Meat, Poultry, Fish, and Shellfish

Chapter 19
Cuts

- Sold in fresh or frozen cuts
- Cut- particular edible part of meat, poultry, or fish
  - Steaks, chops, roasts
- Cured and convenience forms
  - Ham, bacon, cold cuts, sausages
Nutrition

- Excellent source of complete proteins
- B vitamins, phosphorus, trace minerals
- Meat and poultry are good sources of iron and zinc
- Fish, especially fatty fish are good sources of omega-3 fatty acids
  - Salmon, tuna
- Need 5-6 oz from the protein group each day
  - Larger servings equal more fat and cholesterol in a diet
Fat and Cholesterol

- Animal foods contain cholesterol
- All animal muscle contain the same amount of cholesterol per ounce except for organ meats which have more
- Most fish and turkey breast meat is low in fat
- Meat, poultry, fish, or shellfish that has less than 10g fat in a 3 ½ oz serving is considered lean
  - Must also have less than 4g saturated fat
  - Less than 95 mg cholesterol
Types of Fat

- Meat and poultry contain invisible and visible fat
  - Invisible - part of the chemical composition of food
  - Visible - surrounds lean muscle portion of cut
- Marbling may appear within the muscle tissue of the meat
  - Marbling - small white flecks of internal fat
- Most fat in poultry is located in the skin and in layers under the skin
Marbling
Connective Tissue

- **Collagen**: thin, white, transparent
  - When meat or poultry is cooked using moist-heat methods, collagen softens and turns to gelatin

- **Elastin**: very tough, yellowish
  - Cannot be softened by heat
  - Tenderizing methods such as pounding, cutting, or grinding must be used to break down elastin

- **Fat content affects tenderness**:
  - More marbling = more tender
  - Fat = flavor, keeps juicy as it cooks
Meat Selection and Storage

19.2
Types of Meat

- 4 basic types of meat
- Each has a distinct flavor and appearance
Types of Meat

- **Beef:**
  - From cattle more than 1 year old
  - Hearty flavor
  - Cuts have bright red flesh
  - Fat is firm with white, creamy white, or yellowish color

- **Veal:**
  - Meat from very young calves, 1-3 months old
  - Mild flavor, light pink color, little fat
Types of Meat

- Lamb:
  - Meat from young sheep
  - Mild, unique flavor
  - Cuts are bright pink-red with white, brittle fat
  - Fat sometimes covered with fell-colorless connective tissue

- Pork:
  - Meat from pigs
  - Mild flavor
  - Fresh meat is grayish-pink with white, soft fat
Cuts of Meat

- Meat is first divided into wholesale cuts
  - “primal cuts”, large cuts for marketing
- Wholesale cuts are divided into retail cuts
  - What you find in the supermarket
- How meat is labeled on the price tag:
  - 1\textsuperscript{st} - type of meat (beef, pork)
  - 2\textsuperscript{nd} - wholesale cut (chuck, rib, round)
  - 3\textsuperscript{rd} - retail cut (spareribs, chops, steak)
Which cuts are lean?

- Beef roasts and steaks
  - Round, loin, sirloin, chuck arm

- Pork roasts and chops
  - Tenderloin, center loin, ham

- Lamb roasts and chops
  - Leg, loin, foreshank

- Fat around the edge should be trimmed to less than $\frac{1}{4}$ in
  - Paying for excess fat
Ground Meat

- Ground beef is made from beef trimmings
- By law, cannot have more than 30% fat by weight
- The leaner the ground beef, the more expensive it tends to be
- Can also find ground lamb, pork, and veal
Organ Meats

- Edible animal organs are called "variety meats"
  - Liver- nutritious and tender, pronounced flavor
  - Lamb and veal kidneys- tender, mild flavor
  - Chitterlings- intestines of pigs or calves
    - Thoroughly cleaned and sold whole in containers
- Brain, heart, tongue, tripe (stomach lining of cattle), sweetbreads (thymus gland)
Inspection and Grading

- USDA inspects for wholesomeness
- Grading:
  - Amount of marbling
  - Age of animal
  - Texture and appearance
Grades for Beef

- **Prime:**
  - Highest and most expensive
  - Well marbled with fat, tender, flavorful

- **Choice:**
  - Most common in supermarkets
  - Less marbling, still tender and flavorful

- **Select:**
  - Least amount of marbling
  - Least expensive
  - Can be sold as store brand

- Lamb and veal are graded, except “good” replaces “select”
- Pork is not graded because it is more uniform in quality
Processed Meats

- 35% of meat produced in US is processed
  - Processed for flavors
  - Ham, sausage, bacon, sausage, cold cuts
- Most common processing method is curing
  - Placing meat in mixture of salt, sugar, sodium nitrate, potassium nitrate, ascorbic acid, water
  - Nitrates- preservatives, prevent growth of botulin bacteria (foodborne illness)
  - Meat is soaked in solution or solution pumped into meat
Activity- Recipe Search

- On a clean sheet of paper to turn in
- Look in cookbooks or magazines for 1 recipe each for meat, poultry, and fish.
- Write the name of the recipe
- Identify the cut for the recipe
- Identify the preparation method for the recipe
Poultry Selection and Storage

19.3
Types of Poultry

- Chicken
- Turkey
- Ducks and Geese
Chicken

- Light and dark meat
  - Light meat is leaner and has milder flavor
Turkey

- Larger than chickens and have stronger flavor
- Light meat is leaner, more tender, and milder flavor than dark meat
- Roasting is the most common method for cooking
Ducks and Geese

- Have all dark meat
  - Flavorful, high in fat
- Usually only whole, frozen ducks and geese are sold
Ground Poultry

- Ground chicken and turkey can be found at supermarkets because of the growing trend of healthful eating
- “ground turkey breast” or “ground chicken” means both the flesh and skin were used
- “round turkey breast meat” or “ground chicken meat” was ground without skin
- Can use ground poultry in place of beef. But will be dryer and more bland
  - Add more liquid and seasonings
Fish and Shellfish
Selection and Storage

19.4
Types of Fish and Shellfish

- Fish - fins, bony skeleton with backbone
- Shellfish - have shell, no fins or bones
- Freshwater varieties - come from freshwater lakes, rivers, streams, ponds
- Saltwater varieties - known as seafood, come from oceans and seas
- Some are raised on fish farms
Market Forms of Fish

- **Drawn:**
  - Whole fish with scales, gills, internal organs removed

- **Dressed or Pan-dressed:**
  - Drawn fish with head, tail, and fins removed

- **Fillets:**
  - Sides of fish cut lengthwise away from bones and backbone

- **Steaks:**
  - Cross sections cut from large dressed fish
  - May contain bones from ribs and backbone
Pictures

- dressed
- Fillets and steaks
Shellfish

- Mild, sweet flavor
- Mostly come from oceans and seas, some from freshwater
- Two types of shellfish:
  - Crustaceans- long bodies with jointed limbs covered with a shell
  - Mollusks- soft bodies that are covered by at least one shell
Crustaceans

- Crabs:
  - Oval shell
  - 4 pairs of walking legs
  - Two claws
  - Whole crabs are sold live, cooked, or frozen
  - Crab legs and claws sold cooked and frozen
  - Crabmeat is available refrigerated, frozen, or canned
Crustaceans

- **Lobsters:**
  - Long jointed body, 4 pairs walking legs, 2 large claws, covered with hard shell
  - Avg wt is 1 ¼ lbs to 2 ¼ lbs
  - Fresh lobster is sold live
  - Maine lobster is most popular
Crustaceans

- **Shrimp:**
  - Vary in size and color
  - Sold frozen or previously frozen and thawed
  - Can buy with or without the shell

- **How shrimp is labeled and sold:**
  - 16/20 = 16-20 shrimp per pound
  - Jumbo
  - Large
  - Colossal
  - Salad
Pictures

- Crabs
- Lobsters
- Shrimp
Mollusks

- Clams
- Mussels
- Oysters
- Scallops
- Squid
Pictures

- Clams
- Mussels
- Oysters
- Scallops
- Squid
Preparing Meat, Poultry, Fish, and Shellfish
Cooking

- **Color:**
  - Beef: dark red turns to dark brown
  - Pork and white meat: pink turns to white

- **Flavor:**
  - Heat develops flavor by creating chemical reactions

- **Texture:**
  - When heated loses fat and moisture; shrinks
  - Muscle fibers get firmer and connective tissue becomes tender
Using Moist Heat

- Applying moist heat breaks down collagen making meat tender
  - Simmering, stewing, braising
- Can add seasonings, sauces, and other foods
Marinades

- Marinating- steeping in a liquid
  - Tenderizes and adds flavor
- Contain 3 basic ingredients:
  - Oil
  - Acid- vinegar, citrus juices, yogurt
  - Seasonings- herbs, spices, onions, peppers
- Mix marinade, pour over meat in plastic or glass container, cover, refrigerate
  - Fish- hour or less
  - Meat and poultry- 6-8 hours
  - Just for flavor- 30 minutes
- Drain food, discard marinade
  - Make separate batch if basting
Preparing to Cook

- Thaw, or you will have to increase cooking time
- Trim as much fat as possible
  - Leave skin on when using dry heat methods so meat does not dry out
  - Remove skin before eating
Judging Doneness

- Meat and poultry should reach an internal temperature of 160 °F
- Cooking time in a recipe is a guide
  - Check for doneness 10 minutes before end of cooking time
- Use a meat thermometer for cuts thicker than 2 inches
- Cook fish 10 minutes for every inch of thickness
  - Baked in sauce, add 5 minutes
  - Check for doneness 2-3 minutes before end of cooking time
  - Flesh turns opaque
  - Flakes easily when turned with a fork
Cooking Methods

- Pan-fry
  - Often breaded and dipped in batter first
  - Food absorbs fat as it fries
  - Can use vegetable spray oil for sautéing

- Pan broiled
  - Remove fat that accumulates during cooking

- Bake or Roast

- Broil

- Poach
Turducken

- http://www.thesalmons.org/lynn/turducken.html