Food Safety – Teacher Information

Background Information:

The U.S. Department of Health and Human Services issues a series of health and wellness objectives for the nation every ten years. The overarching goals and specific objectives are tailored to address the most serious health issues facing the populace at that point in time. Healthy People 2010 (HP2010), published in 2000, is the latest of these issuances. Its stated goals are: (1) to increase the quality and number of years of healthy life; (2) to eliminate disparities in health (between different populations). (Publications of and related to Healthy People 2010 can be found at: http://www.healthypeople.gov/Publications/).

Reducing incidence of foodborne illness is one of the 28 specific objectives of HP2010. (This section of text is available at: http://www.healthypeople.gov/Document/pdf/Volume1/10Food.pdf). The government’s concern for food safety lies with the vastness of the issue. HP2010 estimates that 76 million cases of foodborne illness occur each year and that associated medical costs may run as high as $3 billion. Food safety is a significant public health threat, and safe handling procedures must be addressed both in the home and in commercial settings.

The Partnership for Food Safety – a conglomeration of federal and national agencies who have joint interests in protecting the nation’s food sources and health – developed the FightBAC! program (found at: http://www.fightbac.org/main.cfm) to educate consumers about food safety issues. The program emphasizes four main points of food safety: clean, separate, cook, and chill. These are the four points at which food contamination or bacterial growth can be substantially contained or encouraged.

These same four points are echoed in the Dietary Guidelines for Americans 2005, another major guiding document for the nation’s healthcare officials and providers, issued by the Department of Health and Human Services. These guidelines are revised and re-issued every five years. The key recommendations for preventing foodborne illness:

- “Clean hands, food contact surfaces, and fruits and vegetables. Meat and poultry should not be washed or rinsed.
- Separate raw, cooked, and ready-to-eat foods while shopping, preparing, or storing foods.
- Cook foods to a safe temperature to kill micro-organisms.
- Chill (refrigerate) perishable food promptly and defrost foods properly.
- Avoid raw ( unpasteurized) milk or any products made from unpasteurized milk, raw or partially cooked eggs or foods containing raw eggs, raw or undercooked meat and poultry, unpasteurized juices, and raw sprouts.”

Food Safety Reminders

- Always wash your hands thoroughly (massage soap and warm water between hands for at least 20 seconds before rinsing) before preparing or consuming food. Sanitize any utensils and workspace used when preparing food. Soap and water washing works well for most hard surfaces; kitchen sponges should be cooked clean in a microwave or boiled. Cutting boards can be soaked in a dilute bleach solution.

- Keep foods at their proper temperature. Hot foods must be kept hot (above 140°F), cold foods must be kept cold (below 40°F), and frozen foods must be kept frozen solid (below 0°F). Check the temperatures of your appliances to be sure they are accurate. Thaw foods in the refrigerator or in cold running water, or in a microwave if you use the food immediately when thawed. Do not refreeze previously frozen foods.

- Choose foods wisely. Do not purchase or consume old, malodorous, or visibly contaminated foods. Avoid dented, bulging cans; never use foods that “explode” out of an opened can. Only use clean water for cooking, drinking, and washing. If your immune system is compromised, pay even closer attention to the foods you choose and your food safety habits. “When in doubt, throw it out” is a very good standard.

- Keep foods covered or safely packaged. Marinating foods should be kept in spill-proof containers. Do not leave foods marinating for extended lengths of time. Do not use left-over marinades once they have been in contact with raw meats.

- Keep your food preparation surfaces clean. Do not store open containers of food, dirty dishes, or over-flowing trash cans – these can attract insects and other disease-carrying pests. Do not store chemical or toxic substances near foods. Wash cloth dishtowels and towels regularly in hot, clean water.

- Be careful not to cross-contaminate surfaces through behaviors such as using the same plate to carry raw and cooked food between the grill and kitchen. Your hands, utensils, plates, cabinet tops, and cutting boards can all be sources of contamination. Do not “double dip” when tasting foods for flavor or doneness – use a clean utensil every time.

- Avoid preparing foods if you are ill – especially if you are “shedding” germs via sneezing or a running nose. Cuts or abraded skin should always be covered (preferably by latex gloves) before handling foods. Be aware that pets and infants are common sources of contamination.

- Always cook and reheat foods thoroughly (to at least 165°F). Check a food guide for the proper cooking temperature and use a thermometer to test doneness. Different meats need to reach different internal temperatures to be considered “done”. Never consume raw meats or eggs, or unpasteurized dairy products.
- Use appropriate serving and tableware. Some glazed or unglazed pottery pieces – especially those specifically stating they are not to be used for food – contain lead. Serving food on leaded dishes can cause potential lead poisoning.

- When cleaning up after a meal, place leftovers in the refrigerator or freezer promptly (within 2 hours on a cool day, 1 hour on a hot day). Use refrigerated leftovers in an appropriate timeframe; often no more than 3-4 days past preparation. Do not let leftovers “cool on the counter”; store them immediately. Place leftover food in the smallest possible container. If you are storing a large amount of food, divide it in several small containers. (It can take too long for large quantities of food to reach safe storage temperatures.)

### Foodborne Illnesses and their Causative Agents

<table>
<thead>
<tr>
<th>Potential Disease Source</th>
<th>Issue</th>
<th>Disease/Agent</th>
<th>Description</th>
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<tbody>
<tr>
<td>Hamburger</td>
<td>Too old, improperly stored (temp), undercooked</td>
<td><em>E. coli</em> 0157:H7</td>
<td>Intestinal bacteria capable of producing toxin. Toxin causes bloody diarrhea and can lead to kidney failure, death.</td>
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<tr>
<td>Eggs – potato salad, ice cream</td>
<td>Cracked, improperly stored (temp), raw eggs in ice cream</td>
<td><em>Salmonellosis / Salmonella bacteria</em></td>
<td>Foodborne infection leading to diarrhea, fever, and abdominal cramps.</td>
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<tr>
<td>Ribs</td>
<td>Improperly stored (temp)</td>
<td><em>Perfringens food poisoning / Clostridium perfringens</em></td>
<td>Bacteria multiply rapidly in food stored at improper temps; leads to abdominal pain, diarrhea, vomiting.</td>
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<tr>
<td>Infant</td>
<td>Potential fecal contamination of food prep surfaces</td>
<td><em>Various protozoa, Shigellosis / Shigella</em></td>
<td>The intestinal tract harbors many types of harmful bacteria; symptoms are often similar: diarrhea (poss. bloody), cramps, fever, nausea, vomiting.</td>
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<tr>
<td>Beans</td>
<td>Dented, bulging can</td>
<td><em>Botulism / Clostridium botulinum</em></td>
<td>Potentially fatal foodborne intoxication. Bacteria’s toxin causes blurred vision, slurred speech, muscle weakness leading to paralysis.</td>
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<tr>
<td>Son</td>
<td>Potential contamination of ice cream base</td>
<td>Viral or bacterial infection</td>
<td>Infected food acts as a contact carrier of different viruses and diseases.</td>
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