



**Meeting 2**

# **Subcommittee 4 Cardiometabolic Health and Weight Management**

**Chair: John Jakicic**

**Members: Wayne Campbell, Loretta DiPietro, Russ Pate, Linda Pescatello, Ken Powell**

# Question 1



**Is there evidence that physical activity prevents or minimizes weight gain in adults?**

- **Is there a dose-response relationship? If yes, what is the shape of the relationship?**
- **Does the relationship vary based on levels of sedentary, light, moderate or vigorous physical activity?**
- **Does the relationship vary by age, sex, ethnicity, or socio-economic status?**
- **Is this relationship influenced by diet (e.g., energy intake) or eating behavior?**
- **Does the relationship vary based upon initial body weight (or body composition, or BMI category )?**

# Analytical Framework

## Subcommittee: Weight Management and Cardiometabolic Health

### Systematic Review Question

Is there evidence that physical activity prevents or minimizes weight gain in adults?

### Target Population

Adults, ages 18 and older

### Comparison

Adults who participate in varying levels of physical activity, including no reported physical activity

### Intervention/Exposure

All types and intensities of physical activity including lifestyle activities/leisure activities/sedentary behavior

### Endpoint Health Outcomes

- Adiposity
- Body composition
- Weight
- Weight change
- Body mass index (BMI)

# Common Inclusion/ Exclusion Criteria



- **Language**
  - **Exclude: Studies that do not have full text in English**
- **Publication Status**
  - **Include: Studies published in peer-reviewed journals, PAGAC-approved reports**
  - **Exclude: Grey literature**
- **Study Subjects**
  - **Exclude: Studies of animals only**

# Inclusion/Exclusion Criteria



- **Date of Publication**
  - **Original Research: Include 1990 - Present**
  - **Existing Sources: Include 1990 - Present**
- **Study Subjects**
  - **Include: Adults, ages 18 and older**
  - **Exclude: Adults with acute treatment for a chronic condition; hospitalized patients**
- **Study Design**
  - **Include: Randomized controlled trials, Prospective cohort studies, Retrospective cohort studies, Systematic reviews, Meta-analyses, PAGAC-Approved reports**
  - **Exclude: Non-randomized controlled trials, Case-control studies, Cross-sectional studies, Before-and-after studies, Narrative reviews, Commentaries, Editorials, Time Series**
- **Exposure/Intervention**
  - **Include: All types and intensities of physical activity**
  - **Exclude: Missing physical activity; Single, acute session of exercise, Physical activity not primary exposure variable**
- **Outcome**
  - **Include: Adiposity, body composition, weight, weight change, body mass index (BMI)**

# Draft Search Terms

- **Exposure Terms**

- **Physical Activity Terms**

- "Active travel", "Activity bouts", "Aerobic activities", "Aerobic activity", "Anaerobic training", "Cardiorespiratory activity", "Cardiorespiratory fitness", "Cardiovascular activities", "Cardiovascular activity", "Cardiovascular fitness", "Daily steps", "Endurance activities", "Endurance activity", "Energy expenditure", "Exercise", "High intensity activities", "High intensity activity", "Interval training", "Leisure activities", "Leisure activity", "Light intensity activity", "Low intensity activity", "Moderate to Vigorous Activities", "Moderate to Vigorous Activity", "Pedometer", "Physical activity", "Physical conditioning", "Physical endurance", "Physical fitness", "Physical inactivity", "Resistance training", "Sedentary lifestyle", "Sprint interval training", "Step count", "Steps/day", "Strength training", "Walk", "Walking", "Weight lifting", "Weight training", ("High intensity AND training"), "Active commute", "Active commuting", "Moderate Activities", "Moderate Activity", "Vigorous Activities", "Vigorous Activity".

- **Sedentary Terms**

- ((Physical\* AND Inactiv\*) OR "inactivity" OR "Sedentarism" OR "Sedentary" OR "Sedentari\*" OR "Sitting" OR "Screen time" OR "Television" OR "TV" OR "Video game" OR "Video gaming" OR "Computer use" OR "Computer time")

# Draft Search Terms

- **Outcome Terms (for Question #1)**
  - **Adiposity**
  - **Body composition**
  - **Body Mass Index (BMI)**
  - **Fat mass**
  - **Fatness**
  - **Lean body mass**
  - **Obese, obesity**
  - **Weight, weight gain, weight change, weight status**

# Prioritized Questions

1. **Is there evidence that physical activity prevents or minimizes weight gain in adults?**
2. **Is there a relationship between physical activity and blood glucose control (incidence of impaired glucose tolerance or type 2 diabetes mellitus) in adults without diabetes?**
3. **Is there a relationship between physical activity and weight control during pregnancy and postpartum in adults?**
4. **Is there a relationship between physical activity and metabolic syndrome, and the components of metabolic syndrome (blood pressure, lipids, abdominal adiposity) in adults?**
5. **Does physical activity alter body composition (lean tissue, fat tissue, intramuscular fat) with weight loss in adults?**
6. **Is there a relationship between physical activity and weight change following clinically meaningful weight loss of at least 5% in adults?**
7. **Is there a relationship between physical activity and inflammatory markers in adults?**
8. **Is there evidence that physical activity adds to the magnitude of weight loss achieved with caloric restriction in adults?**



# Areas for PAGAC Input or Discussion



- **Should this subcommittee include “sedentary” as search terms to allow results of these searches to be shared with other subcommittees (i.e., Sedentary Subcommittee)?**