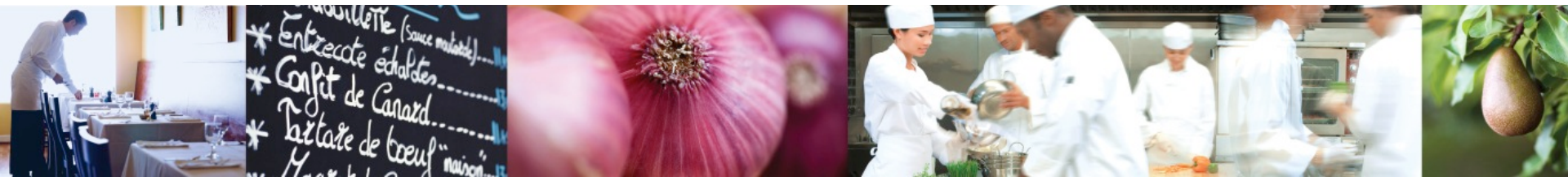




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**Temperature Control**

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# Introduction

## Objective

To discuss the importance of food temperature safety and control in the foodservice operation.

## Key Messages:

- To illustrate appropriate internal cooking temperatures for various forms of food
- To define the temperature danger zone
- To understand how to properly cool cooked foods and how to appropriately reheat leftovers



# Temperature Control

The Foodservice Employee Role



# Why Is Temperature Control Important?

Bacteria can grow to dangerous levels when temperature is not controlled properly. Staphylococcus aureus, Salmonella enteritidis, Escherichia coli O157:H7 and Campylobacter are a few of the types of bacteria. All of these types of bacteria can cause illness if ingested.

## What Is the Temperature Danger Zone?

### Between 40°F-140°F

This is considered the danger zone, because bacteria grows most rapidly in this range. In fact, bacteria can double in number in as little as 20 minutes.

[https://www.fsis.usda.gov/wps/portal/fsis/topics/food-safety-education/get-answers/food-safety-fact-sheets/safe-food-handling/danger-zone-40-f-140-f/CT\\_Index](https://www.fsis.usda.gov/wps/portal/fsis/topics/food-safety-education/get-answers/food-safety-fact-sheets/safe-food-handling/danger-zone-40-f-140-f/CT_Index)

# What Is the Safe Minimum Internal Temperature?

Meat/Poultry/Seafood	Minimum Internal Cooking Temperature
Precooked Ham	165°F *in USDA-inspected plants - 140°F
Raw Ham	145°F
Fish and Seafood	145°F
Beef, Pork, Lamb, Roasts, Steaks, Chops	145°F
Egg Dishes and Ground Meat	160°F
Poultry, Stuffing, Casseroles	165°F

When roasting meat and poultry, use an oven temperature no lower than 325°F

[https://www.fsis.usda.gov/wps/portal/fsis/topics/food-safety-education/get-answers/food-safety-fact-sheets/safe-food-handling/danger-zone-40-f-140-f/CT\\_Index](https://www.fsis.usda.gov/wps/portal/fsis/topics/food-safety-education/get-answers/food-safety-fact-sheets/safe-food-handling/danger-zone-40-f-140-f/CT_Index)

# Storing and Reheating Leftovers

Bacteria can be reintroduced to food after it is safely cooked; therefore, it is important that leftovers are cooled, stored, and reheated properly.

## Storing Leftovers

There are 3 main methods to properly cool cooked food:

- Ice paddles
- Ice water baths
- Blast or tumble chillers

## Reheating Leftovers

Foods should be reheated thoroughly to an internal temperature of 165°F and hold that temperature for 15 seconds. Discard uneaten food after 2 hours.

Using a microwave oven is one way to reheat food. It is recommended to cover and rotate the food so that it heats evenly.

Do not use hot-holding equipment to reheat food.

Proper Ways to Cool Food. Proper Ways to Cool Food, National Restaurant Association Educational Foundation, 2008.

# Key Takeaways

- Bacteria can grow to dangerous levels when temperature is not controlled properly
- Bacteria grows most rapidly between 40°F-140°F which is why it is considered the temperature danger zone
- It is important that leftovers are cooled, stored and reheated properly, because bacteria can be reintroduced to food even after it is safely cooked



# References

- “Danger Zone.” *USDA Food Safety and Inspection Service*, June 2017, [www.fsis.usda.gov/wps/portal/fsis/topics/food-safety-education/get-answers/food-safety-fact-sheets/safe-food-handling/danger-zone-40-f-140-f/CT\\_Index](http://www.fsis.usda.gov/wps/portal/fsis/topics/food-safety-education/get-answers/food-safety-fact-sheets/safe-food-handling/danger-zone-40-f-140-f/CT_Index).
- *Proper Ways to Cool Food*, National Restaurant Association Educational Foundation, 2008.

# Temperature Control Post-Test Answers

1. **What is the Temperature Danger Zone?**
  - a. 35°F - 135°F
  - b. 40°F - 140°F**
  - c. 37°F - 120°F
  - d. 50°F - 160°F
2. **Why is temperature control important?**
  - a. Bacteria can grow rapidly in raw food if the temperature is not regulated correctly
  - b. If temperature is not controlled, the bacteria that grows can cause foodborne illness if ingested
  - c. Bacteria can be reintroduced to food even after it is safely cooked
  - d. All of the above**
3. **What is a common method to properly store leftovers?**
  - a. Stir hot food with Ice Paddles prior to storing it in the refrigerator**
  - b. Cover the container immediately and place in the freezer
  - c. Leave the food uncovered on the counter for 4 hours until it has cooled
  - d. Pour ice in the food until cooled
4. **What is the minimum internal cooking temperature for Salmon fillets?**
  - a. 140°F
  - b. 155°F
  - c. 165°F
  - d. 145°F**
5. **When reheating food, what internal temperature should it be heated to?**
  - a. 165°F for 15 seconds within 2 hours**
  - b. 155°F for 15 seconds within 2 hours
  - c. 165°F for 15 seconds within 4 hours
  - d. 145°F for 15 seconds within 4 hours

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