Working Together on the Healthy Kids Strategy

July 8: Start All Kids on the Path to Health

July 17: Change the Food Environment

July 29: Create Healthy Communities
The Crisis of Childhood Obesity

Measured Overweight and Obesity in Ontario Children and Youth 2009-2011

Using WHO BMI-for-age cut-offs in Children and Youth by Age Group and Sex
If nothing is done:

- the current generation of children will develop chronic illnesses much younger and be more affected as they age.

- the cost of obesity will grow, impacting our ability to fund other programs and services.
Ontario Government Target

To reduce childhood obesity by 20 per cent in five years.

An 18-member Healthy Kids Panel was convened to provide advice on the best way to meet that target.
The Healthy Kids Panel

- Engaged parents and youth
- considered 93 written submissions
- met with over 30 stakeholder groups
- concluded that:

  “No one policy, program or strategy will solve the problem of childhood overweight and obesity.”
Health is about more than weight

A child who is a little overweight and who is fit and active is healthier than a child who is the “right” weight for his or her age and height but is more sedentary.

Focusing too much on weight is stigmatizing and will not address many of the factors that contribute to unhealthy weights.
3-Pronged Strategy

Strategy #1: Start all kids on the path to health

Strategy #2: Change the food environment

Strategy #3: Create healthy communities

For each of these elements, the panel proposes realistic, achievable measures along with an action plan to turn ideas into reality.
1. Start All Kids on the Path to Health

1.1 Educate women of child-bearing age
1.2 Enhance primary and obstetrical care
1.3 Adopt a standardized prenatal education curriculum
1.4 Support and encourage breastfeeding
1.5 Leverage well-baby and childhood immunization visits
Working together on the Healthy Kids Strategy

Start All Kids on the Path to Health: Strategy #1

July 08, 2014 • 1:00 p.m. – 2:30 p.m.

Dr. Zach Ferraro
Postdoctoral Fellow & Clinical Research Associate, Maternal-Fetal, Ottawa Hospital

Hiltrud Dawson
Health promotion consultant, Best Start - Health Nexus

RECORDERING NOTICE: This webinar is recorded and will be made available to the general public on the HC Link website.
The Healthy Kids Strategy: Weight Management in Preconception & Pregnancy

Zach Ferraro, PhD, CEP
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Clinical Research Associate
Division of Maternal-Fetal Medicine, The Ottawa Hospital
website: www.DrFerraro.ca
twitter: @Drferraro

No time to wait: The Healthy Kids Strategy
Strategy #1 – Start all kids on the Path to Health
July 8th, 2014
Disclosures & COI

- CIHR Fellowship from the Institute of Human Development, Child & Youth Health (IHDCYH) Fellowship
- Speaker/consulting fees:
  - Nestle Healthcare
  - Best Start Resource Centre (BSRC) – Health Nexus
  - Canadian Sport Institute
  - Public Health Ontario
  - Heart & Stroke Foundation of Ontario
Relevant resources

Objectives

- Review of the risks associated with maternal obesity and excessive gestational weight gain
- How to optimize child health during the prenatal period
- Discuss two clinical scenarios:
  - ‘early exceeders’ who exceed absolute recommendations
  - ‘early exceeders’ who stabilize and meet absolute recommendations
- Highlight strategies and tools to help optimize maternal weight gain trajectory

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The Complexity Energy Balance

Many determinants of positive energy balance and unhealthy body weight

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UK Foresight Initiative, 2007
Weight maintenance & loss

Support mothers to secure future public health

Evidence that long-term health is shaped by the environment in early life calls for prenatal interventions to tackle chronic disease, argue David Barker and colleagues.
Weightism, Bias, Discrimination
~ 55% of North American women of childbearing age are OW or OB
BMI on the Rise

Risks of pregnancy complicated by overweight/obese

- Early Pregnancy:
  - Recurrent miscarriage
  - Spina bifida
  - Hydrocephaly, Neural tube defects, Lower IVF success
  - Miscarriage
  - Cleft lip, CV anomalies

- Late Pregnancy:
  - Gestational diabetes
  - Gestational hypertension
  - Fetal death
  - Pre-eclampsia
  - UTI
  - Thromboembolism
  - Gall bladder disease

- Peripartum & Neonate:
  - Anaesthetic complications
  - Wound infection
  - Early Neonatal Death
  - Shoulder Dystocia
  - Macrosomia
  - Child Obesity
  - 3rd-4th degree tearing
  - Cervical dystocia
  - Vaginal birth failure
  - Instrumental delivery/c-section
  - Post partum thromboembolism
  - Hemorrhage

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Excessive gestational weight gain predicts large for gestational age neonates independent of maternal body mass index

Z. M. Ferraro¹², N. Barrowman³, D. Prud’homme¹, M. Walker⁴⁵, S. W. Wen⁴⁵, M. Rodger⁵⁶ & K. B. Adamo¹²,⁷

¹Faculty of Health Sciences, School of Human Kinetics, University of Ottawa, Ontario, Canada, ²Healthy Active Living and Obesity Research Group, Children’s Hospital of Eastern Ontario Research Institute, Ontario, Canada, ³Clinical Research Unit, Children’s Hospital of Eastern Ontario Research Institute, Ontario, Canada, ⁴Faculty of Medicine, Department of Obstetrics and Gynecology and Division of Maternal-Fetal Medicine, University of Ottawa, Ontario, Canada, ⁵Clinical Epidemiology Program, The Ottawa Hospital Research Institute, Ontario, Canada, ⁶Faculty of Medicine, Division of Community Medicine, University of Ottawa, Ontario, Canada, ⁷Faculty of Health Sciences, University of Ottawa, Ontario, Canada.
## What to gain?

<table>
<thead>
<tr>
<th>Prepregnancy BMI</th>
<th>Total Weight Gain</th>
<th>Rates of Weight Gain* 2nd and 3rd Trimester</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Range in kg</td>
<td>Range in lbs</td>
</tr>
<tr>
<td>Underweight (&lt; 18.5 kg/m²)</td>
<td>12.5-18</td>
<td>28-40</td>
</tr>
<tr>
<td>Normal weight (18.5-24.9 kg/m²)</td>
<td>11.5-16</td>
<td>25-35</td>
</tr>
<tr>
<td>Overweight (25.0-29.9 kg/m²)</td>
<td>7-11.5</td>
<td>15-25</td>
</tr>
<tr>
<td>Obese (≥ 30.0 kg/m²)</td>
<td>5-9</td>
<td>11-20</td>
</tr>
</tbody>
</table>

* Calculations assume a 0.5-2 kg (1.1-4.4 lbs) weight gain in the first trimester (based on Siega-Riz et al., 1994; Abrams et al., 1995; Carmichael et al., 1997).
Adherence to IOM Guidelines, %

- Underweight, <18.5: 21%
- Normal, 18.5-24.9: 17%
- Overweight, 25-29.9: 4%
- Obese, ≥30: 17%

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Overweight, obesity and neonatal size at birth

Baby Size by Pre-pregnancy BMI
OaK cohort n=4321

We see a shift in birthweight distribution without increase in SGA

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Likelihood of having a BIG baby

controlling for gestational age, smoking, parity, maternal age

Odds of Macrosomia - Double Trouble...

Likelihood of having an LGA baby

- overweight + exceed IOM
- obese + exceed IOM

*controlled for gestational age, smoking, parity, maternal age

Reference to Normal weight pre-pregnancy and meeting 2009 IOM Guidelines

GWG in women with BMI > 30 and Neonatal Birthweight

As GWG increases so too does the proportion of neonates born LGA or macrosomic.

Vesco, Obstet Gynecol; 2011
What is the Problem?
Subsequent risk of child obesity

Excess GWG
1.38 (95% CI 1.21–1.57)

Birth Weight

Nehring et al, *Pediatric Obesity* 2012

Yu, *Obesity Reviews*; 2011

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Genes vs. Environment

Epigenetics

Image sources: www.science.unsw.edu.au; www.gillespiehouseinn.com; www.promega.com

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Within-Family Comparison: Child obesity at 12 y/o

- Eliminated confounding through exclusion criteria:
  - Including preterm (<37 wks) or post term (>42 wks) GA multiple gestational
  - T2D or GDM
  - Extremes in birth weight represent data entry error (<500 g/ >7000 g)

- Incorporated measured confounders in models

- Controlled for residual confounding by measured and unmeasured (e.g., shared genetic and environmental) covariates

- Comparison offspring born to the same mother

- Birthweight mediated less than half of the association between GWG and child BMI

- Childhood body weight predicts adult body weight

Study suggests that overnutrition in pregnancy may program the fetus for an increased lifetime risk for obesity

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Ludwig et al 2013
Intergenerational Cycles

Is the medical community embracing the message?

How Early Should Obesity Prevention Start?
Matthew W. Gillman, M.D., and David S. Ludwig, M.D., Ph.D.

Obesity has pervaded the United States and is spreading throughout the world. Following in its wake is type 2 diabetes, which will affect at least half a billion people worldwide by 2030. A majority of U.S. women of childbearing age are overweight or obese (as defined by a body-mass index [BMI]...
Predicted obesity risk, age 7

Based on 16 combinations of 4 pre/postnatal modifiable risk factors

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Timing of GWG: A cause for concern?

- What if a women gains all her ‘allotted’ pregnancy weight before her 1st prenatal visit?
Early ‘exceeders’ may put neonates at risk

Timing of Excessive Pregnancy-Related Weight Gain and Offspring Adiposity at Birth

Margie H. Davenport, PhD, Stephanie-May Ruchat, PhD, Isabelle Giroux, RD, PhD, Maggie M. Sopper, PhD, and Michelle F. Mottola, PhD, FACSM

OBJECTIVE: To evaluate whether the timing of excessive maternal weight gain in a cohort of women following current guidelines for healthy living during pregnancy affects neonatal adiposity at birth.

METHODOLOGY: One hundred seventy-two healthy women pregnancy (“overall excessive”). Primary measures included neonatal weight, length, BMI, and body fat at birth measured 6–18 hours after delivery. Neonatal body fat greater than 14% was considered excessive.

RESULTS: Neonates of women who gained excessively in

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Neonatal body fat & excess GWG

- “Early excessive” and overall excessive categories are in excess of normative neonatal body fat*

- Controlling for maternal pre-pregnancy BMI, maternal age, gestational age at delivery and fetal sex

*Normative neonatal body fat for this method of assessing neonatal adiposity is 12–14%

Davenport et al 2013 Obstetrics & Gynecology

A. Neonatal body fat grouped by weight-gain category
Too much too soon?

- Timing of GWG better predicted neonatal body fat than total GWG

- Neonates of women with excess GWG in the 1st half of pregnancy had an increased risk of elevated body fat at birth (OR 2.64, 95% CI 1.35–5.17)

- Compared to neonates of women with total excess GWG (OR 1.49, 95% CI 0.80–2.79)

B. The influence of total appropriate compared with total excessive weight gain on neonatal body fat on “late excessive” and “early excessive” categories

Davenport et al 2013 Obstetrics & Gynecology

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There’s hope...
Recovery from Excess GWG Protects Child Obesity

Late Pregnancy Reversal from Excessive Gestational Weight Gain Lowers Risk of Childhood Overweight—A Cohort Study

Rüdiger von Kries¹, Andrea Chiniiorz¹, Kathleen M. Rasmussen², Otmar Buyer¹ and Regina Enserauer³

Objective: Whether reversal to adequate gestational weight gain (GWG) in the third trimester reverses the risk for childhood overweight associated with excessive GWG is assessed.

Design and Methods: In a retrospective cohort study in 6,665 mother–child pairs, pre-pregnancy weight and the temporal course of GWG were collected from medical records. Overweight as defined by International Obesity Task Force was assessed at a mean age of 5.8 years. Main exposures were exceeding week-specific cut-off values for GWG in the third trimester or any previous trimester. Logistic regression models, adjusted for possible confounding factors, were used to predict the risk of childhood overweight from excessive GWG in the third trimester with stratification by excessive GWG in previous trimesters.

Results: In the final model, women who avoided excessive GWG in the third trimester had children with a 31% (odds ratio [OR]: 0.69, 95% confidence interval [CI]: 0.59, 0.82) lower probability being overweight. A similar association was observed for reversing from excessive GWG in the first or second trimester to normal GWG in the third trimester: 27% (OR: 0.73, 95% CI: 0.53, 0.99).

Conclusions: Avoidance of excessive GWG in the third trimester is associated with lower risk of childhood overweight even in case of excessive GWG in the first or second trimester.


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Appropriate GWG ≠ GWG Loss

Pregnancy not the best time to lose weight: study

C.E. Huggins, Reuters
3:33 pm, February 21, 2014

NEW YORK (Reuters Health) - Overweight and obese women who gain too few pounds, or even lose weight, during pregnancy may be putting their unborn child at risk, a new study suggests.

"While many people recommend that weight loss in pregnancy, particularly for very obese women is ok... (there) may be adverse effects," said Dr. Patrick Catalano, director of the Center for Reproductive Health at MetroHealth in Cleveland, Ohio.

"We don't have much data, in particular on body composition changes in overweight (or) obese women who lose weight," said Catalano, who led the new study. "Maybe we need to be a little
GWL or GWG ≤ 5 kg

Follow the IOM / Health Canada GWG Guidelines

Table 2 – Neonatal Characteristics

<table>
<thead>
<tr>
<th></th>
<th>Gestational Weight loss or gain ≤ 5 kg (n = 188)</th>
<th>Gestational Weight gain &gt; 5 kg (n = 1053)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gestational age (weeks)</td>
<td>38.8 ± 1.4</td>
<td>38.9 ± 1.4</td>
<td>0.28</td>
</tr>
<tr>
<td>Gender (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>89 (47.3)</td>
<td>540 (51.3)</td>
<td>0.32</td>
</tr>
</tbody>
</table>

- □ ↓ Birthweight
- □ ↓ Birth length
- □ ↓ Body fat %
- □ ↓ LGA
- □ ↑ SGA

Data are presented as mean ± SD. Percents are in (%).

Catalano et al., 2014 – Am J Obs Gyn

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Pregnancy complicated by Ow/Obesity and/or Excess GWG

- Obesity and excess GWG directly & independently alter birthweight
  - Risk of obesity-related disease later in life

- Excess GWG increases risk for PPWR
  - Intergenerational effects

- Maternal & fetal cardiometabolic health compromised

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Lawlor et al. 2012 Nature Reviews Endocrinology
Why are so many patients exceeding recommendations?

- Let’s ask the patient what information they are receiving....

- And then let’s ask the provider what messages they deliver
A patient-provider discrepancy?

ORIGINAL ARTICLE

An assessment of patient information channels and knowledge of physical activity and nutrition during pregnancy

Zach Ferraro MSc, Jane Rutherford MSc, Erin J Keely MD, Lise Dubois PhD and Kristi B Adamo PhD

VS.

Counseling about gestational weight gain and healthy lifestyle during pregnancy: Canadian maternity care providers’ self-evaluation

Zachary M Ferraro, Kaitlin S Boehm, Laura M Gaudet, Kristi B Adamo

Ferraro et al 2011 Obstetric Medicine

Ferraro et al 2013 International Journal of Women’s Health
Lifestyle counseling

Fig. 2 Percentage of NAMCS visits including provider-reported diet-exercise counseling by pregnancy status and provider specialty (n = 9,948)

Yamanoto, 2013 Matern Child Health J

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Bias toward Obese Pregnant Women

- 11% admitted to making insensitive comments to obese pregnant women

- 31% admitted to making derogatory comments about obese pregnant women to colleagues ($p=0.02$)
  - Obstetricians (46%)
  - Family Physicians (39%)
  - Midwives (36%)
  - Nurses (14%)
  - Dietitians (0%)

- 66% believe *more derogatory comments are made* about obese pregnant women vs non-obese pregnant women ($p=0.002$)
  - Obstetricians (81%)
  - Family Physicians (69%)
  - Midwives (92%)
  - Nurses (52%)
  - Dietitians (14%)

Grohman, Obstet Med 2012
Slide – Courtesy of Dr. E. Keely
What do women know about BMI & GWG?

- 74% of women underestimated their BMI category
- 64% of obese women and 40% of overweight women overestimated their recommended GWG
- Poor knowledge of risks of obesity:
  - 28% identified BP problems
  - 51% identified GDM
  - 14% identified pp weight retention
  - 71% back pain
  - <5% C-section, preterm delivery, pregnancy complications

Shub, BMC Res Notes 2013

Slide – Courtesy of Dr. E. Keely
Is it a perception issue?
What can you do to help patients, clients, friends and family?

www.practicalsolutionsnj.com, www.newleaflaw.co.uk

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What works?

- Improving Diet quality
  - Appropriate kcal intake

- Engaging in Physical Activity

- Reducing Sedentary Time

- All the above?
Physical activity intervention *alone* helps manage GWG

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Streuling, BJOG 2011
Clinical dietary intervention prevents excessive GWG

<table>
<thead>
<tr>
<th>Study (author, year)</th>
<th>WMD (95% CI)</th>
<th>Weight (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asbee, 2009</td>
<td>-3.00 (-5.61, -0.39)</td>
<td>8.77</td>
</tr>
<tr>
<td>Guerinckx, 2009 (Passive intervention)</td>
<td>0.30 (-2.44, 3.04)</td>
<td>8.60</td>
</tr>
<tr>
<td>Guerinckx, 2009 (Active intervention)</td>
<td>-0.80 (-3.89, 2.29)</td>
<td>8.12</td>
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<tr>
<td>Huang, 2009</td>
<td>-2.20 (-3.20, -1.20)</td>
<td>10.57</td>
</tr>
<tr>
<td>Hui, 2006</td>
<td>0.00 (-3.43, 3.43)</td>
<td>7.66</td>
</tr>
<tr>
<td>Ilmonen, 2010</td>
<td>-0.10 (-1.79, 1.59)</td>
<td>9.92</td>
</tr>
<tr>
<td>Kinnunen, 2007</td>
<td>0.30 (-1.57, 2.17)</td>
<td>9.72</td>
</tr>
<tr>
<td>Phelan, 2011 (all participants)</td>
<td>-0.76 (-1.82, 0.30)</td>
<td>10.52</td>
</tr>
<tr>
<td>Polley, 2002 (all participants)</td>
<td>0.70 (-1.78, 3.19)</td>
<td>8.94</td>
</tr>
<tr>
<td>Thorton, 2009</td>
<td>-9.10 (-10.93, -7.27)</td>
<td>9.76</td>
</tr>
<tr>
<td>Wolff, 2009</td>
<td>-6.70 (-10.31, -3.09)</td>
<td>7.41</td>
</tr>
<tr>
<td><strong>Overall</strong> (I-squared = 88.9%, p = 0.000)</td>
<td>-1.92 (-3.65, -0.19)</td>
<td>100.00</td>
</tr>
</tbody>
</table>
Healthy eating & physical activity reduce GWG

<table>
<thead>
<tr>
<th>Study or Subgroup</th>
<th>Intervention Mean</th>
<th>SD</th>
<th>Total</th>
<th>Control Mean</th>
<th>SD</th>
<th>Total</th>
<th>Std. Mean Difference IV, Random, 95% CI</th>
<th>Std. Mean Difference IV, Random, 95% CI</th>
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</thead>
<tbody>
<tr>
<td>Randomized-controlled trials</td>
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<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asbee, 2009 [30]</td>
<td>13.02</td>
<td>5.67</td>
<td>57</td>
<td>16.15</td>
<td>7.03</td>
<td>43</td>
<td>-0.49 [-0.90, -0.09]</td>
<td></td>
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<tr>
<td>Guerinckx, 2010 [38]</td>
<td>9.8</td>
<td>7.6</td>
<td>42</td>
<td>10.6</td>
<td>6.9</td>
<td>43</td>
<td>-0.11 [-0.53, 0.32]</td>
<td></td>
</tr>
<tr>
<td>Hui, 2006 [35]</td>
<td>14.2</td>
<td>5.3</td>
<td>24</td>
<td>14.2</td>
<td>6.3</td>
<td>21</td>
<td>0.00 [-0.59, 0.59]</td>
<td></td>
</tr>
<tr>
<td>Polley, 2002 [32]</td>
<td>14.6</td>
<td>7.15</td>
<td>57</td>
<td>13.8</td>
<td>5.4</td>
<td>53</td>
<td>0.11 [-0.27, 0.48]</td>
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<tr>
<td>Total (95% CI)</td>
<td>180</td>
<td></td>
<td>160</td>
<td>100.0%</td>
<td></td>
<td></td>
<td>-0.13 [-0.41, 0.15]</td>
<td></td>
</tr>
</tbody>
</table>

Heterogeneity: Tau² = 0.03, Chi² = 4.91, df = 3 (P = 0.18); I² = 39%
Test for overall effect: Z = 0.93 (P = 0.35)

Non-randomized trials

<table>
<thead>
<tr>
<th>Study or Subgroup</th>
<th>Intervention Mean</th>
<th>SD</th>
<th>Total</th>
<th>Control Mean</th>
<th>SD</th>
<th>Total</th>
<th>Std. Mean Difference IV, Random, 95% CI</th>
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<tbody>
<tr>
<td>Claesson, 2008 [37]</td>
<td>8.7</td>
<td>5.5</td>
<td>143</td>
<td>11.3</td>
<td>5.8</td>
<td>161</td>
<td>-0.46 [-0.69, -0.23]</td>
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<tr>
<td>Gray-Donald 2000 [34]</td>
<td>12.9</td>
<td>6.4</td>
<td>104</td>
<td>13.2</td>
<td>8.3</td>
<td>96</td>
<td>-0.16 [-0.44, 0.12]</td>
</tr>
<tr>
<td>Kinnunen, 2007 [36]</td>
<td>14.6</td>
<td>5.4</td>
<td>49</td>
<td>14.3</td>
<td>4.1</td>
<td>55</td>
<td>0.06 [0.32, 0.45]</td>
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<tr>
<td>Olson, 2004 [31]</td>
<td>14.1</td>
<td>4.51</td>
<td>179</td>
<td>14.8</td>
<td>4.68</td>
<td>381</td>
<td>-0.15 [-0.33, 0.03]</td>
</tr>
<tr>
<td>Shirazian, 2009 [33]</td>
<td>8.06</td>
<td>7.39</td>
<td>21</td>
<td>15.4</td>
<td>7.52</td>
<td>20</td>
<td>-0.97 [-1.62, -0.32]</td>
</tr>
<tr>
<td>Total (95% CI)</td>
<td>495</td>
<td></td>
<td>714</td>
<td>100.0%</td>
<td></td>
<td></td>
<td>-0.27 [-0.49, -0.04]</td>
</tr>
</tbody>
</table>

Heterogeneity: Tau² = 0.04; Chi² = 11.97, df = 4 (P = 0.02); I² = 67%
Test for overall effect: Z = 2.30 (P = 0.02)

OVERALL

<table>
<thead>
<tr>
<th>Study or Subgroup</th>
<th>Intervention Mean</th>
<th>SD</th>
<th>Total</th>
<th>Control Mean</th>
<th>SD</th>
<th>Total</th>
<th>Std. Mean Difference IV, Random, 95% CI</th>
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<tr>
<td>Total (95% CI)</td>
<td>675</td>
<td></td>
<td>874</td>
<td>100.0%</td>
<td></td>
<td></td>
<td>-0.22 [-0.38, -0.05]</td>
</tr>
</tbody>
</table>

Heterogeneity: Tau² = 0.03; Chi² = 17.64, df = 8 (P = 0.02); I² = 55%
Test for overall effect: Z = 2.50 (P = 0.01)

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Streuling, AJCN 2010
Disseminate resources

- Educate yourself/others
- Comprehensive Literature Review
- Physical Activity & Nutrition Recommendations
- Implementing Prenatal Behaviour Change

Resource links


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Community action

Gaining a healthy amount of weight in pregnancy is good for you and your baby.

Talk to your health care provider about how much weight gain is right for you. Did you know there’s a PREGNANCY ACTION Kit by calling Health Connections at 1-877-721-7530.

Aim to be active and eat healthy every day.

Get information on...

Pregnancy
Prenatal Care
Breastfeeding

Quick Bean Casserole

- 2 cans (14 oz/398 mL) kidney beans or chickpeas
- 1 can (7.5 oz/213 mL) corn niblets
- 1 tablespoon (15 mL) oil, butter or margarine
- 1 onion, sliced
- 2 tomatoes, diced
- 1/2 cup (125 mL) sliced mushrooms
- 1 tablespoon (15 mL) tomato paste or ketchup
- 3 slices of whole wheat bread
- 4 oz (115 g) cheese (Mozzarella or Cheddar)

1. Drain beans and corn, Set aside.
2. In a large frying pan, heat oil and sauté onions, tomatoes and mushrooms.
3. Add beans, corn and tomato paste to pan, Cook over low heat for 5 minutes, stirring occasionally.

Recipe for an Active Pregnancy

Aim to eat three meals and two snacks each day.

Did you know that having one vegetable or fruit at each meal and snack makes it easier to get the recommended 7-9 servings of vegetables and fruit you need every day?

Canada’s Food Guide servings are 1/2 cup fresh, frozen or canned veggies, 1/2 cup raw or 1/2 cup cooked leafy veggies, 1 piece or 1/2 cup cut up fruit or 1/2 cup 100% fruit juice.

For more healthy recipes, go to: www.smmhealth.ca/recipes.aspx

Compliments of Becky Blair, Simcoe Muskoka Health Unit
LIFECOURSE STRATEGIES TO PREVENT AND MANAGE CHILDHOOD OBESITY

Appendix III – Resources

A wealth of information and resources was gathered through the survey. Special thanks to those who allowed us to share their personally developed resources with you.

Best Start Resource Centre: http://www.beststart.org/
Alberta Health Services: http://www.albertahealthservices.ca/
Breastfeeding Matters: http://www.breastfeedingmatters.ca/
Canadian Society for Exercise Physiology: http://www.cssep.ca/english/view.asp?utm1
Center for Disease Control: http://www.cdc.gov/
Canadian Pediatris Society: http://www.cps.ca/
Society of OB/GYNs and Perinatologists of Canada: http://sogpc.org/
Eat Tracker: http://www.eattracker.ca/
Ottawa Public Health:
Registered Nurse Association Ontario:
Children’s Hospital of Eastern Ontario:
Healthy Active Living and Obesity Research Group:
Physical Activity Resource Centre: http://parc.ophea.net/
Preventing Child Obesity in Canada’s Aboriginal Communities: www.ontariohealth.ca
City of Ottawa: www.ottawa.ca
Electronic Health Library: http://www.ehli.on.ca/healthlibrary
Ontario Society of Nutrition Professionals in Public Health: http://www.osnp-ph.ca/
Midwaish London Health Unit: https://www.healthunit.com/
Simcoe Muskoka Health Region Gestational weight gain tools: http://www.simcomuscokashealth.org/fly/healthprofessionals/primarycare/obesemom/child-
The latest from the IOM

http://www.iom.edu/About-IOM/Making-a-Difference/Kellogg/HealthyPregnancy.aspx

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Exercise is medicine... And it doesn’t take much

- FIGURE 2-3 Kaiser Permanente walking prescription. SOURCE: Conry, 2013
Lifestyle prescription

For a Healthy Weight During Pregnancy

Pre-pregnancy Weight: __________ & BMI: __________
Target Weight: __________ (at end of pregnancy)

<table>
<thead>
<tr>
<th>Pre-pregnancy BMI</th>
<th>Recommended Total Gain (lbs)</th>
<th>Rate of Gain in 2nd &amp; 3rd Trimesters (lbs/week)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Underweight</td>
<td>&lt; 18.5</td>
<td>28–40</td>
</tr>
<tr>
<td>Normal</td>
<td>18.5–24.9</td>
<td>25–35</td>
</tr>
<tr>
<td>Overweight</td>
<td>25–29.5</td>
<td>15–25</td>
</tr>
<tr>
<td>Obese</td>
<td>≥ 30</td>
<td>11–20</td>
</tr>
</tbody>
</table>

Tips for prenatal nutrition:
- Eat well balanced meals with a variety of foods
- Aim for 5–7 servings of fruits and vegetables each day
- Be sure to take your prenatal vitamins!
- Don’t diet; weight gain is important to your baby’s normal growth and development
- Replace any juice you are drinking with water or milk
- Don’t eat large fish such as shark, swordfish, king mackerel, and tilefish
- Do eat other kinds of cooked fish, up to 12 ounces per week (wild is better than farmed) or take fish oil
- If you eat tuna, eat light tuna (not albacore) and only 2 meals a week
- Don’t eat raw or undercooked meat, chicken, or fish

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IOM posters for centre use:

- Pregnancy weight gain guidelines poster
- Available at http://www.iom.edu/healthypregnancy

FIGURE 3-7 Screen from the interactive infographic.
NOTE: Available at http://www.iom.edu/healthypregnancy.

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CONGRATULATIONS!

Pregnancy is an exciting time for you and your family, and it also is a good time to focus on your health. Gaining too little or too much weight during pregnancy may affect your health and the health of your baby. To help, check out this easy-to-use pregnancy weight tracker customized just for you.

Bring this tracker with you to discuss with your health care provider what your weight gain goals for your pregnancy should be.

WHY YOUR WEIGHT IS IMPORTANT

Many women enter pregnancy overweight or obese. While any woman can be overweight, the condition is more common among Hispanic women.

START YOUR PREGNANCY AT A HEALTHY WEIGHT

Reaching a healthy weight before you get pregnant is the first step to ensuring your health and the health of your child. If you know you are overweight and you plan to become pregnant, work with your health care provider to develop a weight-loss plan before becoming pregnant.

GAIN WITHIN THE GUIDELINES

The weight categories are based on your pre-pregnancy body mass index (BMI), which is a measure of body fat based on your height and weight. Talk to your health care provider to determine which weight category you fit into and how much weight you should gain during your pregnancy.

HOW TO USE THIS TRACKER

Every pregnancy is different. What worked for your mom or aunt may not work for you. This tracker will help you work with your health care provider to customize a weight gain plan that is right for you. Follow the steps below to ensure you are on the right track.

1. Write down your weight before pregnancy.
2. Ask your health care provider for three things: your height, weight, and BMI. Write this information down in the box provided.
3. Start recording your weight as early as you can. Every week, place a dot at your current weight gain. Connect the dots every week to track and compare your weight with the goals set by you and your health care provider.
4. Discuss your progress when you go in for a check-up and don’t forget to ask for your weight every time!
Myths...

- Physical activity will harm me and/or my baby

An active pregnancy for fetal well-being? The value of active living for most women and their babies

Zachary M Ferraro,1,2 Andree Gruslin,3,4 Kristi B Adamo1,2,5

Prenatal life is recognized as a critical period where vital physiological processes may be permanently transformed leading to adverse outcomes. However, despite these concerns, following exercise cessation fetal HR reached baseline values, uterine who exercised (≥ 3×/weeks) controls or cardiomagnesium levels of the variable during mild exercise given word fetal HR result of cl was t decreased l adverse str system de were presen


© Zach Ferraro PhD 2014
Our national voice on weight management
Fresh of the press

- Available at: http://www.obesitynetwork.ca/5As
- Become a member of CON for FREE at www.obesitynetwork.ca

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Key Principles

Discussion About Gestational Weight Gain Should Occur With Every Woman Who is Pregnant or Planning A Pregnancy
A woman planning or experiencing a pregnancy is usually very motivated to be as healthy as possible. Discussion of gestational weight gain from a patient-centered perspective allows providers to have sensitive conversations that are meaningful to the individual woman, regardless of her prepregnancy body mass index (BMI - underweight, normal weight, overweight, or obese). Supporting all women to keep gestational weight gain within recommended parameters is important because unhealthy weight gain (excessively lower or higher than recommended) is linked to a range of negative health outcomes for mothers, babies, and children.

Achieving Healthy Gestational Weight Gain is About Improving Health and Well-Being of Both Mothers and Babies.
Success should be measured by the degree to which a woman adopts behaviours that improve or maintain health, in addition to the amount of weight she gains. Even modest approximations to the recommended gestational weight gain can improve personal health and reduce postpartum weight retention.

Early Action Means Addressing Root Causes and Removing Roadblocks
Successful weight management of gestational weight gain begins with identifying how much weight a woman should gain based on her prepregnancy BMI category and having early and repeated discussions to identify and address the myths, barriers, and facilitators of managing gestational weight gain. Refer to Health Canada guidelines.

Pregnancy-Related Health Beliefs Can Be Powerful Influences On Weight Gain in Pregnancy
Understanding a woman's cultural context is critical. Making assumptions about health behaviours can lead to ineffective interventions.

Achieving Goals Is Different for Every Woman
Women vary considerably in their readiness and capacity for managing gestational weight gain. "Achieving Goals" can be defined as better quality of life, greater self-esteem, higher energy levels, improved overall health and/or achieving weight gain within the recommended range. Guideline-concordant weight gain in pregnancy is not a realistic goal for some women, and setting unachievable targets might simply set women up for failure. Instead, help women set weight targets that they can achieve to try to improve health for themselves and their babies.
Note to viewers

- I intentionally removed the content of the 5 As for Healthy Pregnancy Weight Gain that was originally presented.
- They are available at: www.obesitynetwork.ca/5As
We know what works.... Let’s make it work

Lessons Learned from Weight Control in Non-Pregnant Populations?
Phelan, Jankovitz, Hagobian, Abrams (2011, Women’s Health)

NOT EFFECTIVE
• Body image
• Body acceptance
• Education alone

EFFECTIVE IF USED IN COMBINATION
• Fat intake or specific foods
• TV viewing
• Physical activity
• Social support

EFFECTIVE
• Calorie goals
• Meal replacements
• Weight monitoring
• High PA
• Behavioral strategies
• Continued contact

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Things to consider...

1. Do you **adequately counsel** women on GWG targets?
   - Behaviour change vs. #s on the scale

2. Do you **measure /track** GWG?
   - rate of gain

3. How can you **adapt** your practice/centre?
Final thoughts...

- Guideline adherence reduces risk of fetal overgrowth
- Prenatal intervention may help minimize intergenerational obesity cycle
- Harmonization of public health messaging needed to improve guideline dissemination and patient uptake
- Focus on healthful behaviours including pregnancy specific causes of discordant GWG using 5As framework
- SDOH (ethnicity and SES) deserve further investigation with respect to their contribution of GWG and fetal growth outcomes
Thank you

The scale can only give you a numerical reflection of your relationship with gravity. That’s it. It cannot measure beauty, talent, purpose, life force, possibility, strength, or love.

- For frequent discussion on this topic & many others follow me on twitter: @DrFerraro

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Best Start Resource Centre: What fits with the Healthy Kids Strategy?

Hiltrud Dawson
Who we are…

The Best Start Resource Centre:  
www.beststart.org

• Provides services to support service providers working in maternal health and early child development
  – Information
  – Consultations
  – Resources
  – Training
  – Networking opportunities

• A program of Health Nexus  
www.healthnexus.ca

• Funded by the Ministry of Children and Youth Services
Some Services of the Best Start Resource Centre

- **Training**
  - Regional Workshops
  - Webinars

- **Resources**
  - Child Development
  - Breastfeeding
  - Perinatal Mood Disorders
  - Reproductive Health
  - Preconception Health
Other Projects

1. Module on obesity in children
2. Prenatal key messages
3. Baby-Friendly Initiative Strategy for Ontario
4. Breastfeeding community project: Small grants for community projects to reach and support populations with lower rates of breastfeeding
1. Online Learning Module about Healthy Weights in Children

- Partners: Best Start Resource Centre (BSRC) and OPHEA’s Physical Activity Resource Centre (PARC)
- Purpose: Increase knowledge and skills of service providers in promoting healthy weights in children aged 0 – 12 in Ontario
- Funded through: Healthy Communities Fund
- Audience: ECEs, teachers, recreation staff, public health staff …
Other Resources

The Physical Activity Resource Centre (PARC)
Active Pregnancy

Encourages physical activity during pregnancy
Provides guidelines to ensure pregnant women are exercising safely
Order or download from: www.ophea.net/active-pregnancy
2. Strengthening Prenatal Education / Information in Ontario

• Purpose: Provide consistent prenatal information to women in Ontario, including information that supports healthy weights before and during pregnancy, as well as for children

• Funded through: MOHLTC

• Audience: service providers working with pregnant women, especially those providing prenatal information / education
2. Strengthening Prenatal Education / Information cont’d

- Prenatal is a critical time for mother and baby’s health
- Prenatal health includes a wide range of topics
- The prenatal time has been associated with an increased motivation to improve health
- Prenatal factors associated with childhood obesity:
  - Maternal smoking
  - Maternal gestational diabetes
  - Maternal weight before or during pregnancy
2. Prenatal Education / Information: Main Focus

- Developing consistent prenatal education key messages
- Developing tools, resources and training to support the uptake of the key messages.
- Project completion set for March 2016
Breastfeeding

- The WHO, UNICEF, Health Canada and other key organizations recommend exclusive breastfeeding until 6 months then combined with complementary foods up to two years and beyond.
- Breastmilk is the physiological norm and ideal nutrition for babies.
- Breastfeeding may have several mechanisms to prevent later obesity.

• Partners: Toronto East General Hospital (TEGH), Provincial Council for Maternal Child Health (PCMCH), BSRC

• Purpose: Support the implementation of BFI in hospitals, CHCs, NP-led clinics, AHACs and FHTs

• Funded through: MOHLTC

• [Website Link]
3. BFI Strategy for Ontario: Growing a Baby-Friendly Ontario cont’d

• How
  – Engagement strategy
  – Evaluation strategy
  – Tools
  – Resources
  – Training
4. Breastfeeding Community Project

• Purpose: Reach and support populations with lower rates of breastfeeding

• Process: Two rounds of small grants to enhance or develop community level supports to address the needs of specific target populations.

• Funded through: MOHLTC

• [www.beststart.org/projects/breastfeeding_community_project](http://www.beststart.org/projects/breastfeeding_community_project)
4. Breastfeeding Community Project cont’d

• How:
  ✓ Small grants for community projects
  ✓ Validation research re populations and effective strategies
  ✓ Supporting resources, tools and training

• Populations with Lower Rates of Breastfeeding: A Summary of Findings – coming soon

• [www.ontariobreastfeeds.ca](http://www.ontariobreastfeeds.ca)
WELCOME!

Today, most mothers in Ontario decide to breastfeed their babies. Although breastfeeding is the natural way to feed babies, breastfeeding is a learning process for both mother and baby. All mothers benefit from the support of other mothers. Sometimes they need a little help and support from professionals and experts as well. If you are looking for support for a breastfeeding mother in Ontario you have come to the right place.

SEARCH NOW
FOR BREASTFEEDING SERVICES NEAR YOU
Resources

• Populations with Lower Rates of Breastfeeding: A Summary of Findings – coming soon

• [www.beststart.org/projects/breastfeeding_community_project](http://www.beststart.org/projects/breastfeeding_community_project)

• [www.ontariobreastfeeds.ca](http://www.ontariobreastfeeds.ca)

• Telehealth Ontario – new 24 hour support for breastfeeding
Hiltrud Dawson
Best Start Resource Centre
h.dawson@healthnexus.ca

www.beststart.org

Thank you!