



ARE MY MEDICATIONS CAUSING ME TO GAIN WEIGHT?



DAN BURTON BSCPHARM, PHARMD, CAC, APA, CDE, CBE
FOUNDER OF HEALTHCARE EVOLUTION

***EMPOWERING AS MANY PEOPLE AS POSSIBLE TO LIVE A
HAPPIER AND HEALTHIER LIFE!***

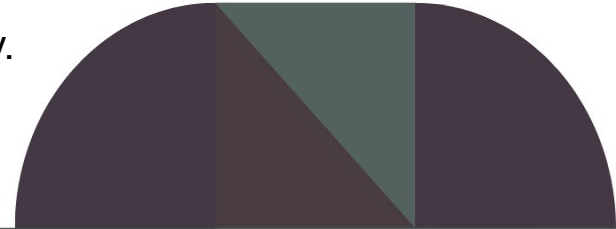


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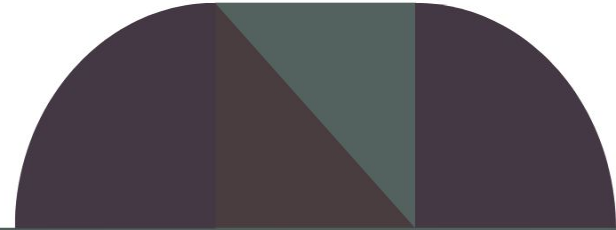
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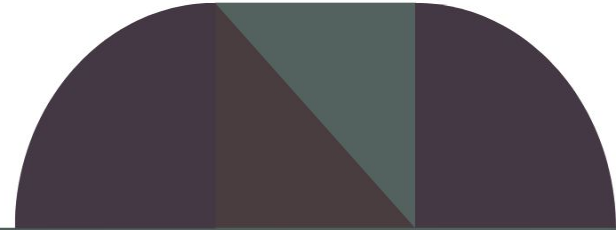
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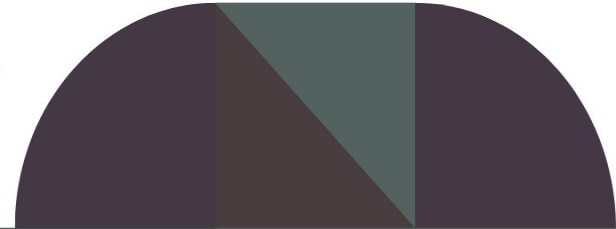
Today's Learning Objectives

- Review the balancing act of risks and benefits with different conditions and treatments
- Discuss the main classes of medication that can lead to weight-gain
- Understand how we can manage our weight despite taking weight promoting medications



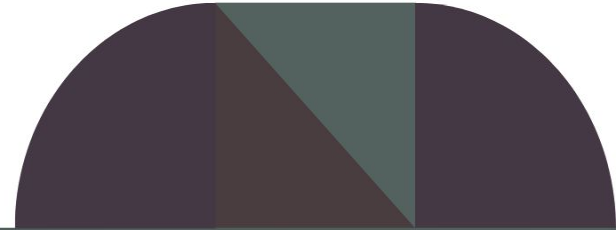
Medications

- Medications are substances that are designed to treat, cure, prevent, and help manage or improve medical conditions
- Nearly 50% of North Americans will have taken a medication to treat a medical condition in the last 30 days
- Unfortunately, medications can lead to adverse effects for some individuals such as weight-gain



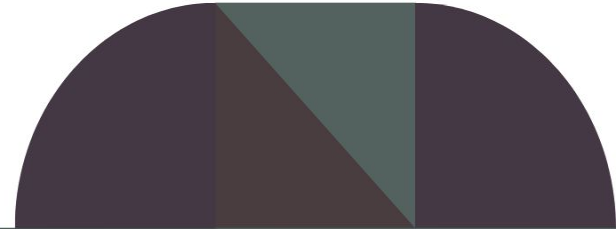
Effects of weight-gain due to medications...

- Condition being treated (ie. Mental Illness) already puts an individual at high risk of gaining weight - medication used can make this worse
- Medication induced weight-gain can lead to psychological distress and decreased quality of life
 - Especially true for women
- Weight-gain and distress may lead to non-adherence or stopping the medication



Perspectives on medication induced weight-gain

- Study in 2019 assessed the experiences and perspective of female veterans with serious mental illness prescribed a psychotropic medication and how they managed medication induced weight gain
 - ‘....considerable distress due to weight gain and feelings of futility regarding losing or controlling weight.’
 - ‘....self-conscious or unattractive, ashamed, guilty, and self-blaming.’
 - ‘....felt the lifestyle changes needed to lose considerable weight are often overwhelming and practically or motivationally out of reach.’



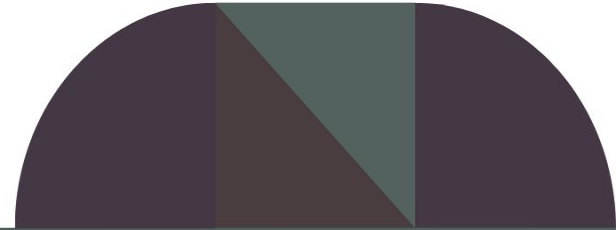
Obesity

Definition:

- An excess amount of adipose tissue that may pose a health risk.

Based on this definition not everyone needs to lose weight.

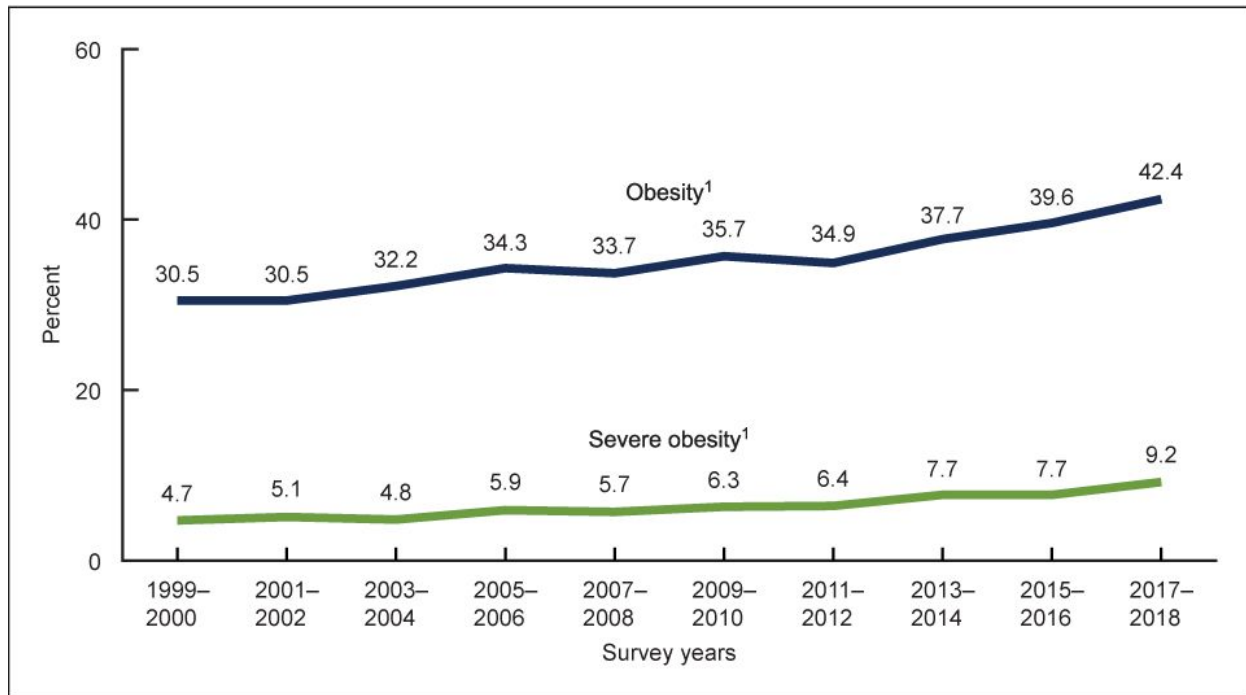
- Generally the more weight an individual has the greater their risk of death or poor health outcomes.



Obesity

- Rates of Obesity and Severe Obesity are rising dramatically
- World Health Organization (WHO) has declared there is a global Obesity epidemic
- With rising rates in Obesity we are seeing increases in metabolic conditions such as diabetes, and high blood pressure

Figure 4. Trends in age-adjusted obesity and severe obesity prevalence among adults aged 20 and over: United States, 1999–2000 through 2017–2018



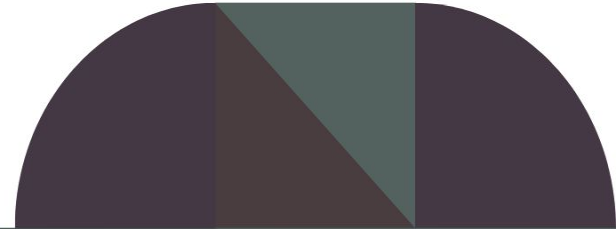
¹Significant linear trend.

NOTES: Estimates were age adjusted by the direct method to the 2000 U.S. Census population using the age groups 20–39, 40–59, and 60 and over. Access data table for Figure 4 at: https://www.cdc.gov/nchs/data/databriefs/db360_tables-508.pdf#4.

SOURCE: NCHS, National Health and Nutrition Examination Survey, 1999–2018.

We have a bit of problem...

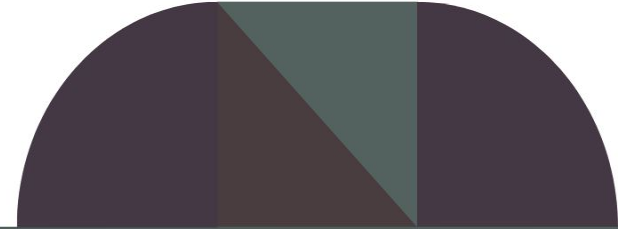
- Rates of Obesity are rising and medications may be contributing
- BUT
 - These medications may be beneficial for treating other medical conditions that are of concern globally such as depression, anxiety, diabetes, etc.
- BUT
 - If weight gain occurs while taking these medications it may lead to people stopping their medication
- So
 - Weight issue or management of other chronic diseases?!
- AND
 - Some medical conditions contribute to weight gain too



Balancing Act

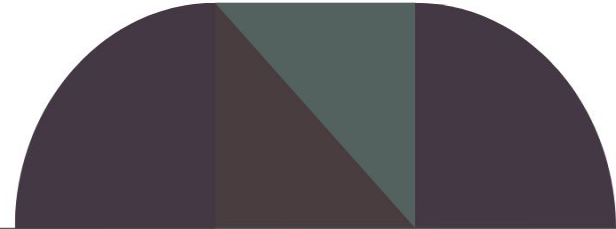
Clinicians:

- Constant balance risk vs. benefit
- Best medication treatment might also have more side effects
- The condition being treated needs to also be taken into account



Conditions that are linked to obesity?

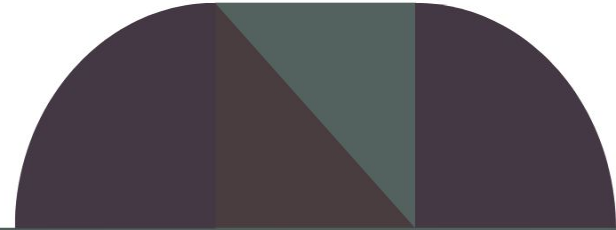
- Mental Illness
 - Depression
 - Anxiety
 - Schizophrenia
 - Bipolar Disorder
 - Insomnia
- Diabetes
- Polycystic Ovarian Syndrome
- Hypothyroidism
- Menopause
- Cushing's Disease
- Sleep Apnea



Example:

Patients with severe mental illness are already at a higher risk of metabolic diseases such as obesity, diabetes, and high blood pressure.

- Many of the medications used to manage mental illness have an increased risk of weight gain



A real sh*t sandwich...

So what do we do then?

Before we dive into that, let's review WHY some of these medications might lead to weight gain.....

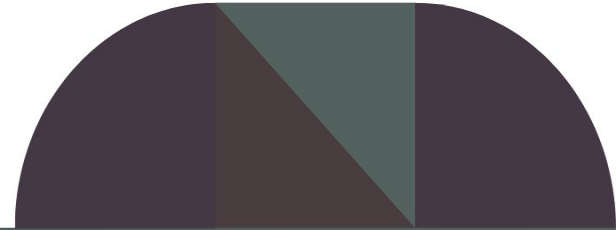
With knowledge comes understanding, with understanding comes self-awareness, and with self-awareness comes the ability to change.



DISCLAIMER

DO NOT STOP or change any of your medications without first consulting with your family physician and other healthcare providers.

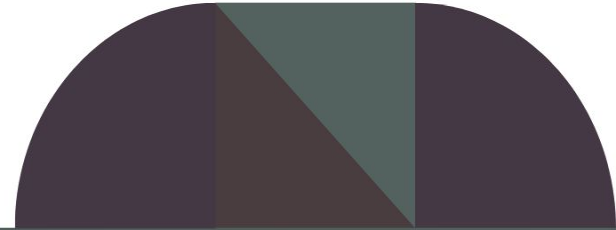
The information provided here is for informational purposes ONLY and is not to be taken as medical advice.



Let's review some of these medications...

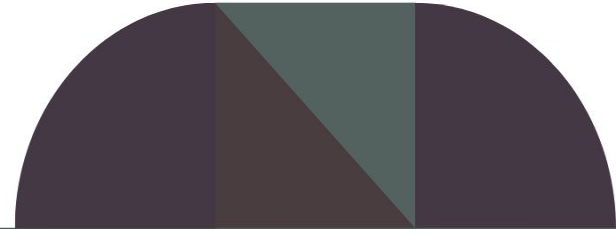
Classes of Medications:

- Antipsychotics and Mood Stabilizers
- Antidepressants
- Diabetes Medications
- High Blood Pressure Medications
- Corticosteroids



Couple quick points...

- We have limited knowledge of HOW these medications lead to weight-gain
- Majority of the medications that cause weight gain are used for managing mental health
- Generally the older the medication the greater the risk of weight gain
 - Reason: Older drugs tend to be less specific and bind to multiple receptors. Think using a sledge hammer to hit a finishing nail.
- Unfortunately, in many cases the most effective drugs for treatment also have the greatest risk of weight-gain



Antipsychotics and Mood Stabilizers/Anti-epileptics

Common Conditions:

- Schizophrenia, Bipolar Disorder, Severe Depression, Epilepsy

Weight-gain Risk:

- ~70% of individuals may experience some weight-gain - (-1.5 - 16.2kg)
- Tend to be the worst offenders

Mechanism of Action:

- Anti-psychotics
 - Decrease satiety, increase appetite, and increase carb cravings
 - Clozapine, olanzapine, haloperidol, chlorpromazine are highest risk

Table 1 Treatment-emergent weight changes associated with antipsychotics and mood stabilizers

Drug name	Weight effect
Aripiprazole ^{15,20,29}	— ^a
Carbamazepine ^{33,34,37,b}	— — ^a
Chlorpromazine ^{18–20}	++
Clozapine ^{11–13}	++ ^a
Haloperidol ^{20,23,24}	++ ^a
Iloperidone ^{20,24,26}	+ ^a
Lamotrigine ^{32,34,36,b}	— — ^a
Lithium ^{30–33}	++
Lurasidone ^{20,26,28}	Neutral
Olanzapine ^{5,13–16}	++ ^a
Paliperidone ^{20,26,27}	+ & — ^a
Quetiapine ^{20–22}	++ & —
Risperidone ^{13,20,24}	+ ^a
Sertindole ^{13,20,25}	+ ^a
Valproic acid ^{34–36,b}	++ ^a
Ziprasidone ^{13,14,20}	— ^a

Notes: +=>1 kg. Neutral=±1 kg. —<-1 kg. Additional + or — refers to >3 kg weight change. ^aArticles cited included ≥1 weight neutral estimate(s). ^bAnticonvulsant and mood stabilizer.

Antipsychotics and Mood Stabilizers/Anti-epileptics

Mechanism of Action:

- Mood Stabilizers
 - Lithium - Increased thirst then compensate with high calorie beverages; May affect thyroid function
 - Valproic Acid - Increased appetite; Stimulates insulin
 - Carbamazepine and lamotrigine are weight neutral; Topiramate can help with weight-loss

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Antidepressants

Common Conditions:

- Depression, Anxiety, Personality Disorders, Eating Disorders (Anorexia, BED)

Weight-gain Risk:

- Lower weight gain potential compared to antipsychotics (-0.9 - 7.3kg)
- Globally a lot more people take antidepressants compared to antipsychotics

Table 2 Treatment-emergent weight changes associated with antidepressants

Drug name	Weight effect
Atypical	
Bupropion (norepinephrine–dopamine reuptake inhibitor) ^{5,42,47,51,66}	– ³
Mirtazapine (noradrenergic and specific serotonergic) ^{5,42,71,72}	+ ³
Monoamine oxidase inhibitors	
Isocarboxazid ^{45,7,58}	– ³
Phenelzine ^{45,49,54,55}	+ + ³
Tranylcypromine ^{45,49,56}	+ + ³
Selective serotonin reuptake inhibitor	
Citalopram ^{42,59–61}	+ + ³
Escitalopram ^{42,60,64}	+ ³
Fluoxetine ^{5,41–43,48,50,61}	– ³
Fluvoxamine ^{61–63}	+ & – – ³
Paroxetine ^{42,61,65}	+ ³
Sertraline ^{42,61,66,67}	– ³
Serotonin–norepinephrine reuptake inhibitor	
Desvenlafaxine ^{68–70}	+ & – ³
Duloxetine ^{42,64,65}	+ ³
Venlafaxine ^{42,52,71,72}	+ & – ³
Tricyclic antidepressant	
Amitriptyline ^{5,39–42}	+ + ³
Desipramine ^{40,41,43}	+ ³
Doxepin ^{46–49}	+ ³
Imipramine ^{38,44,45}	+ ³
Nortriptyline ^{29,40,42}	+ + ³
Trazodone ^{50–52}	– ³

Notes: +>+1 kg. Neutral=±1 kg. –<–1 kg. Additional + or – refers to ≥3 kg weight change. *Articles cited included ≥1 weight neutral estimate(s).

Antidepressants

Mechanism of Action:

- Affect the neurotransmitters in the brain and body - Serotonin, Norepinephrine and Dopamine
 - Serotonin
 - Initially reduces impulsivity therefore decreases food intake; Also reduces appetite via our metabolism and fight or flight system - possible weight-loss
 - Long term use can lead to an increase in carbohydrate cravings - possible weight-gain
 - Norepinephrine (NE)
 - Increasing NE usually has minimal weight-gain and are more weight-neutral or lead to weight-loss

Table 2 Treatment-emergent weight changes associated with antidepressants

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Fluoxetine ^{5,41-43,48,50,61}	— ³
Fluvoxamine ⁴¹⁻⁴³	+ & — ³
Paroxetine ^{42,61,65}	+ ³
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Serotonin-norepinephrine reuptake inhibitor	
Desvenlafaxine ⁶⁸⁻⁷⁰	+ & — ³
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Tricyclic antidepressant	
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Desipramine ^{40,41,43}	+ ³
Doxepin ⁴⁶⁻⁴⁹	+ ³
Imipramine ^{39,44,45}	+ ³
Nortriptyline ^{39,40,42}	+ + ³
Trazodone ⁵⁰⁻⁵²	— ³

Notes: +>1 kg. Neutral=±1 kg. -<-1 kg. Additional + or - refers to ≥3 kg weight change. *Articles cited included ≥1 weight neutral estimate(s).

Antidepressants

Mechanism of Action:

- Affect the neurotransmitters in the brain and body - Serotonin, Norepinephrine and Dopamine
 - Dopamine (DA)
 - Crucial role in reward and eating behaviour
 - Acts on our energy balance system in the hypothalamus - upregulating DA here decreases appetite and food seeking behaviours leading to weight-loss
 - Whereas deduced DA neurotransmission can lead to weight-gain
 - Fun Fact:
 - Individuals with obesity have been shown to have low levels of DA activity hence a medication like Contrave which contains Bupropion can help with weight-loss
 - Bupropion increases the levels of DA and NE in the brain

Table 2 Treatment-emergent weight changes associated with antidepressants

Drug name	Weight effect
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Doxepin ^{46–49}	+ ³
Imipramine ^{39,44,45}	+ ³
Nortriptyline ^{39,40,42}	+ + ³
Trazodone ^{50–52}	– ³

Notes: +<=1 kg, Neutral=±1 kg, –<=1 kg. Additional + or – refers to ≥3 kg weight change. *Articles cited included ≥1 weight neutral estimate(s).

Antidepressants

Mechanism of Action Cont'd:

- Peripheral Effects
 - Decrease blood sugar levels - this may lead to a hunger stimulating effect therefore increased calorie intake
 - I.e. Monoamine Oxidase Inhibitors
 - Alter the development of fat cells - fat cells that have been altered may respond differently to the bodies signals therefore may uptake or not breakdown fat properly
 - May lead to weight gain independent of calorie intake
 - I.e. Phenelzine

Table 2 Treatment-emergent weight changes associated with antidepressants

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Nortriptyline ^{39,40,42}	+ + ³
Trazodone ⁵⁰⁻⁵²	— ³

Notes: +<=1 kg, Neutral=±1 kg, -<=-1 kg. Additional + or - refers to ≥3 kg weight change. *Articles cited included ≥1 weight neutral estimate(s).

Antidepressants

Worst Offenders:

- Tricyclic Antidepressants: Amitriptyline and Nortriptyline
- Monoamine Oxidase Inhibitors: Phenelzine
- Selective Serotonin Reuptake Inhibitor: Citalopram and Paroxetine
- Noradrenergic and Specific Serotonergic: Mirtazapine

Note: Most of these drugs are very effective and if you have severe depression or another mood disorder they can be life changing. Yes, weight-gain is a risk but, not everyone gains weight on these medications.

Table 2 Treatment-emergent weight changes associated with antidepressants

Drug name	Weight effect
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Trazodone ⁵⁰⁻⁵²	— ³

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Diabetes Medications

Common Conditions:

- Type 1 and Type 2 Diabetes

Weight-gain Risk:

- Gain 1.2-6.0kg depending on the medication
- Many medications used to manage diabetes are effective for weight-loss

Mechanism of Action:

- Thiazolidinediones (Rosiglitazone and Pioglitazone)
 - Make the body more sensitive to insulin and can move fat from around our organs and make it closer to our skin - these are good things
 - Weight-gain - Can cause fluid retention and may activate receptors in the brain that increase appetite

Table 3 Treatment-emergent weight changes associated with antihyperglycemics

Drug name	Weight effect
α-glucosidase inhibitors	
Acarbose ^{5,77,87,105}	- ³
Glucagon-like peptide 1 receptor	
Exenatide ^{5,100,108,109}	--
Liraglutide ^{5,91,102}	--
Inhibitors of dipeptidyl peptidase-4	
Alogliptin ⁹⁷⁻¹⁰⁰	Neutral
Linagliptin ^{90,100,106,107}	- ³
Saxagliptin ^{100,103-105}	- ³
Sitagliptin ¹⁰⁰⁻¹⁰³	- ³
Insulin ^{85,86,88,118}	+ + ³
Insulin secretagogues	
Meglitinides	
Nateglinide ^{5,95,96}	Neutral
Repaglinide ^{79,89,109,11}	+ ³
Sulfonylurea drugs	
Chlorpropamide ⁸⁴⁻⁸⁶	+ +
Gliclazide ^{75,80,94}	+ + ³
Glimepiride ^{5,90-93}	+ & - ³
Glyburide ^{78,80,89}	+ + ³
Tolbutamide ^{5,76,87}	+ +
Insulin sensitizers	
Biguanides	
Metformin ^{5,75-78}	-
Thiazolidinedione	
Pioglitazone ^{5,79-81}	+ +
Rosiglitazone ^{78,82,83}	+ +
SGLT2 inhibitors (or gliflozin)	
Canagliflozin ^{93,110,111}	--
Dapagliflozin ¹¹²⁻¹¹⁴	-- ³
Empagliflozin ¹¹⁵⁻¹¹⁷	-

Notes: +<>1 kg, Neutral=±1 kg, -<<-1 kg. Additional + or - refers to ≥3 kg weight change. *Articles cited included ≥1 weight neutral estimate(s).

Diabetes Medications

Mechanism of Action:

- Insulin Secretagogues
 - Sulfonylureas and Meglitinides
 - Ex. Tolbutamide, Glyburide, Glimepiride, Repaglinide
 - Tells the pancreas to squeeze out more insulin
 - More insulin more nutrients such as sugar and fat can be stored
- Insulin
 - Short and long acting formulations
 - Ex. Lantus, Tresiba, Novorapid, Humalog
 - Again, more insulin more storage of nutrients

Caveat: Weight-gain with insulin occurs when there is excess sugars or nutrients. I.e. First starting the medication due to uncontrolled blood sugars or you are in a calorie surplus.

Table 3 Treatment-emergent weight changes associated with antihyperglycemics

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Glucagon-like peptide 1 receptor	
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Saxagliptin ^{100,103-105}	- ³
Sitagliptin ¹⁰⁰⁻¹⁰³	- ³
Insulin ^{85,86,88,118}	+ + ³
Insulin secretagogues	
Meglitinides	
Nateglinide ^{5,95,96}	Neutral
Repaglinide ^{79,89,109,11}	+ ³
Sulfonylurea drugs	
Chlorpropamide ⁸⁴⁻⁸⁶	+ +
Glimepiride ^{75,80,94}	+ + ³
Glimepiride ^{5,90-93}	+ & - ³
Glyburide ^{78,80,89}	+ + ³
Tolbutamide ^{5,76,87}	+ +
Insulin sensitizers	
Biguanides	
Metformin ^{5,75-78}	-
Thiazolidinedione	
Pioglitazone ^{5,79-81}	+ +
Rosiglitazone ^{78,82,83}	+ +
SGLT2 inhibitors (or gliflozin)	
Canagliflozin ^{93,110,111}	--
Dapagliflozin ¹¹²⁻¹¹⁴	-- ³
Empagliflozin ¹¹⁵⁻¹¹⁷	-

Notes: +<>1 kg, Neutral=±1 kg, -<<-1 kg. Additional + or - refers to ≥3 kg weight change. *Articles cited included ≥1 weight neutral estimate(s).

High Blood Pressure Medications

Common Conditions:

- High Blood Pressure, Heart Failure, Migraines, Atrial Fibrillation, Tremor

Weight-gain Risk:

- Most BP medications are weight neutral or can lead to weight-loss
- Beta-blockers are the main concern at least initially can lead to a weight change of (-1.8 to 3.4kg)

Table 4 Treatment-emergent weight changes associated with antihypertensives

Drug name	Weight effect
Alpha-blockers	
Clonidine ^{155,156}	+ ^a
Prazosin ^{157,158}	Neutral
ACE inhibitors	
Enalapril ¹³¹⁻¹³³	— ^a
Lisinopril ^{124,137,138}	— ^a
Perindopril ¹³⁴⁻¹³⁶	+ & — ^a
Ramipril ¹³⁹⁻¹⁴¹	— ^a
ARBs	
Irbesartan ^{161,165,166}	Neutral
Losartan ^{131,163,164}	— ^a
Olmesartan ^{161,162,165}	Neutral
Telmisartan ¹⁵⁹⁻¹⁶²	— ^a
Valsartan ¹⁶⁷⁻¹⁶⁹	+ ^a
Beta-blockers	
Acebutolol ^{153,154}	Neutral
Atenolol ¹⁴³⁻¹⁴⁵	+ + ^a
Metoprolol ^{148,149}	+ ^a
Propranolol ^{146,147}	+ ^a
Timolol ¹⁵⁰⁻¹⁵²	— ^a
CCBs	
Amlodipine ¹⁷⁰⁻¹⁷²	Neutral
Diltiazem ¹⁷³⁻¹⁷⁵	+ ^a
Direct renin inhibitors	
Aliskiren ¹⁷⁶⁻¹⁷⁸	Neutral
Diuretics	
Chlorthalidone ^{122,125,126,a}	— ^a
Furosemide ^{122,123,130a}	— ^a
Hydrochlorothiazide ^{121-124,a}	— ^a
Indapamide ^{127-129,a}	— ^a

Notes: +>1 kg. Neutral=±1 kg. —<−1 kg. Additional + or − refers to ≥3 kg weight change. ^aArticles cited included ≥1 weight neutral estimate(s).

Abbreviations: ACE, angiotensin converting enzyme; ARB, angiotensin II receptor blocker; CCB, calcium channel blocker.

High Blood Pressure Medications

Mechanism of Action:

- Beta blockers slow down your heart rate and calm your fight or flight system
 - Slows metabolism
 - Fidget and move less
 - Can make exercise more challenging
- Weight-gain is usually minimal to moderate at first then plateaus

Table 4 Treatment-emergent weight changes associated with antihypertensives

Drug name	Weight effect
Alpha-blockers	
Clonidine ^{155,156}	+ ^a
Prazosin ^{157,158}	Neutral
ACE inhibitors	
Enalapril ¹³¹⁻¹³³	— ^a
Lisinopril ^{124,137,138}	— ^a
Perindopril ¹³⁴⁻¹³⁶	+ & — ^a
Ramipril ¹³⁹⁻¹⁴¹	— ^a
ARBs	
Irbesartan ^{141,145,146}	Neutral
Losartan ^{131,143,144}	— ^a
Olmesartan ^{141,142,145}	Neutral
Telmisartan ¹⁵⁹⁻¹⁶²	— ^a
Valsartan ¹⁶⁷⁻¹⁶⁹	+ ^a
Beta-blockers	
Acebutolol ^{153,154}	Neutral
Atenolol ¹⁴³⁻¹⁴⁵	+ + ^a
Metoprolol ^{148,149}	+ ^a
Propranolol ^{146,147}	+ ^a
Timolol ¹⁵⁰⁻¹⁵²	— ^a
CCBs	
Amlodipine ¹⁷⁰⁻¹⁷²	Neutral
Diltiazem ¹⁷³⁻¹⁷⁵	+ ^a
Direct renin inhibitors	
Aliskiren ¹⁷⁶⁻¹⁷⁸	Neutral
Diuretics	
Chlorthalidone ^{122,125,126,a}	— ^a
Furosemide ^{122,123,130a}	—
Hydrochlorothiazide ^{121-124,a}	— ^a
Indapamide ^{127-129,a}	— ^a

Notes: +>1 kg. Neutral=±1 kg. —<−1 kg. Additional + or − refers to ≥3 kg weight change. ^aArticles cited included ≥1 weight neutral estimate(s).

Abbreviations: ACE, angiotensin converting enzyme; ARB, angiotensin II receptor blocker; CCB, calcium channel blocker.

Corticosteroids

Common Conditions:

- Inflammation, Autoimmune Conditions

Weight-gain Risk:

- Short-term - no risk
- Long-term (>3 months) - 1.5 to >10kg

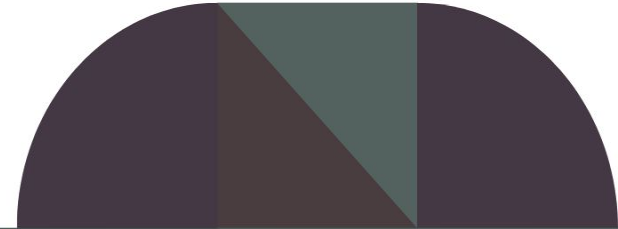
Mechanism of Action:

- Similar to our stress hormone cortisol
- Short-term cortisol plays a role in weight-loss
- Long-term causes fluid retention, increases appetite, alters our metabolism, and how our bodies store fat

Table 5 Treatment-emergent weight changes associated with corticosteroids

Drug name	Weight effect
Cortisone ¹⁸⁷⁻¹⁸⁹	++
Prednisolone ^{185,186}	++
Prednisone ¹⁸²⁻¹⁸⁴	++

Notes: ++>1 kg. Additional + refers to ≥3 kg weight change.

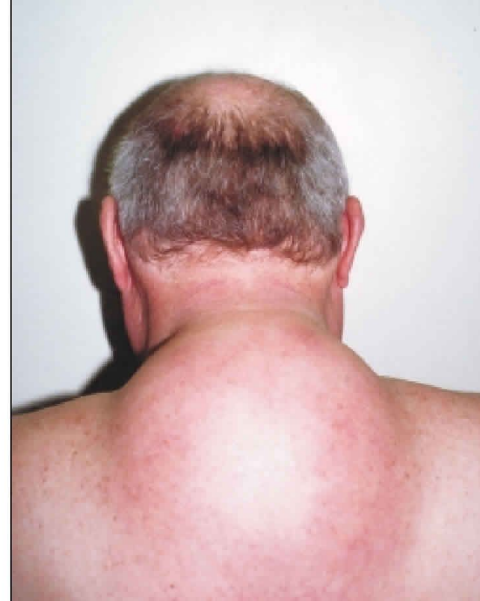


Corticosteroids

Moon Face

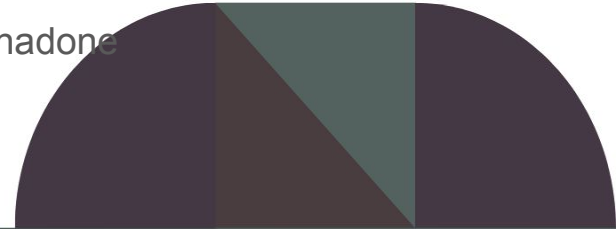


Buffalo Hump



Other Medications

- There are lots of other medications that have been noted to potentially cause weight-gain
- Either the weight-gain is much less severe/common or it just hasn't been studied enough OR weight-gain isn't due to fat but fluid retention
- Some cases it is difficult to distinguish weight gain due to the medication/condition
- Examples:
 - Opioids and Substance Use Disorder Treatments such as Methadone
 - Chemotherapy



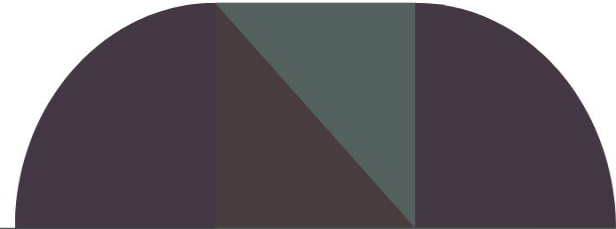
OK, so what can we do?

Good news:

- If weight-gain occurs weight-loss is possible
- Focus on weight-gain prevention

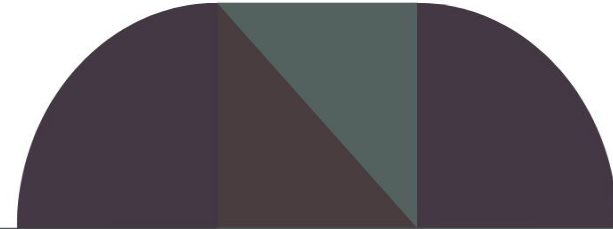
Approach:

- Collaborate with your healthcare team
 - Optimize medication treatment
 - Additional medications
- Back to the boring basics
- Be patience



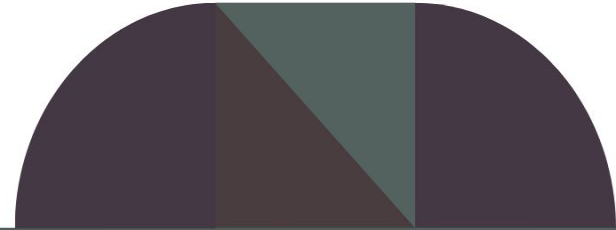
Weighing the Pros and Cons

- Full understanding of the condition that is being treated
- Work with your care provider to understand the options
 - Find an agent or switch agents with your care provider if weight gain occurs
 - Being mindful the best treatment options may have a risk of weight gain
 - DO NOT STOP your medication without first speaking with your doctor
- Balance of treating your underlying condition and preventing weight gain
 - Sometimes the treatment of your condition outweighs the risk especially in terms of mental health
 - Optimizing treatment of your condition may actually make weight-loss and behaviour change easier



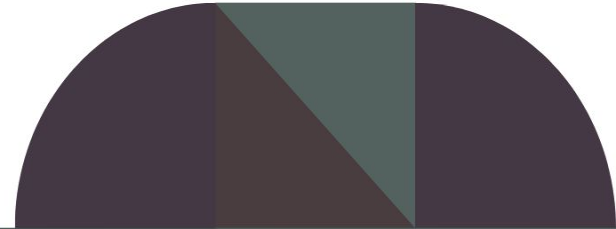
More Medications....

- Not ideal BUT....
 - If the addition of another medication can help with weight and metabolic changes with minimal or no harm it can be considered
- Metformin
 - Effective in conjunction with antipsychotic and corticosteroid medications
- GLP-1 Receptor Agonists
 - Possible role with all classes listed above and may be able to replace insulin
 - Very effective for weight-loss and weight management
 - Saxenda, Trulicity, Ozempic, Wegovy
 - More are in the pipeline, stay tuned....



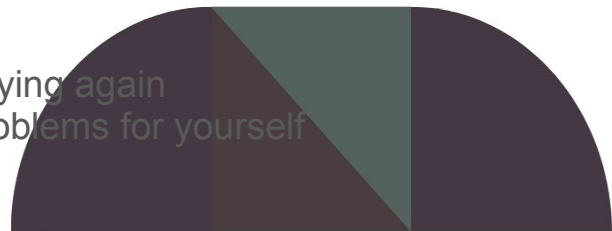
Boring Basics

- 1) Consistency
- 2) Calories IN < Calories OUT
- 3) Protein
- 4) Eating consistently during the day
- 5) Eating ENOUGH calories
- 6) Activity



Consistency

- Whatever you do or change you need to do it consistently
 - Not for a day, not for a week, repeating it over and over again
 - Sustainable - if you are unable to sustain a change or behaviour for the rest of your life any weight you lose will be gained back
- Start small
 - Goal is easy but not too easy
 - Track your progress and look for patterns
 - Goals can be helpful
 - Focus on behaviours vs. outcomes
 - Ie. I will eat more protein at breakfast 5x this week
- Aim for Mastery NOT Perfection
 - Mastery requires a continual process of failing, learning, and trying again
 - Key to a fulfilling life is solving problems and creating better problems for yourself

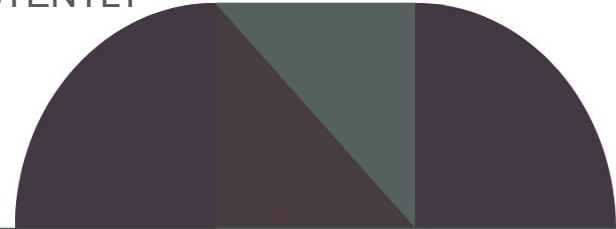


Calories IN < Calories OUT

- This is fundamental to losing weight - Law of Thermodynamics
 - Yes medications can affect this from slowing metabolism to increasing appetite

How many calories should I eat?

- Goal Body Weight (GBW) in lbs x 12
 - GBW = A weight you believe you can maintain sustainably or would be your leanest
 - It is simply a starting point
 - Aim to be within +/-100 calories of what you calculate CONSISTENTLY
- 'But that is so many calories....'
 - Try it consistently for 1-month. What do you have to lose?



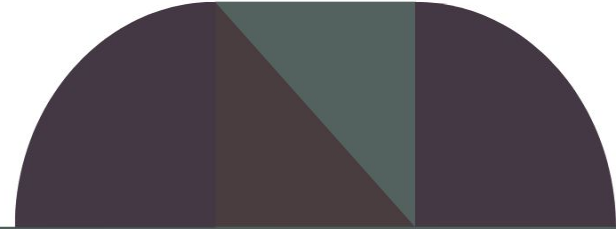
Protein

- Protein is KING
 - Stop focusing on the carbs and fat
- Keeps us fuller for longer, maintains muscle mass, more energy is required to digest



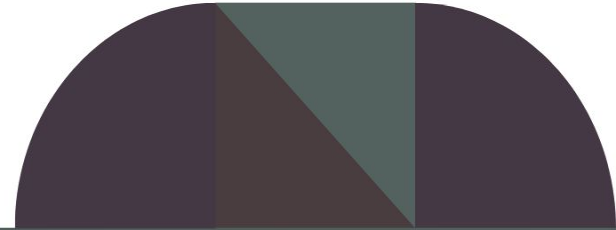
How much protein?

- GBW x 1
 - That is it
 - GBW = 200lbs. $200\text{lbs} \times 1 = 200\text{g of protein/day}$



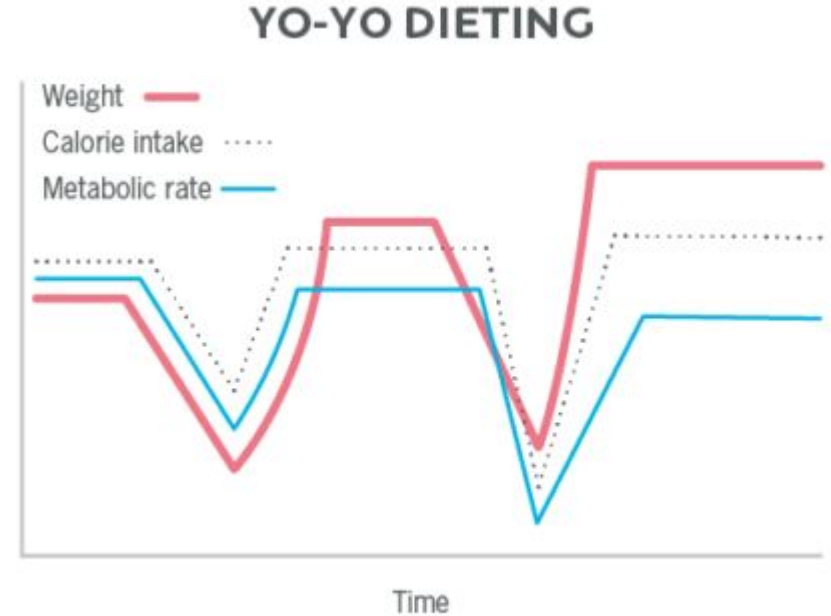
Eating Consistently

- No you don't need to eat 8x/day
 - Each person and their schedule is different
- Eating more meals/protein through the helps to better preserve muscle mass and keeps your hunger at bay
 - Intermittent fasting is nothing special and may lead to a greater amount of muscle mass loss
- Aim for at least 2x/day
 - If you find you are overeating at a certain meal plan a snack before that said meal even if you don't feel hungry



Eating ENOUGH

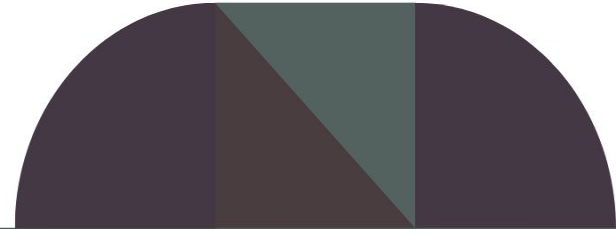
- The 1200 calories/day diet aren't working
- Eat more to lose more
 - We are trying to manage metabolic adaptation - keeping your metabolism up as high as possible
 - Follow the formulas about
- Many individuals have chronically been dieting and decreasing their metabolic rate



With every successive cycle of yo-yo dieting, weight rises, while metabolic rate drops.

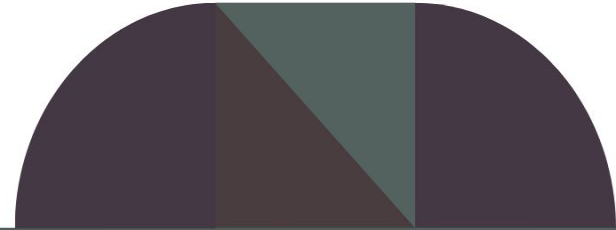
Other Factors of Equal Importance

- Sleep
 - Make this a priority
- Therapy
 - If you can afford talk through your sh*t with a 3rd party
- Mindfulness and Self-awareness
 - Understanding what and why you have certain emotions, feelings, and thoughts can go a long way to helping you change your behaviours
- Stress and Anxiety Management
 - Self-care
- Compassion and Empathy for YOU
 - Always remember you are doing the best that you can



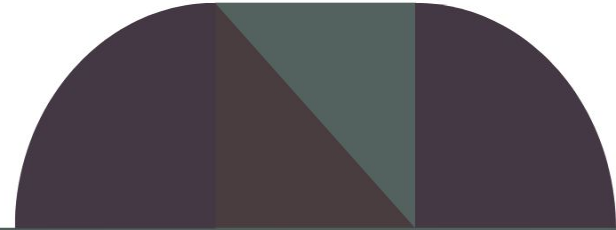
Conclusions

- Some medications can lead to weight gain
- Balance of benefits/risks of the medication and underlying condition being treated
 - Work with your healthcare provider to find the optimal treatment
- Weight-loss and Weight-gain prevention is possible!
 - Albeit more challenging
- Additional medications may be needed to manage weight
- Focus on the boring basics regardless!



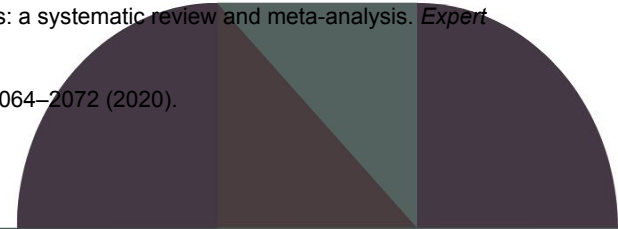
Remember

SMALL TWEAKS LEAD TO MASSIVE PEAKS.



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THANK YOU!
ANY QUESTIONS?



DAN BURTON BSCPHARM, PHARMD, CAC, APA, CDE, CBE
FOUNDER OF HEALTHCARE EVOLUTION

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