**Bacteria That Cause Food Borne Illnesses**

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| **Clostridium Perfringens**  The bacteria can be found everywhere including in food and multiplies at “warm temperatures” (60-120°F or 16-50°C).  This bacteria is killed by temperatures of 150°F (65°C) or above and are reduced in numbers in stored foods when temperatures are 40°F (4°C) or lower.  This bacteria produces spores which are resistant to heat, cold and drying.  When found in high concentrations these spores become toxic in our body.  Food poisoning from Perfringens is associated with meat, poultry and other high protein foods that have been improperly cooked or stored.  Symptoms begin within 8-24 hours after foods containing large numbers of the bacteria are eaten.  Signs include diarrhea and gas pains which usually go away within 24 hours. Nausea and vomiting rarely occur and the disease is rarely fatal.  **To prevent food poisoning from perfringens**:  Cook high protein foods well enough to kill the bacteria.  Keep hot foods hot and cold foods cold until eaten.  Promptly refrigerate foods in shallow containers for quick cooling.  Wash all cutting surfaces and utensils thoroughly. | **Salmonella**  The bacteria can be found in raw meats, poultry, eggs, milk, fish, and products made by them. Other sources of the bacteria include food handlers as well as pets, rodents and insects.  When food containing salmonella bacteria is eaten the organism rapidly multiplies in the intestine.  24 hours after contaminated food has been consumed a person may experience a headache, diarrhea, abdominal pain and occasionally vomiting. Most people recover within 2-4 days although it can be fatal in the very young and the elderly.  **To prevent food poisoning from Salmonella:**  Cook foods thoroughly  Keep and serve hot foods hot and cold foods cold.  Promptly refrigerate foods in shallow containers for quick cooling.  Fully reheat stored foods to destroy bacteria.  Wash all cutting surfaces and utensils thoroughly. |
| **E. coli**  Caused by fecal matter, contaminated water, raw or rare ground beef, unpasteurized milk or apple juice.  Symptoms: cramps, diarrhea, vomiting, fever  **To prevent food poisoning from E. coli:**  Be sure to wash hands properly and frequently, cook ground beef to internal temp. of 71°C, avoid unpasteurized milk and apple juice. |
| **Botulism**  A bacteria that produces spores.  When the bacteria are found in low-acid foods (meat, poultry, fish, vegetables and some fruit) in airtight, sealed containers, they produce spores which produce a harmful toxin and variable amounts of gas. Even small amounts of this toxin can be fatal.  When the toxin is ingested, signs of botulism usually occur within 18-36 hours. These symptoms include general weakness, constipation, headaches, double vision, impaired speech and difficulty in chewing and swallowing. The disease frequently results in death within 3-7 days unless treatment occurs immediately.  **To prevent food poisoning from botulism:**  Avoid tasting or eating foods from cans or jars that are dented, bulging, cracked or smells/looks” funny”. | **Staphylococcus Aureus**  The bacteria occurs on the skin and nasal passages of humans and can be transferred through touch, breathing, talking, coughing and sneezing.  These bacteria can live for many months at room temperature and in the fridge and even in dried foods.  Bacteria in contaminated food left to stand at room temperature for 2 or more hours begin to multiply.  When the bacteria multiply they produce a toxin which is what causes illness in humans. While the bacteria can be killed with heat, the toxin is highly resistant to heat, cold and chemicals.  Foods most commonly affected include cream puffs, slice meat and salads like tuna and chicken.  **To prevent food poisoning from** **Staphylococcus Aureus**: same as for Perfringens. |

**Food Borne Illness**

Complete the questions using the notes in your handout.

What is Food Borne Illness?

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What are some common symptoms of Food Borne Illness?

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What can you do to reduce your risk of Food Borne Illness in general?

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One of the Food Borne Illnesses we looked at can cause death. Which one is it and how can you reduce your risk of it?

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When refrigerating leftovers why is it important to package them into small containers and refrigerated them quickly?

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