Background

• Increasing physical activity, decreasing screen time, and getting adequate sleep improves wellbeing and prevents obesity in children
• Canadian 24hr movement guidelines give recommendations for all three behaviours in combination over a 24hr period for children aged 5-18 years

Methods

• Secondary analysis using data from longitudinal investigation (QUebec Adipose and Lifestyle Investigation in Youth Cohort)

Results

Adherence

Childhood   Early Adolescence   Adolescence

Meet 24hr Movement Guidelines

14%     6%     0%

Meet Guideline Components

Meet 0

Meet 1

Meet 2

Physical Activity

Screen Time

Sleep Duration

Meet Individual Behaviours

98%     92%     86%

32%     21%     6%

45%     29%     13%

Longitudinal Associations

Early Adolescence

Meet 0   Meet 1   Meet 2 VS

Baseline

ZBMI, WC, WHR, % body fat

• zBMI: 0.53 SD (95% CI: 0.19, 0.87) higher if meet 2
• 0.95 SD (95% CI: 0.59, 1.32) higher if meet 1
• 1.66 SD (95% CI: 0.42, 2.89) higher if meet 0

Adolescence

Meet 1 VS

Baseline

ZBMI, WC, WHR, % body fat

• zBMI: 0.70 SD (95% CI: 0.22, 1.18) higher if meet 1

Conclusion

• Few children meet 24hr movement guidelines and proportion decreases in adolescence
• Meeting fewer components is cross-sectionally associated with higher adiposity
• Meeting fewer components at baseline is longitudinally associated with higher adiposity 2 yrs and 7 yrs later.
• Importance of early interventions to increase adherence to the 24hr movement guidelines to prevent obesity from childhood to adolescence.

• Future directions
• Visit 4: adulthood
• HCP to disseminate and promote guidelines, especially in early childhood

Cross-Sectional Associations

Childhood

Meet 0   Meet 1   Meet 2 VS

ZBMI, WC, WHR, % body fat

• zBMI: 0.44 SD (95% CI: 0.09, 0.79) higher if meet 2
• 0.85 SD (95% CI: 0.48, 1.23) higher if meet 1
• 1.49 SD (95% CI: 0.17, 2.80) higher if meet 0

Early Adolescence and Adolescence

Meet 1 VS

zBMI % body fat

• Adolescence: zBMI: 0.56 SD (95% CI: 0.05, 1.07) meet 1
• Early Adol: %BF: 3.33% (95% CI: 0.08, 6.57) meet 1
• Early Adol: zBMI: 3.0 SD (95% CI: -0.12, 6.12) meet 1

• Adiposity: Body mass index Z-score (zBMI), waist circumference (WC), waist to height ratio (W-H ratio), % body fat (DEXA Scan)
• Movement behaviours: 7-day accelerometry or self-report questionnaires
• Analyses: Descriptive statistics and multiple linear regressions adjusted age, sex, puberty and parent education