Bacillus Cereus, Food Poisoning

Every year, millions of people get *foodborne illnesses* (food poisoning). Each strain of a germ (*bacteria*) has a specific genetic fingerprint. This means they are all different.

Illness can be prevented by:

- Controlling the initial number of bacteria present.
- Preventing the small number from growing.
- Destroying the bacteria by proper cooking.
- Avoiding re-contamination.

CAUSES

Contamination of raw and cooked foods is caused by:

- Poor personal hygiene.
- Improper cleaning of storage and preparation areas.
- Unclean utensils.

Always cleanse thoroughly all surfaces that have been in contact with raw meat, poultry and eggs. Mishandling of raw and cooked foods allows bacteria to grow. The temperature range in which most bacteria grow is between 40º F (5º C) and 140º F (60º C). Raw and cooked foods should not be kept in this danger zone any longer than absolutely necessary. Under-cooking or improper processing of home-canned foods can cause very serious food poisoning.

Bacillus Cereus

Bacillus Cereus (B. cereus) is found in dust, soil and spices. **It can survive normal cooking** as a heat-resistant spore. It can then produce a large number of cells if the storage temperature is incorrect. Starchy foods such as rice, macaroni and potato dishes are most often involved. The spores can also be found in pasteurized milk and milk products, spices, dried foods, meat, chicken, vegetables, seafood, fruits, and grains. The spores may be present on raw foods. Their ability to survive high cooking temperatures requires that cooked foods be served hot or cooled rapidly to prevent the growth of these bacteria.

SYMPTOMS

- The toxin produced by B. cereus causes cramps, vomiting and diarrhea. Vomiting and abdominal cramping may begin as soon as 1 – 5 hours after eating the affected food and symptoms usually last less than 10 hours. Diarrhea usually starts 6 – 14 hours after exposure, and symptoms may last 12 – 36 hours.
- Fried rice almost always causes the vomiting symptom.
- The diarrhea form is usually associated with meats or vegetables.

HOME CARE INSTRUCTIONS

Small amounts of fluids should be taken frequently. Large amounts at one time may not be tolerated. Plain water may be harmful in infants and the elderly. Oral rehydrating solutions (ORS) are available at pharmacies and grocery stores. ORS replace water and important electrolytes in proper proportions. Sports drinks are not as effective as ORS and may be harmful due to sugars worsening diarrhea.

- As a general guideline for children, replace any new fluid losses from diarrhea and/or vomiting with ORS as follows:
  - If your child **weighs 22 pounds or under** (10 kg or less), give 60-120 mL (1/4 - 1/2 cup or 2 - 4 ounces) of ORS for each episode of diarrheal stool or vomiting episode.
  - If your child **weighs more than 22 pounds** (more than 10 kgs), give 120-240 mL (1/2 - 1 cup or 4 - 8 ounces) of ORS for each diarrheal stool or episode of vomiting.

- In a child with vomiting, it may be helpful to give the above ORS replacement in 5 mL (1 teaspoon)

amounts every 5 minutes and increase as tolerated.

- While correcting for *dehydration* (loss of body fluids), children should eat normally. However, foods high in sugar should be avoided because this may worsen diarrhea. Large amounts of carbonated soft drinks, juice, gelatin desserts and other highly sugared drinks should be avoided.
- After correction of dehydration, other liquids that are appealing to the child may be added. Children should drink small amounts of fluids frequently and fluids should be increased as tolerated. Children should drink enough fluids to keep urine clear or pale yellow.
- Adults should eat normally while drinking more fluids than usual. Drink small amounts of fluids frequently and increase as tolerated. Drink enough fluids to keep urine clear or pale yellow. Broths, weak decaffeinated tea, lemon lime soft drinks (allowed to go flat) and ORS replace fluids and electrolytes.

Avoid:

- Carbonated drinks.
- Juice.
- Extremely hot or cold fluids.
- Caffeine drinks.
- Fatty, greasy foods.
- Alcohol.
- Tobacco.
- Too much intake of anything at one time.
- Gelatin desserts.

- *Probiotics* are active cultures of beneficial bacteria. They may lessen the amount and number of diarrheal stools in adults. Probiotics can be found in yogurt with active cultures and in supplements.
- **Wash hands well to avoid spreading the bacteria.**
- Anti-diarrheal medications are not recommended for infants and children.
- Only take over-the-counter or prescription medicines for pain, discomfort or fever as directed by your caregiver. **Do not give aspirin to children** because it may cause Reye's Syndrome.
- For adults with dehydration, ask your caregiver if you should continue all prescribed and over-the-counter medicines.
- If your caregiver has given you a follow-up appointment, it is very important to keep that appointment. Not keeping the appointment could result in a chronic or permanent injury, and disability. If there is any problem keeping the appointment, you must call back to this facility for assistance.

SEEK IMMEDIATE MEDICAL CARE IF:

- You or your child is unable to keep fluids down or other symptoms or problems become worse in spite of treatment.
- Vomiting or diarrhea becomes persistent.
- There is vomiting of blood or bile (green material).
- There is blood in the stool or the stools are black and tarry.
- There is no urine output in 6-8 hours or there is only a small amount of very dark urine.
- Abdominal pain develops, increases or localizes.
- You or your child has an oral temperature above 102° F (38.9° C), not controlled with medicine.
- Your baby is older than 3 months with a rectal temperature of 102.0°F (38.9° C) or higher.
- **Your baby is 3 months old or younger with a rectal temperature of 100.4º F (38º C) or higher.**
- You or your child develops excessive weakness, dizziness, fainting or extreme thirst.
- You or your child develops a rash, stiff neck, severe headache or become irritable or sleepy and difficult to awaken.

MAKE SURE YOU:

- Understand these instructions.
- Will watch your condition.
- Will get help right away if you are not doing well or get worse.

This information is courtesy of the CDC.

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