



Weight gain prevention

5As Team Learning modules

Weight gain prevention is a key aspect of weight management. Losing weight is a difficult task that can be averted, in part, through focusing on weight gain prevention as a first step. Weight can often have a steady upward trend over time. If a person can maintain a steady weight and counter this trend, a success has been made no matter the person's weight. Prevention is particularly key at certain life stages where gains are typical. Similarly, certain lifestyles or lifestyle changes, such as shift work or moving, often lead to weight gain. Discussing these risks with patients in advance and agreeing on a prevention plan can be a useful approach to weight management and help patients realize their own progress, even in just keeping a steady weight.

This session's speaker is Dr. Denise Campbell-Scherer, a family physician, researcher and Associate Professor in the Department of Family Medicine at the University of Alberta. She is co-Lead with Dr. Arya Sharma for the "Implementation and validation of the 5As framework of obesity in primary care: the 5As Team (5AsT) project." Her research focuses on innovations to transform clinical practice that result in change of benefit to patients, providers and the healthcare system. She has also been active in the BETTER and BETTER 2 projects that are seeking to transform primary prevention and screening of multiple conditions in diverse regions of Canada.

This module contains:

- A link to the video on weight gain prevention
 - <http://www.youtube.com/watch?v=ESStC9vSoxbM>
- A PowerPoint presentation (page 2-25) that covers the following topics:
 - A review of the science backing a prevention approach
 - Prevention during and after pregnancy
 - Prevention during menopause
 - Preventing weight gain with smoking cessation
 - Medication considerations
 - General
 - Contraceptives
 - Diabetes
 - Antidepressants, mood stabilizers
 - Antipsychotics
 - Antiepileptic agents
 - Interventions with persons suffering from chronic asthma
- A discussion guide for further reflection (page 26)
- A resource list for additional information (page 27-28)



Helping patients improve weight management through *Prevention*

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PI 5AsT Project Team

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In collaboration with:

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Objectives

- Does prevention work?
- Considerations of the Lifecycle
- Stress & Sleep management
- Special issues regarding chronic disease and medications



Does prevention work?

- Very small number of published studies
- Heterogeneous
- 4/9 found positive intervention effects
- 2 of the larger longer term interventions included (1) low fat diet + increased veg & fruit, and (2) low calorie diet + physical activity and included group sessions to promote behavioural change (eg cooking classes, exercise classes, group walks)



Prevention: During & After Pregnancy

- Most of the existing studies in prevention of weight gain in pregnancy area are of poor quality and the effect of the interventions are small.
- In the post-pregnancy period, the combination of diet and exercise and diet alone resulted in significantly more weight loss than in the usual care group. Exercise alone was not effective.
- There was no observed adverse effect on breastfeeding.



Gestational Weight Gain (Singletons)

Pre-Pregnancy BMI	Weight Gain (kg)	Weight Gain (lb)
Less than 18.5	12.5 - 18.0	28 - 40
18.5 - 24.9	11.5 - 16.0	25 - 35
25.0 - 29.9	7.0 - 11.5	15 - 25
30 or greater*	5.0 - 9.0	11-20



Gestational Weight Gain (Multiples)

Pre-Pregnancy BMI	Weight Gain (kg)
18.5 - 24.9	17 - 25
25 - 29.9	14 - 23
30 or greater	11 - 19



“Rudd Roots”

- Yale Rudd Centre for Food Policy & Obesity features “ruddrootsparents.org”
- Resources for parental advocacy for changing schools and communities
- Messaging regarding elimination of sugary beverages



Healthy Parents Healthy Children

- Healthy pregnancy, resources on eating, activity and weight gain
- Nutrition resources for babies and young children
- www.healthyparentshealthychildren.ca
- Reduce screen time, increase active play
- Intervene for changing trends on growth charts



Menopause

- Hormonal change across perimenopause increase abdominal obesity
- Increase total body fat
- Affected by estrogen
- No specific interventions aside from diet/exercise



Preventing weight gain with smoking cessation

- cessation treatments bupropion, fluoxetine, nicotine replacement therapy and varenicline all limit weight gain during treatment.
- effects on weight gain reduction were smaller after treatment stopped, and it is unclear if they persist long term.
- exercise may reduce post-cessation weight gain.
- effects of all interventions are modest.
- weight management education with personalized support giving feedback on personal goals and a personal energy prescription limited weight gain; weight management education alone did not



Medications: General Considerations

- Avoid drugs that cause weight gain $>7\%$ of baseline in at risk people
- With initiation monitor for weight changes
- Consider weight gain as an adverse effect
- Discuss with the patient to balance their preferences



Medications: General Considerations

- Use the lowest possible dose
- If weight gain occurs and not at therapeutic goal, add an agent with neutral or weight loss properties
- Develop a plan with the patient of what to do if weight gain occurs, what to expect, when & how to intervene



Medications: Contraceptives

- Combination contraceptives evidence insufficient to determine effect on weight, but no large effect evident
- Little evidence of weight gain using progestin-only contraceptives. Mean weight gain <2 kg for most studies up to 12 months, with similar results in other birth control methods
- Depot injections associated with weight gain over three years compared to control non-hormonal IUD. They had increased body fat mass, and reduced lean body mass.



Medications: Diabetes

- Weight Neutral
Metformin
- Weight Loss (-3-6 lb loss)
Liraglutide (victoza)
Exenatide (byetta)
- Weight Gain (2-3 lb gain)
Sulfonylureas
- Significant Weight Gain
Insulin (4-6 lb)
Pioglitazone (2-6 lb gain)



Medications: Antidepressants, Mood Stabilizers

- SSRIs
Alternatives: bupropion, nefazodone
- TCAs (especially amitriptyline, imipramine, nortriptyline
Alternatives: desipramine, protriptyline
- Lithium – weight gain in 65% of patients, 10 kg over 6-10 y
common



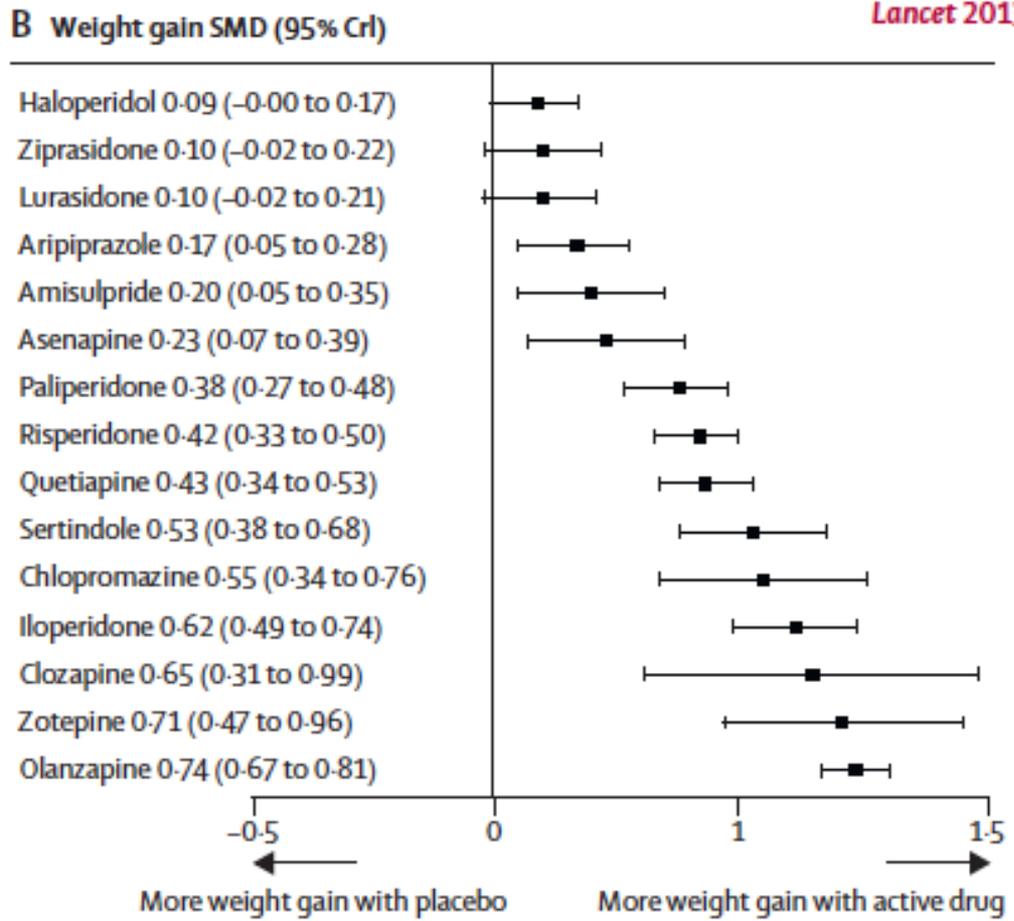
Medications: Antipsychotics

- All are associated with weight gain
- Problematic: clozapine (clozaril), olanzapine (zyprexa)
- Less problematic: haloperidol (haldol), aripiprazole (abilify), quetiapine (seroquel), ziprasidone (zeldox)



Medications: Antipsychotics

Lancet 2013; 382: 951-62



Medications: Antiepileptic agents

- Gabapentin – weight gain dose dependent
- Carbamazepine – associated with increased fluid retention and increased appetite
- Vigabatrin has been reported to have more weight gain than carbamazepine
- Valproate – average weight gain of 3.7 kg
- Alternative: Lamotrigine appears to be weight neutral



Medications: other agents

- α -adrenergic blockers (clonidine, prazosin, terazosin)

Alternatives: doxazosin

- β -adrenergic blockers (especially propranolol)

Alternatives: selective β -blocker, ACE-I, ARB, calcium channel blockers

- Corticosteroids

Alternatives: NSAIDs, acetaminophen



Interventions: Chronic Asthma

- Weight loss is associated with improvement in asthma symptoms, reduction in need for reliever medication, some improvement in lung function.
- Studied interventions are structured physical activity-based intervention, and pre-packaged low energy diets. The overall quality of the studies is low.



Intervention: PCOS

- Lifestyle modification and metformin effective for reducing blood glucose, and for reducing BMI



Is there a role for alternative therapies?

- Green tea – long history of use for weight loss and maintenance-not found to have effect over control



Summary

- Given the challenges of obesity management, prevention holds promise
- Surprising paucity of systematic evidence
- Many medications associated with weight gain
- Certain higher risk aspects of the life cycle might benefit from more diligent monitoring

References

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Discussion guide

This is a guide for questions and topics to consider after viewing Dr. Campbell-Scherer's video and slide show on the topic of Weight Gain Prevention. These questions can be discussed in a group or on your own.

1. **Please take a moment on your own and consider what are the key messages you took from the speaker today** (tips, messages, tools)?
 - Of those tools and tips – how do you see yourself applying this in your practice?
 - Are there any other groups where you think prevention might be necessary?
 - How confident are you in approaching weight gain from a prevention standpoint?
 - Is there anything you found surprising during the talk?
 - Is there anything you would like to learn more about on this topic?
 - With the patients you see, how do you think you could begin addressing weight gain prevention?

2. **Goal Setting**
 - Take a few moments of quiet time to come up with your own goal concerning a change you feel you can implement in your practice regarding weight gain prevention.
 - Can you anticipate difficulties with achieving this goal?
 - Are you confident you can reach their goals?

Resources

Tools

- 5As Team Intervention Tools (available through the Canadian Obesity Network):
[http://www.obesitynetwork.ca/5As Team](http://www.obesitynetwork.ca/5As_Team)):
 - 5As T – 4Ms Booklet
 - 5As T – Physical Activity Guide
 - 5As T – Medication Weight Gain Card
- Perinatal Services BC – An Agency of the Provincial Health Services Authority
 - Gestational Weight Gain Charts
<http://www.perinataleservicesbc.ca/NR/rdonlyres/9FCE0898-1FA9-4F33-BBA5-481D5F01C588/0/GestationalWeightGainCharts.pdf>

Articles

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Resources (cont.)

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