



# Protecting our seniors: food Safety in Meals on Wheels

Ensuring Safe Meal Deliveries

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# Why Food Safety Matters

Seniors (65+) are at high risk for foodborne illnesses due to weakened immune systems

Severe outcomes: hospitalization, dehydration and death

Reputation: Safe meals build trust in our program and clients

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# Top pathogens That Threaten Seniors

| Pathogen   | Symptoms                                                        | Foods                                                               | Prevention                                                                     |
|------------|-----------------------------------------------------------------|---------------------------------------------------------------------|--------------------------------------------------------------------------------|
| Listeria   | Fever, stiff neck, confusion, and convulsions                   | Soft cheeses, deli meats and spreads                                | Avoid unpasteurized dairy, proper storage (<40F), and reheat foods to 165F     |
| Salmonella | Diarrhea, fever, cramps and last 4-7 days                       | Chicken, raw fruits/ veggies and cross contamination                | Cook chicken to 165F and wash produce thoroughly and avoid cross contamination |
| E. Coli    | Severe bloody diarrhea, stomach pain and HUS lasting 5-10 days. | Uncooked beef, cross-contamination and raw fruits and veggies       | Cook foods to safe temperatures, wash produce and avoid cross-contamination.   |
| Norovirus  | Vomiting and diarrhea for 1-3 days but up to 6 for seniors      | Salads, fruits, and ready to eat foods touched by infected handlers | Handwashing, disinfect surfaces and exclude sick staff                         |
| Botulism   | Double vision, muscle weakness and can be fatal                 | Improper canning, oils and sauces                                   | Use commercially canned products and store foods properly                      |



# Other pathogens to Monitor

- *Bacillus Cereus*: Rice, leftovers; causes diarrhea/ vomiting (24hrs)
  - *Clostridium Perfringens*: Beef, poultry, gravies; diarrhea (1-2 weeks in severe cases)
  - *Campylobacter*: raw milk, poultry; diarrhea, fever (1 week)
  - *Staphylococcus Aureus*: contaminated handled foods; vomiting (1 day)
  - Hepatitis A, *Shigella*, *Vibrio*: less common and preventable with good hygiene
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# Bacillus Cereus

| Sources           | Rice and leftovers and sauces, soups and other food left at room temp. |
|-------------------|------------------------------------------------------------------------|
| Incubation Period | Diarrhea-6-15 hrs.<br>Vomiting-30 minutes to 6hrs                      |
| Symptoms          | Diarrhea<br>Cramps<br>Nausea and vomiting                              |
| Duration          | 24 hrs.                                                                |
| What to do        | Drink fluids and get rest                                              |
| Prevention        | Store in 40F or under in less than 2 hrs                               |

# Botulism

| Sources           | Infants-honey<br>All ages- improper stored canned or preserved foods                                                                                                     |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Incubation period | Infants-3-30days<br>Children and adults-18-36hrs.                                                                                                                        |
| Symptoms          | Infant-lethargy, poor feeding, constipation<br>Children and adults-double vision, blurred vision, drooping eyelids, difficulty swallowing, dry mouth and muscle weakness |
| Duration          | Variable                                                                                                                                                                 |
| What to do        | This is a medical emergency and if symptoms appear seek medical attention                                                                                                |
| Prevention        | Follow safe canning instruction<br>Don't feed honey to infants<br>Buy commercial canned and preserved products                                                           |

# Campylobacter

| Sources           | Unpasteurized dairy, Poultry, shellfish, water |
|-------------------|------------------------------------------------|
| Incubation Period | 2 to 5 days                                    |
| Symptoms          | Diarrhea, cramps, fever, vomiting              |
| Duration          | About one week                                 |
| What to do        | Drink plenty fluids, seek medical attentions   |
| Prevention        | Drink pasteurized milk, drink treated water    |



# Clostridium Perfringens

| Sources             | Beef, poultry, gravies, food left out at room temp                                                    |
|---------------------|-------------------------------------------------------------------------------------------------------|
| Incubation Period   | 6 to 24 hrs.                                                                                          |
| Symptoms            | Diarrhea and stomach cramps                                                                           |
| Duration of illness | Less than 24 hrs. in severe cases up to 2 weeks                                                       |
| What to do          | Drink plenty of fluids and seek medical attention                                                     |
| Prevention          | Cook food thoroughly to 165F<br>Use thermometer to test temp<br>Keep foods at 140F or store in fridge |



# E. coli

| Sources             | Contaminated food (beef, unpasteurized dairy, raw fruits/ veggies)<br>Contaminated water |
|---------------------|------------------------------------------------------------------------------------------|
| Incubation Period   | 3 to 4 days for most but can be 1-10 days                                                |
| Symptoms            | Severe diarrhea (bloody), stomach pain, vomiting and small fever, dehydration            |
| Duration of illness | 5 to 10 days and most people will be better in 5-7 days                                  |
| What to do          | Drink fluids and get rest and seek medical attention                                     |
| Prevention          | Avoid high risk foods, cook to 165F, wash hands while handling foods                     |

# Hepatitis A

|                     |                                                                                                                     |
|---------------------|---------------------------------------------------------------------------------------------------------------------|
| Sources             | Raw and undercooked shellfish from contaminated water, raw produce, drinking water and contact from infected people |
| Incubation Period   | 28 days average range (15-50 days)                                                                                  |
| Symptoms            | Diarrhea, dark urine or light stool, jaundice, fatigue, fever, joint pain, stomach pain, loss of appetite           |
| Duration of Illness | Last around 2 months but can be up to 6 months                                                                      |
| What to do          | See doctor if signs and symptoms are present                                                                        |
| Prevention          | Avoid eating raw oysters or other raw shellfish<br>Wash hands with soap for 20 seconds<br>Vaccinate for Hep A       |

# Listeria

| Sources             | Unpasteurized dairy, raw fruits/Veggies, RTE and deli meats, pates, smoked meats                                                                                                                     |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Incubation Period   | 1-4 weeks but can be up to 70 days                                                                                                                                                                   |
| Symptoms            | Fever, diarrhea<br>But if beyond gut can be stiff neck, confusion, loss of balance, convulsions<br>For pregnant women- fever, fatigue and muscle aches                                               |
| Duration of illness | Days to weeks                                                                                                                                                                                        |
| Who is at risk      | Adults 65 and older<br>Pregnant women<br>Immune co promised                                                                                                                                          |
| What to do          | For invasive, antibiotics are needed for everyone                                                                                                                                                    |
| Prevention          | Recommendations for everyone:<br>No raw dairy, wash raw fruits and veggies<br>Recommendations for high risk:<br>Do not eat: pates, processed meats not cooked to 165, raw or lightly cooked sprouts, |

# Norovirus

| Sources             | Produce, shellfish and RTE touched by infected people                                                                  |
|---------------------|------------------------------------------------------------------------------------------------------------------------|
| Incubation period   | 12-48 hrs.                                                                                                             |
| Symptoms            | Diarrhea, vomiting, nausea, stomach pain                                                                               |
| Duration of illness | 1 to 3 days but young children and older adults are more vulnerable (last 4-6 days)                                    |
| What to do          | Drink plenty of water and get rest and seek medical attention                                                          |
| Prevention          | Wash hands<br>Use gloves with food handling<br>Clean and disinfect surfaces<br>Do not handle food if you have symptoms |

# Salmonella

| Sources             | Fruits/ veggies, poultry, pork, beef and nuts                                                      |
|---------------------|----------------------------------------------------------------------------------------------------|
| Incubation period   | 6 hrs. to 6 days                                                                                   |
| Symptoms            | Diarrhea, fever, stomach cramps and vomiting                                                       |
| Duration of illness | 4 to 7 days                                                                                        |
| What to do          | Drink plenty of fluids and seek medical attention                                                  |
| Prevention          | Avoid eating high risk foods and wash hands after contact with animals or their living environment |

# Shigella

| Sources             | Contact with the infected or contaminated food or water (most outbreaks caused by sick food handler)                        |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------|
| Incubation period   | 1-7 days but usually 1-2 days                                                                                               |
| Symptoms            | Sudden stomach cramps, fever, diarrhea                                                                                      |
| Duration of illness | 5 to 7 days                                                                                                                 |
| Who is at risk      | Children ages 2-4 but anyone is at risk                                                                                     |
| What to do          | Drink plenty of fluids and isolate from others and seek medical attention                                                   |
| Prevention          | Wash hands<br>Stay home and isolate<br>Disinfect surfaces<br>Avoid swallowing still water<br>Boil water if traveling abroad |

# Staphylococcus Aureus

## Staphylococcal (Staph) Food Poisoning

| Sources             | Carried on our skin and can contaminate food if proper food safety isn't taken with uncooked items |
|---------------------|----------------------------------------------------------------------------------------------------|
| Incubation Period   | 30 minutes to 8hrs.                                                                                |
| Symptoms            | Sudden onset of nausea, vomiting and stomach pain                                                  |
| Duration of illness | 1 day                                                                                              |
| What to do          | Drink plenty of fluids and seek medical attention                                                  |
| Prevention          |                                                                                                    |



# High- Risk Foods to Avoid

| High Risk                            | Safer Alternatives           |
|--------------------------------------|------------------------------|
| Raw, uncooked meat, poultry and eggs | Fully cooked meats (>165)    |
| Unpasteurized milk, soft cheeses     | Pasteurized dairy products   |
| Raw sprouts, unwashed produce        | Washed/ cooked produce       |
| Deli meat not reheated to 165F       | Canned or shelf stable foods |

# Safe Food Handling practices

| clean                                             | Separate                                             | cook                    | chill                                          |
|---------------------------------------------------|------------------------------------------------------|-------------------------|------------------------------------------------|
| Wash hands (20s)<br>before/after<br>handling food | Keep raw and RTE foods<br>separate                   | Cook food to<br>165F    | Store in fridge<br><40F within 2<br>hours      |
| Clean produce<br>thoroughly                       | Use dedicated<br>boards/utensils for each<br>product | Reheat foods<br>to 165F | Use shallow<br>containers for<br>rapid cooling |
| Disinfect surfaces<br>with appropriate<br>cleaner |                                                      |                         |                                                |



# Recommendations for Meal Programs

- Staff Training: Annual food safety workshops on hygiene, storage and temping.
  - Food Sourcing: use pasteurized commercially prepared foods.
  - Equipment: provide food thermometers for cooking/ reheating checks and train on calibration.
  - Audits: quarterly safety checks to ensure compliance
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