

2020 Dietary Guidelines Advisory Committee: Frequency of Eating

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DietaryGuidelines.gov

Subcommittee Status

- NESR staff screened articles and prepared evidence portfolios
 - ~ 41,000 articles have been screened
 - Extracted data and assessed risk of bias for 10 included articles
- Subcommittee reviewed evidence and drafted conclusions presented at Public Meeting 4
 - Frequency of eating and all-cause mortality
 - Frequency of eating during pregnancy and gestational weight gain
 - Frequency of eating during lactation and post-partum weight loss
 - Frequency of eating and growth, size, body composition, and risk of overweight and obesity
 - Frequency of eating and cardiovascular disease
 - Frequency of eating and type 2 diabetes

Protocols for questions discussed in this presentation are available at [DietaryGuidelines.gov](https://www.dietaryguidelines.gov)

Key Definitions

- **Frequency of Eating**
 - Defined as number of daily **Eating Occasions**
 - Defined as ingestive event:
 - preload, meals, or snacks
 - beverage (energy or non-energy yielding) or food

DRAFT Conclusion Statement and Grade

Question: What is the relationship between the frequency of eating and all-cause mortality?

Approach: NESR systematic review

Conclusion statement: **No evidence** is available to determine the relationship between the frequency of eating and all-cause mortality.

Grade: Grade Not Assignable

**What is the relationship between the frequency of eating and all-cause mortality?
2020 Dietary Guidelines Advisory Committee: Meeting 4**

DRAFT Conclusion Statement and Grade – Gestational Weight Gain

Question: What is the relationship between the frequency of eating during pregnancy and gestational weight gain?

Approach: NESR systematic review

Conclusion statement: **No evidence** is available to draw a conclusion about the relationship between the frequency of eating during pregnancy and gestational weight gain.

Grade: Grade Not Assignable

**What is the relationship between the frequency of eating during pregnancy and gestational weight gain?
2020 Dietary Guidelines Advisory Committee: Meeting 4**

DRAFT Conclusion Statement and Grade – Post-Partum Weight Loss

Question: What is the relationship between frequency of eating during lactation and post-partum weight loss?

Approach: NESR systematic review

Conclusion statement: **Insufficient evidence** is available to determine the relationship between the frequency of eating during lactation and post-partum weight loss.

Grade: Grade Not Assignable

**What is the relationship between frequency of eating during lactation and post-partum weight loss?
2020 Dietary Guidelines Advisory Committee: Meeting 4**

DRAFT Conclusion Statement and Grade – Overweight and Obesity

Question: What is the relationship between the frequency of eating and growth, size, body composition, and risk of overweight and obesity?

Approach: NESR systematic review

Conclusion statement: **Insufficient evidence** is available to determine the relationship between the frequency of eating and growth, size, body composition, and the risk of overweight and obesity.

Grade: Grade Not Assignable

What is the relationship between the frequency of eating and growth, size, body composition, and risk of overweight and obesity?
2020 Dietary Guidelines Advisory Committee: Meeting 4

DRAFT Conclusion Statement and Grade – Cardiovascular Disease

Question: What is the relationship between the frequency of eating and cardiovascular disease?

Approach: NESR systematic review

Conclusion statement: **Insufficient evidence** is available to determine the relationship between the frequency of eating and cardiovascular disease.

Grade: Grade Not Assignable

**What is the relationship between the frequency of eating and cardiovascular disease?
2020 Dietary Guidelines Advisory Committee: Meeting 4**

DRAFT Conclusion Statement and Grade – Type 2 Diabetes

Question: What is the relationship between the frequency of eating and type 2 diabetes?

Approach: NESR systematic review

Conclusion statement: **Insufficient evidence** is available to determine the relationship between frequency of eating during lactation and type 2 diabetes.

Grade: Grade Not Assignable

**What is the relationship between the frequency of eating and type 2 diabetes?
2020 Dietary Guidelines Advisory Committee: Meeting 5**

Summary of study limitations across the included evidence

- **Inconsistent and insufficient findings to draw conclusions** about the relationship between frequency of eating and the health outcomes.
- Water consumption was not explicitly mentioned
- Prospective cohort studies:
 - Inconsistent measures of frequency of eating assessments
 - Eating frequency only assessed at baseline
 - Comparisons were not consistent across studies
 - Both energy yielding and non-energy yielding beverages were inconsistently accounted for
 - High or unknown attrition rates
- Reported outcomes varied across studies
- The study populations do not fully represent the race/ethnic or socioeconomic diversity of the US population.

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Draft Research Recommendations

- Conduct more controlled trials
- Develop a consistent definition of an ingestive event that includes eating and drinking
- Develop validated measures of eating frequency
- Studies on frequency of eating should report...
 - number of ingestive events across 24 hours
 - a minimum of 3 days of ingestive event data and on at least 2 discrete occasions to allow assessment of estimate reliability
 - frequency of water consumption
 - key confounders
- Studies on food insecurity to allow isolation of voluntary versus involuntary ingestive event effects

Next Steps

- Systematic Reviews will be peer-reviewed
- On-going collaboration with data analysis and food pattern modeling working group for the data analysis question answering:
 - What is the relationship between the frequency of eating and achieving nutrient and food group recommendations?
- Continue to draft the scientific report of this Dietary Guidelines Advisory Committee

Frequency of Eating: Members and Staff



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