stiffness (rigor mortis). The loss of meat's stiffness at death varies according to the age of the animal, its breed, and the temperature at which the meat is kept. "Freezing" the meat is a method that should definitely be avoided to let the stiffness of death pass. Freezing should be done after the meat's stiffness has passed. It takes about 1 hour for poultry to lose its stiffness whereas it reaches up to 10 days in cattle. If the meat needs to be consumed urgently, the meat should be kept at 1°C for 24 hours after slaughter before consumption.





### 7.3. Storage of Meats

#### Marinating Meats

It is the process of keeping all types of meat in the sauce for a certain period of time before cooking and it is done to soften the texture of the meat. Plants, spices, herbs or vinegar and oils can be added to the liquid prepared for marinating to give different flavours and aromas to the meat. The acids in the marinade soften the texture of the meat. Marinated meats can be rested for a few days until use. It must be ensured that all of the products to be marinated remain in the liquid and they are covered and rested in the refrigerator.

The most important factor in the storage of meat is to pay attention to the rules of hygiene, because meat that is not stored in appropriate conditions poses a great risk for health. Things to consider when storing meat are as follows:

- If the meat is cut into large pieces, it can stay in the refrigerator for 3-4 days. However, the best way to store meat is to freeze, and the outer wall of the meat must be free from air contact to freeze and store it properly. The meat should be wrapped/foiled before freezing to prevent it from getting ice-burned.
- Minced meat should be consumed in a short time because the moisture content in the minced meat is high and bacteria multiply very quickly in such an environment.
- Meat juices are among the products that turn bad the fastest even in the refrigerator, so they should not be kept in the refrigerator. If they need to be stored, they should be stored frozen.
- Frozen meat should be thawed in the refrigerator. Frozen meat should not be thawed at room temperature or in a warm environment. Meat thawed at room temperature is defrosted on the outside while the inside may still remain frosted, and this is not suitable for cooking. Waiting for all of the meat to thaw at room temperature takes longer, so it is not a healthy practice as it will give more time to the growth of micro-organisms.

Poultry meats have also rich nutritional values, and they are widely used in the kitchen. Cooking poultry meat is similar to cooking meat. The age of the animal plays an important role in meat's softness and toughness. Poultry should be frozen without waiting for a long time after slaughter and it should never be undercooked. Undercooked poultry cause the spread of diseases such as salmonella, etc. It can be stored in the





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refrigerator at +2 °C until the expiry date. It can be stored for 6 months at -18 °C or lower.

As in meats, there are some factors that determine the quality and hygienic conditions in fish and seafood. Type of the fish/seafood and the feeding, catching, storage and transportation processes and freshness of fish and seafood are also important. The flavour of the fish and the structure of the flesh vary according to the type of each species of fish, the conditions in which it lives or is produced (freshwater or saltwater fish, marine fish or farm fish, etc.). Fish and seafood have high nutritional values when they are fresh, however they turn into risky foods in terms of health as they lose their freshness.

Factors to consider when purchasing fish and seafood are as follows:

- Keeping/storing the fish in bad conditions causes rotting and spoilage starting from the outer parts of the fish. Keeping the fish in synthetic bags for a long time also causes the fish to start rotting quickly.
- The eyes of fresh fish are bulging, shiny and clear and there should be no cloudiness present. The gills should also be bright pink or reddish in colour and also be slightly wet and not slimy or dry, and it should not smell bad. The flesh of fresh fish should be firm and tight, and it should bounce back on touching it, and its scales should be slippery, shiny and adherent. Cracked skin or loose scales are obvious signs of rotting fish.
- Fresh fish smells of seaweed, stale fish has an intense rotten smell.
- Fish can be kept between 0-2 °C provided they are in ice. If the fish is desired to be stored for a long time, it can be preserved with canning, drying, freezing and salting methods. Before storing fish, their internal organs should be cleaned. Fish that are cleaned when fresh and quickly frozen can be stored at 18°C for 3-6 months.
- The most important factor to be considered in the consumption of canned fish is the appearance of the can. Fish in damaged, cracked or split cans should definitely be avoided. The presence of toxic substances that will cause food poisoning should be suspected, especially in canned fish that curve outward.
- Shellfish or other seafood are important food groups in kitchens due to the rich minerals, vitamins, proteins and oils that they contain. Just like fish, all types of seafood should be bought and consumed fresh. Some shellfish (crabs, lobsters, etc.) should be brought to the kitchen alive and stored alive. Crustaceans, bivalve molluscs can go bad so quickly



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after they die, and if consumed when they are bad, they certainly cause poisoning.

- Shellless seafood, just like fish, should not have a sunken skin when fingers are pressed on its outer surfaces. Fresh seafood has a distinctive smell and resembles the smell of seaweed. Unpleasant and sharp odours in seafood are an indication of spoilage.
- All types of fish and seafood should be cooked and consumed in the soonest period of time.
- Seafood can be stored on ice at  $-1^{\circ}\text{C}$ . Seafood that has been sorted and pre-cooked can be stored in storage containers and covered (foil, cling film, etc.) in the refrigerator for 2-3 days.
- If the cleaned and sorted seafood is to be kept for a longer period of time, it should definitely be stored frozen. Freezing and storage should be done in deep freezers. If these products are properly stored and frozen, they can be stored from 6 months up to 1 year. However, it is still recommended to consume such products as quickly as possible.

