

2020 Dietary Guidelines Advisory Committee: Frequency of Eating

Chair Steven Heymsfield

Carol Boushey

Heather Leidy (Presenter)

Richard Mattes

Vice Chair Rep Ronald Kleinman

DietaryGuidelines.gov

Topic Areas (in order of protocol development)

- Frequency of eating and all-cause mortality*
- Frequency of eating and growth, size, body composition, overweight, obesity*
- Frequency of eating and gestational weight gain*
- Frequency of eating and post-partum weight loss*
- Frequency of eating and cardiovascular disease*
- Frequency of eating and type 2 diabetes*

* Protocols to be discussed today; available at DietaryGuidelines.gov

Key Definitions

- **Frequency of eating** –
 - Number of daily eating occasions
 - Timing of daily eating occasions
 - Timing of weekly eating occasions (weekday or weekend)
 - Meal skipping
 - Fasting (time restricted eating)
- **Eating occasion** – ingestive event [preload, meals or snacks; food or beverage (caloric, non-caloric)]
- **Fasting** – absence of an ingestive event, ≥ 8 hours during a waking period in a 24 hour period
 - **Time restricted eating** – set pattern of eating occasions
- **Meal** – dependent upon timing throughout the day (morning, midday, evening)

Key Definitions

- **Frequency of eating –**
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What frequency of eating is **NOT –**

- Frequency of intake of a single food, beverage, or category of foods or beverages
- Studies that do not have eating occasions across the day

- **Meal** – dependent upon timing throughout the day (morning, midday, evening)

Frequency of Eating

2020 Dietary Guidelines Advisory Committee: Meeting 2

Inclusion and Exclusion Criteria

- Propose standard criteria be used for:
 - Study Design
 - Publication Status
 - Language of Publication
 - Country
 - Study participants
 - Health Status of Participants

Inclusion and Exclusion Criteria

| Category | Inclusion Criteria | Exclusion Criteria |
|--------------------------------------|---|---|
| Intervention/ exposure | <u>Frequency of eating:</u> <ul style="list-style-type: none"> • Number of daily eating occasions • Timing of daily eating occasions <ul style="list-style-type: none"> ○ Timing of weekly eating occasions (weekday or weekend) ○ Meal skipping ○ Fasting (time restricted eating) | <ul style="list-style-type: none"> • Studies that only examine frequency of intake of a single food, beverage or category of foods or beverages (i.e. frequency of milk consumption, frequency of seafood consumption) • Studies that do not have eating occasions across the day |
| Age of study participants | <ul style="list-style-type: none"> • Age at intervention/exposure and outcome: <ul style="list-style-type: none"> ○ Children and adolescents (2-18 years) ○ Adults (19-64 years) ○ Older adults (ages 65 and older) | <ul style="list-style-type: none"> • Age at intervention/exposure and outcome: <ul style="list-style-type: none"> ○ Infants and toddlers (0-24 months old) |
| Date of publication | <ul style="list-style-type: none"> • January 2000 – June/July 2019 | <ul style="list-style-type: none"> • Articles published prior to or after January 2000 – June/July 2019 |

Frequency of Eating

2020 Dietary Guidelines Advisory Committee: Meeting 2

Inclusion and Exclusion Criteria

| Category | Inclusion Criteria | Exclusion Criteria |
|--|---|---|
| Health Status of Study Participants | <ul style="list-style-type: none"> NESR Standard Criteria | <ul style="list-style-type: none"> NESR Standard Criteria Studies that exclusively enroll subjects post bariatric surgery |
| Dietary Data Collection | <ul style="list-style-type: none"> A minimum of 3 days of dietary data collection and on at least 2 occasions | <ul style="list-style-type: none"> N/A |
| Size of Study Groups | <ul style="list-style-type: none"> 15 participants for studies using within-subject analyses, or 30 participants for studies using between-subject analysis, or A power calculation included | <ul style="list-style-type: none"> N/A |

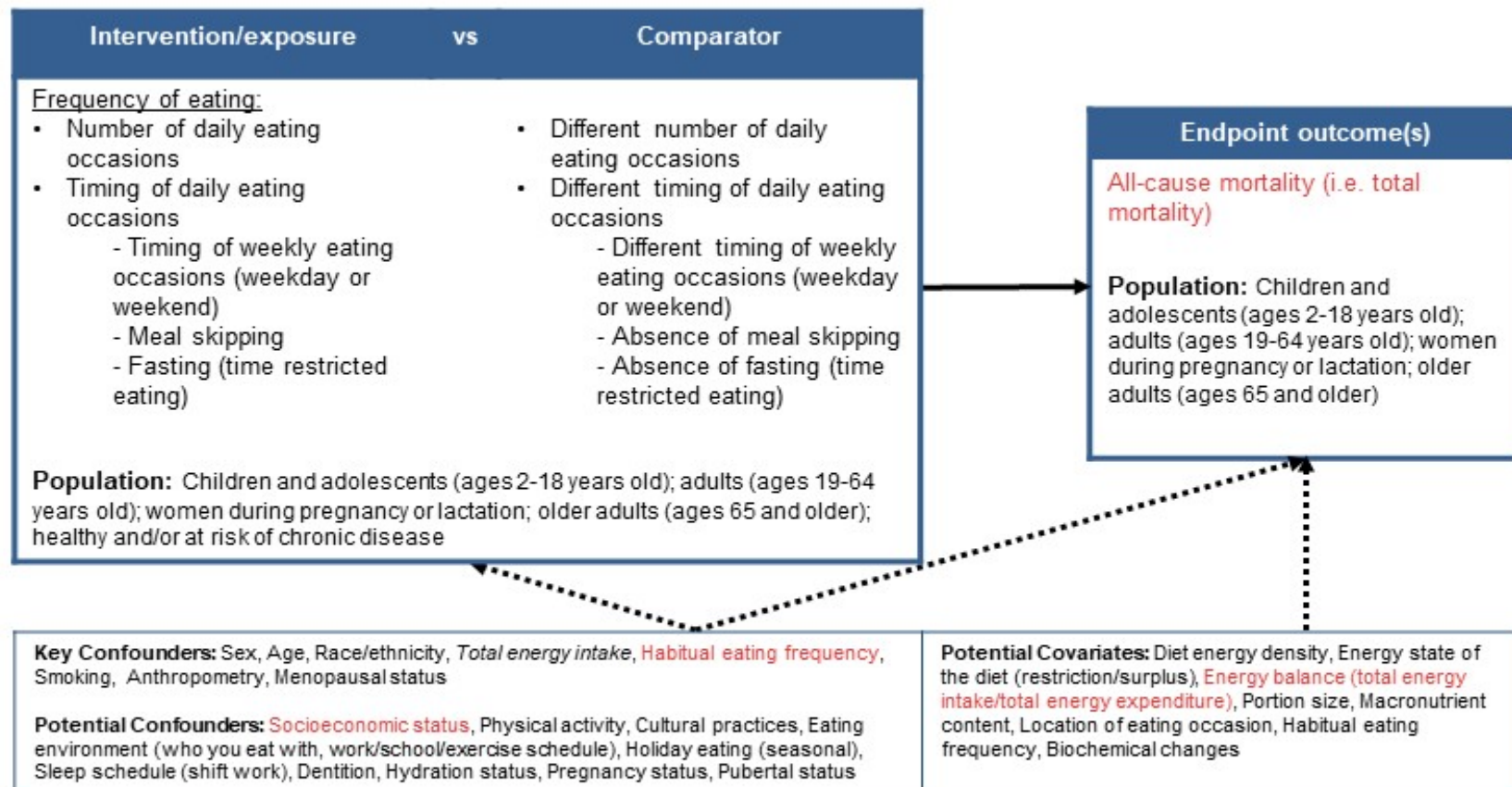
Question

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

Approach to Answer Question: NESR Systematic Review

Frequency of Eating and All-Cause Mortality

Systematic review question: What is the relationship between the frequency of eating and all-cause mortality?



Key definitions

Eating occasion – ingestive event [preload, meals or snacks; food or beverage (caloric, non-caloric)]

Fasting – absence of an ingestive event, ≥ 8 hours during a waking period in a 24 hour period

• **Time restricted eating** – set pattern of eating occasions

Meal – dependent upon timing throughout the day (morning, midday, evening)

All-cause mortality – the total number of deaths from all causes during a specific time-period.

Legend

————→ The relationship of interest in the systematic review

.....→ Factors that may impact the relationship of interest in the systematic review

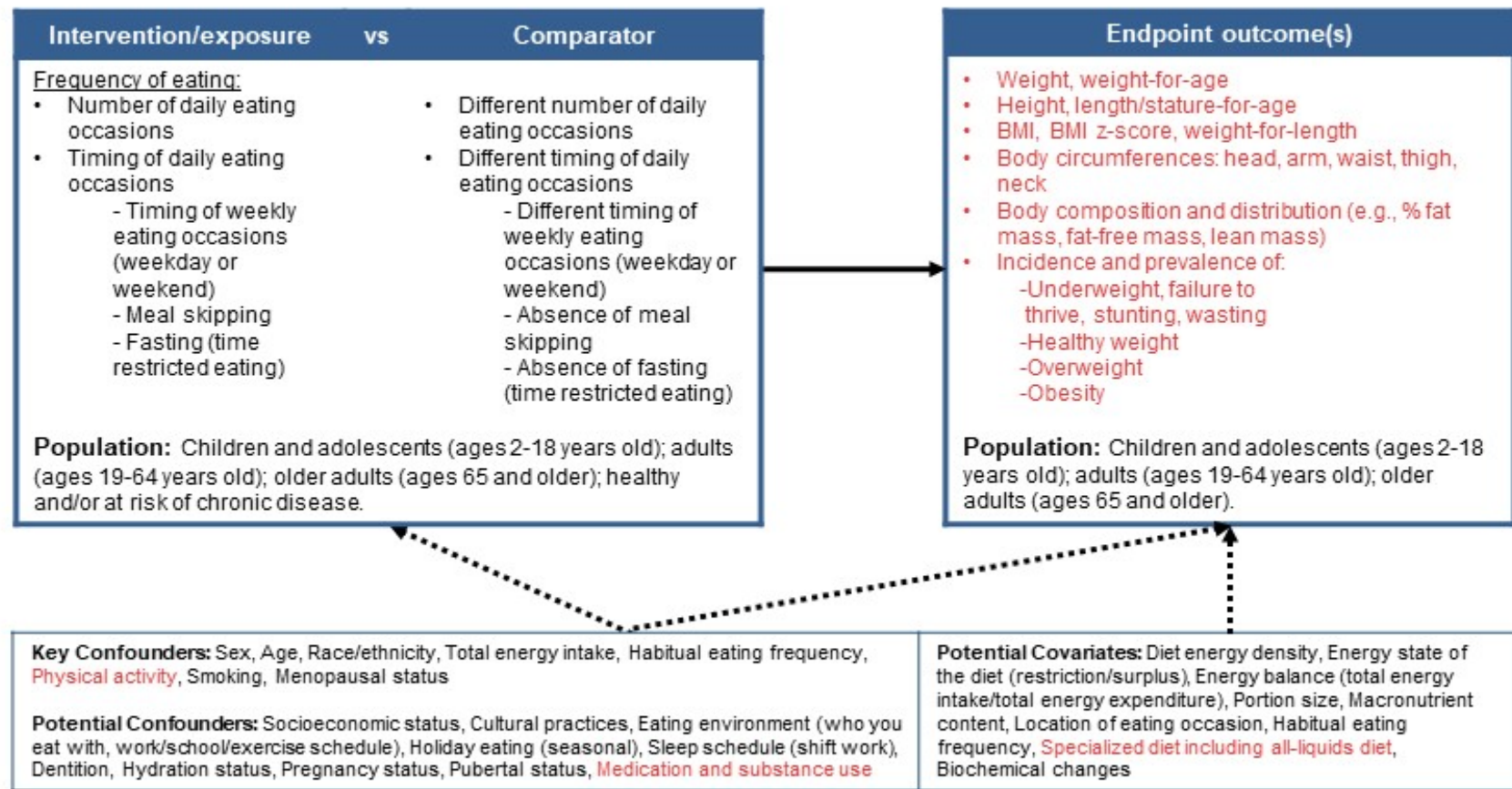
Question

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

Approach to Answer Question: NESR Systematic Review

Frequency of Eating and Growth, Size, Body Composition, Overweight, and Obesity

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



Key definitions

Eating occasion – ingestive event [preload, meals or snacks; food or beverage (caloric, non-caloric)]

Fasting – absence of an ingestive event, ≥ 8 hours during a waking period in a 24 hour period

• **Time restricted eating** – set pattern of eating occasions

Meal – dependent upon timing throughout the day (morning, midday, evening)

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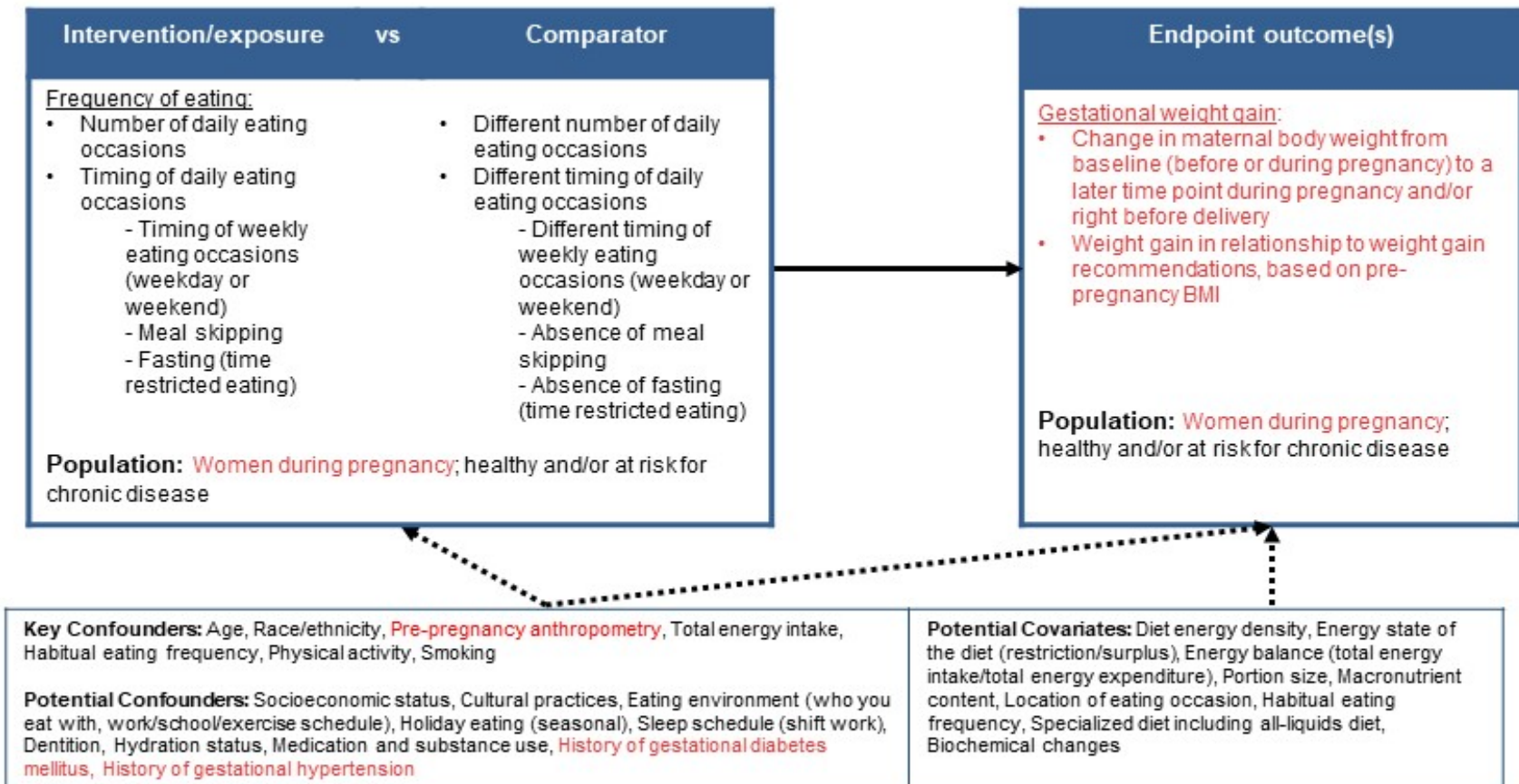
Question

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

Approach to Answer Question: NESR Systematic Review

Frequency of Eating and Gestational Weight Gain

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



Key definitions

Eating occasion – ingestive event [preload, meals or snacks; food or beverage (caloric, non-caloric)]

Fasting – absence of an ingestive event, ≥ 8 hours during a waking period in a 24 hour period

• **Time restricted eating** – set pattern of eating occasions

Meal – dependent upon timing throughout the day (morning, midday, evening)

Gestational weight gain – weight a woman gains during pregnancy (CDC)

Legend

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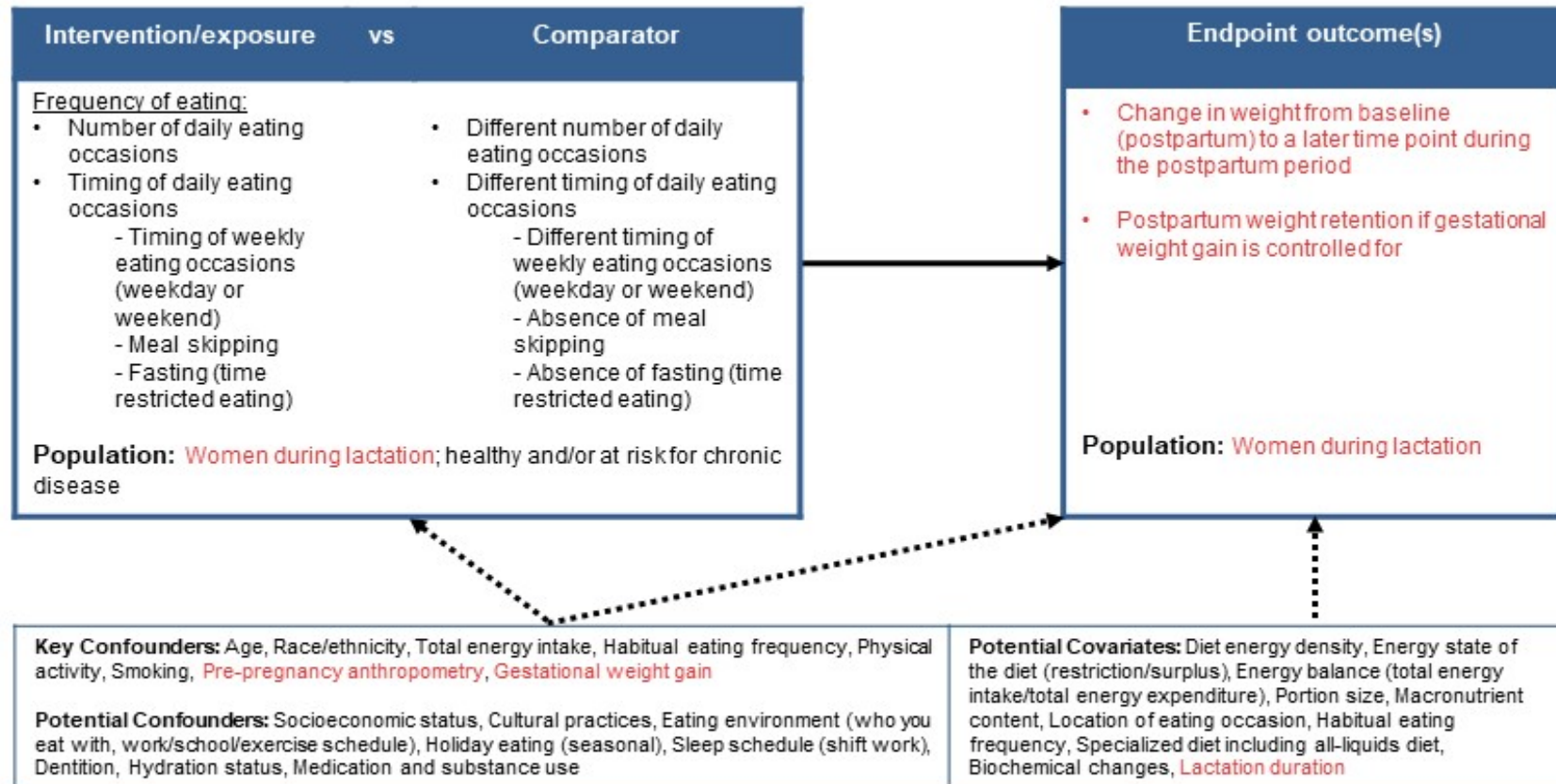
Question

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

Approach to Answer Question: NESR Systematic Review

Frequency of Eating and Post-Partum Weight Loss

Systematic review question: What is the relationship between the frequency of eating during lactation and postpartum weight loss?



Key definitions

Eating occasion – ingestive event [preload, meals or snacks; food or beverage (caloric, non-caloric)]

Fasting – absence of an ingestive event, ≥ 8 hours during a waking period in a 24 hour period

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Postpartum weight retention: amount of weight that remains during the postpartum period minus the woman's pre-pregnancy weight (IOM, 2009)

Legend

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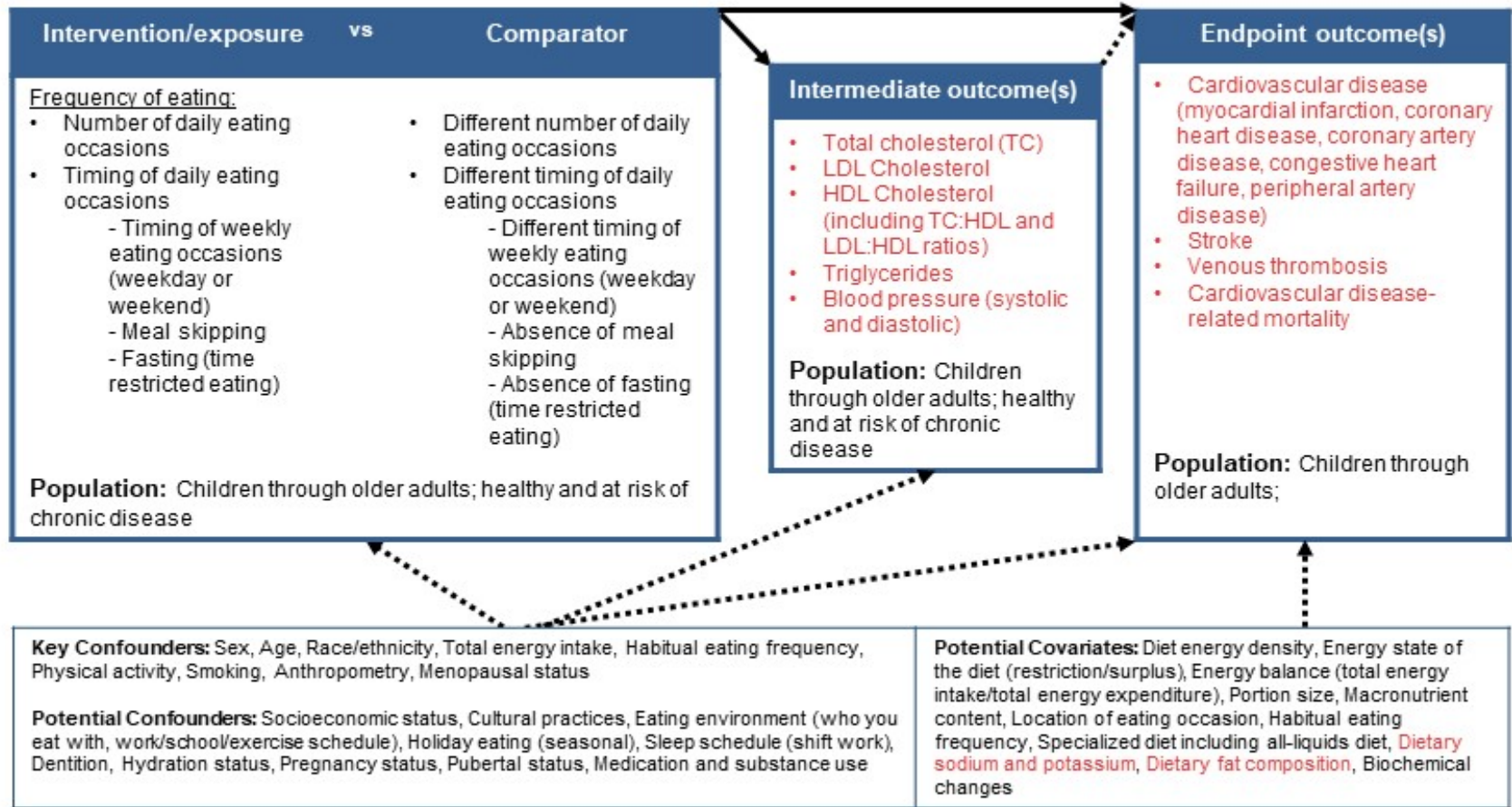
Question

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

Approach to Answer Question: NESR Systematic Review

Frequency of Eating and Cardiovascular Disease

Systematic review question: What is the relationship between the frequency of eating and risk of cardiovascular disease?



Key definitions

Eating occasion – ingestive event [preload, meals or snacks; food or beverage (caloric, non-caloric)]

Fasting – absence of an ingestive event, ≥ 8 hours during a waking period in a 24 hour period

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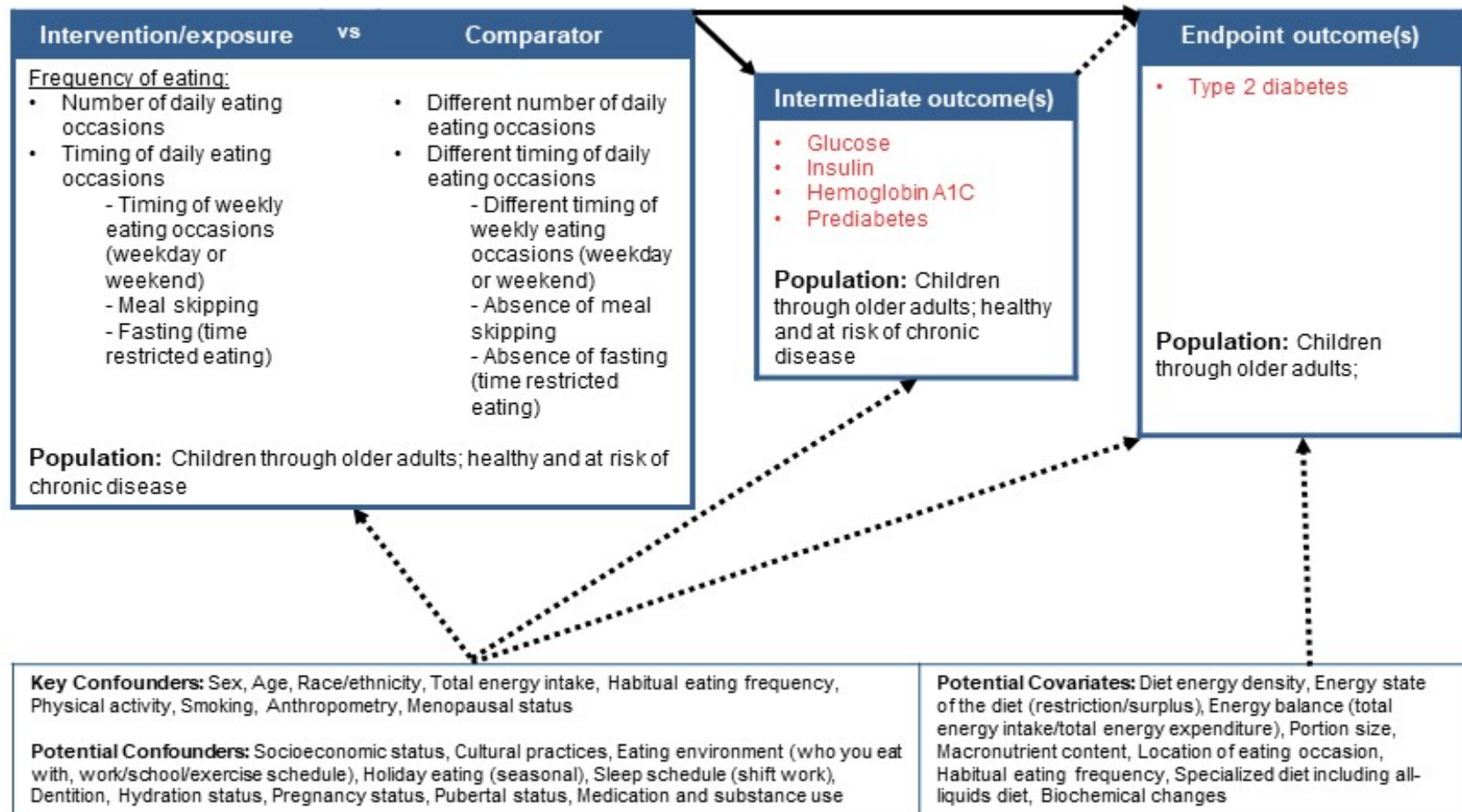
Question

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

Approach to Answer Question: NESR Systematic Review

Frequency of Eating and Type 2 Diabetes

Systematic review question: What is the relationship between the frequency of eating and risk of type 2 diabetes?



Key definitions

Eating occasion – ingestive event [preload, meals or snacks; food or beverage (caloric, non-caloric)]

Fasting – absence of an ingestive event, ≥ 8 hours during a waking period in a 24 hour period

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Next Steps

- Begin screening search results
- Extract data and conduct risk of bias assessments
- Prepare the evidence synthesis
- Develop graded conclusion statements
- Document limitations and research recommendations

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Members:

Steven Heymsfield
Carol Boushey
Heather Leidy
Richard Mattes
Ronald Kleinman

Support Staff:

Ashley Vargas
Emily Callahan
Julie Obbagy
Marisol Hernandez

Gisela Butera
Rebecca MacIsaac
Colette Rihane (DFO
rep)

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