



HEALTHCARE
EVOLUTION

HOW AND WHAT AM I SUPPOSED TO EAT FOR WEIGHT LOSS?!

Let's talk calories and protein,
the king of macronutrients



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



Presenter Disclosure

I have the following relationships with these commercial interests:

- Founder: Healthcare Evolution Inc.
- Consulting/Contracting Fees: SRx Pharmacy – Calgary, AB; Muse Aesthetic Inc.
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- Advisory Board: CPhA Board Representative on the Pharmacy Examination Board of Canada (PEBC) Board of Directors

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Today's Learning Objectives

- Review why we eat...
- Understand Calories and Macronutrients
- Discuss



Caveats

- Health should always be our #1 priority
 - You are allowed to work towards any goals you wish but, if those goals are causing more harm than good it is time to re-evaluate
- There is no best approach - the ONLY approach that matters is the approach that works for you
 - NO BEST DIET
- My goal today is to provide you with a framework
 - Information will be generalized but should be specific enough to tailor to your needs
- Simplicity is beautiful

Single most important takeaway from today - **CONSISTENCY**



What is a diet?

As per the Webster's Dictionary:

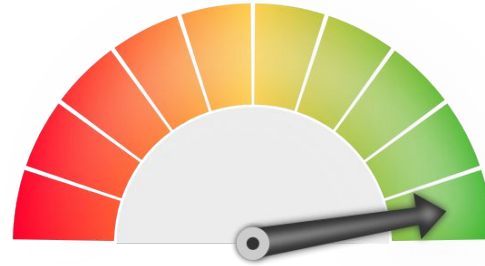
Diet: The kinds of food that person, animal, or community habitually eats

Mainstream 'Diet' Definition: a special course of food to which one restricts oneself, either to lose weight or for medical reasons.



Why do we eat?

- To lose weight?
- Athletic performance?
- Fuel?
- Health?
- Pleasure?



These are goals that we can work towards with our nutrition.



Why do we eat?

- Energy and nutrients for life!
- Quantity and quality of what we eat both matter in terms of physiological function
 - Affects our health, performance, recovery and body weight....
- But also because food can be F*CKING delicious
 - There are no GOOD and BAD foods there is just food....



Quick Review of Energy Balance

Calories = Unit of measurement for the energy in food

- 1 calorie of donuts = 1 calorie of broccoli
 - Different macronutrient composition

Origin of Energy OR Calories:

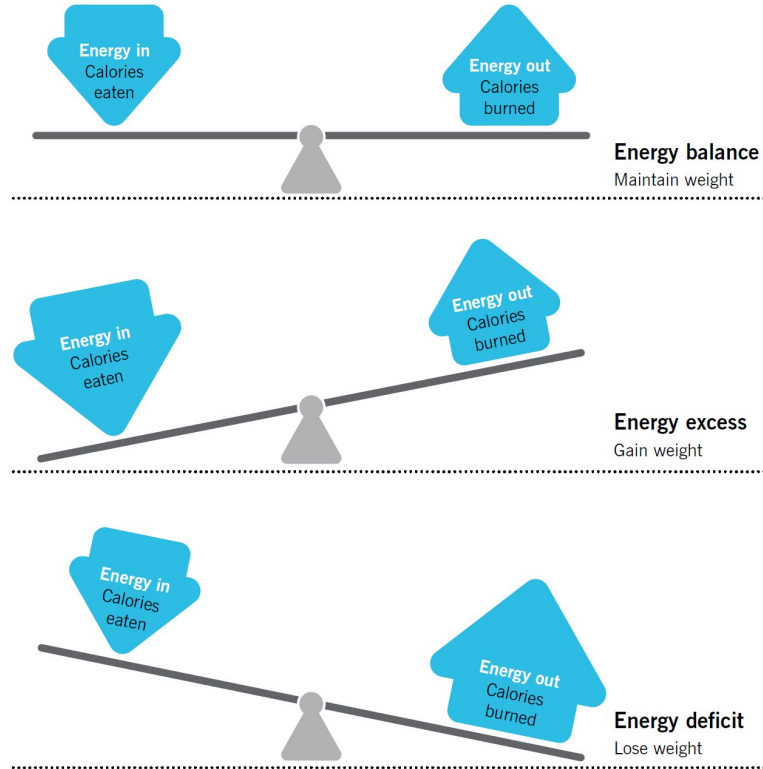
- Food we eat
- Previously stored energy in our body from fat or muscle tissue

Our body uses energy for:

- Movement
- Keeping warm
- Repairing tissues
- Replenishing stored fuel

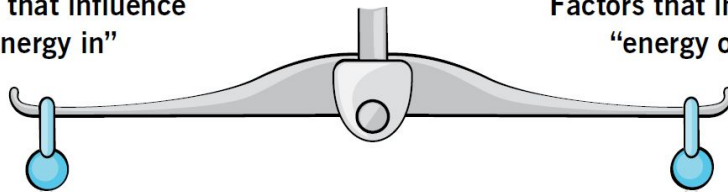


Energy IN vs. Energy OUT = Energy Balance



**Factors that influence
“energy in”**

**Factors that influence
“energy out”**



Appetite

Influenced by hormones that regulate appetite and satiety

Food consumed

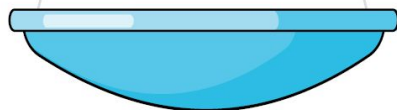
Influenced by availability, palatability, energy density, sleep quality, education, socioeconomic status, culture

Calories absorbed

Influenced by macronutrient intake, food prep, age, microbiome, health, energy status

Psychological factors

Influenced by stress levels, mindset, perceived control, self-esteem, sleep quality



Energy burned at rest

Influenced by body size, hormones, dieting history, genetic factors, health, sleep quality, age

Energy burned through exercise

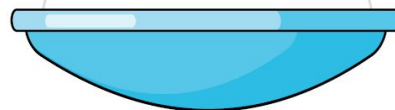
Influenced by exercise ability, intensity, duration, frequency, and environment, as well as hormones and sleep quality

Energy burned through non-exercise activity

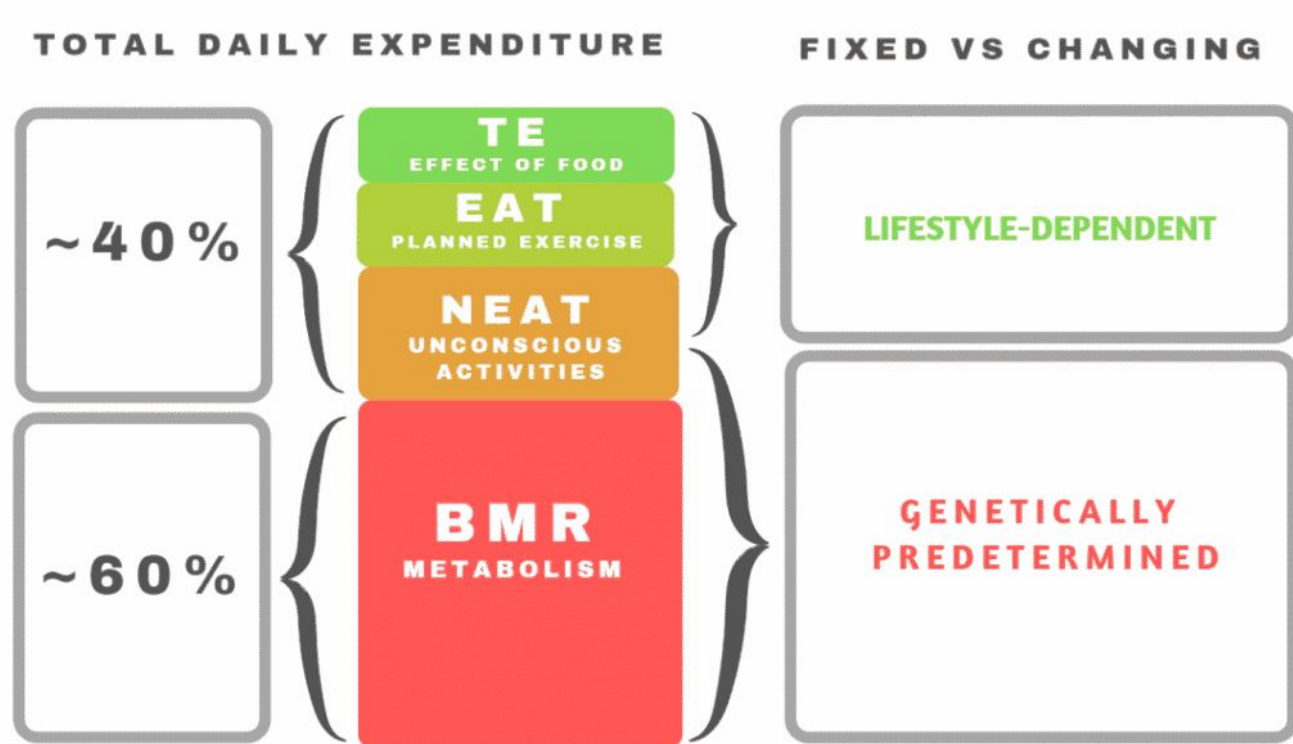
Influenced by health, energy status, stress, hormones, occupation, leisure activities, genetic factors

Energy burned by metabolizing food

Influenced by macronutrient makeup and how processed the food is



Calories OUT



What affects our calorie or energy needs?!

- Goals - Weight-loss? Muscle gain?
- Current body weight
- Body composition (ie. ratio of muscle to fat)
- Biological sex - Amount of muscle, life stage, etc.
- Age
- Level of physical activity - Purposeful and daily life
- Activity type - Aerobic vs. Resistance Training



Macronutrients

- Macro = Large; Micro = Small
- Calories are composed of 3 macronutrients:
 - Proteins
 - Carbohydrates
 - Fats
- Plethora of micronutrients
 - Important but focus on a high quality, nutrient rich foods you will likely achieve your necessary micronutrients



PROTEIN

- KING of the macronutrients
- Vastly more complex and variable compared to other carbs and fats

Function:

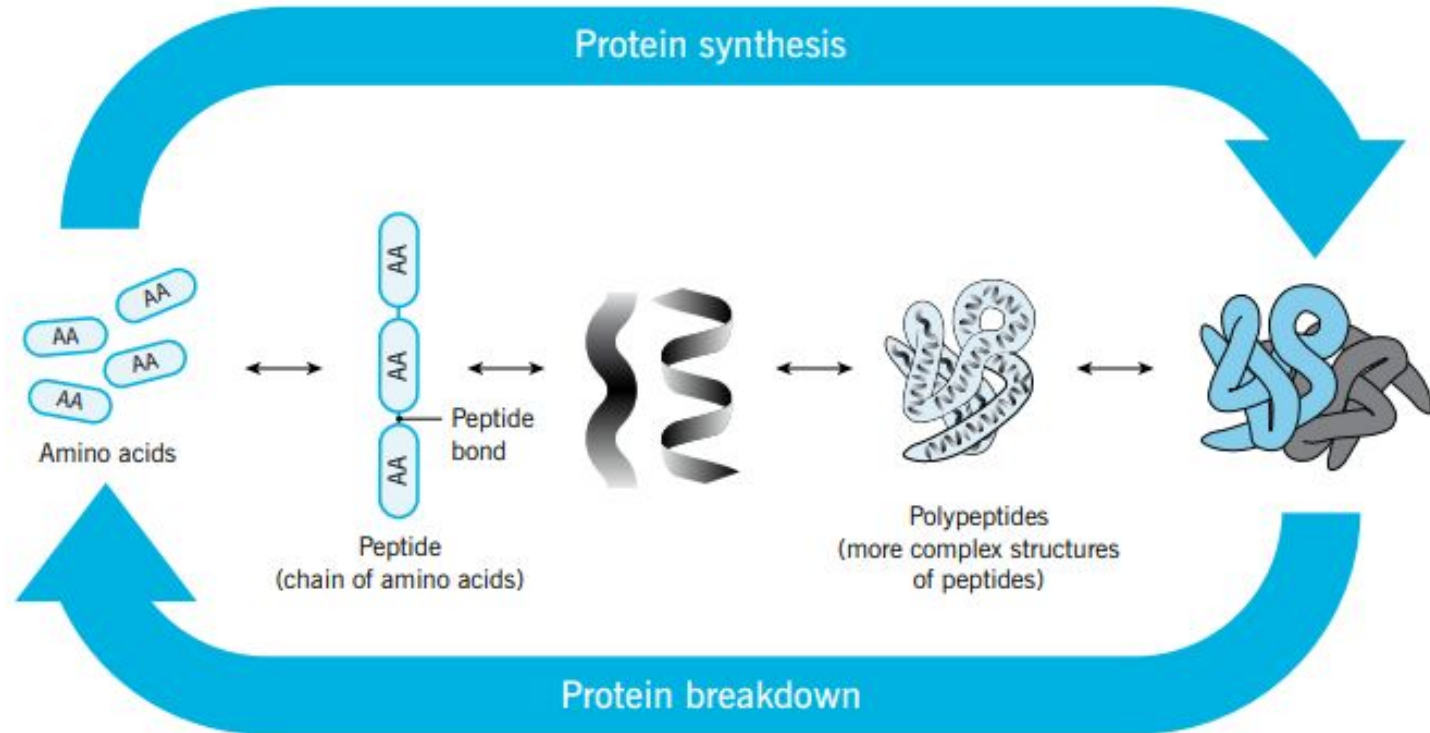
- Make up most of our body tissues - muscle, connective tissue, skin, nails, hair, hormones, bones, and immune system
- Thousands of functions

Protein cannot be stored:

- Constantly built and broken down = Protein turnover
- Goal: Building >> Breaking

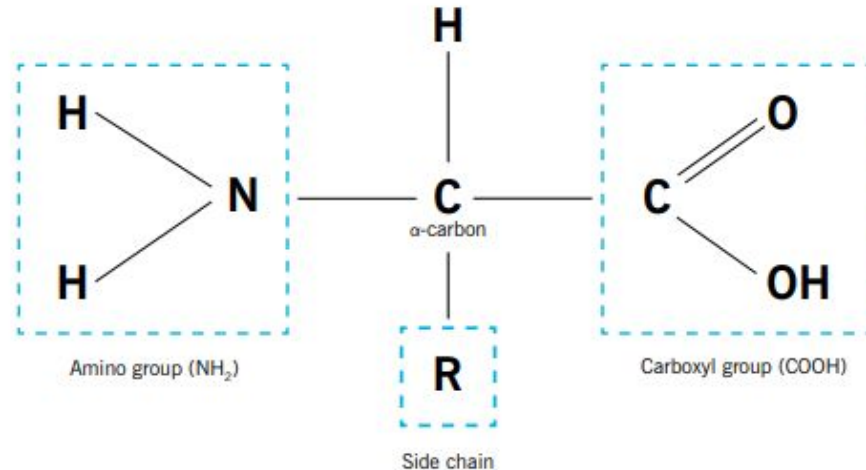


Protein Turnover



Amino Acids

- Proteins are made of amino acids
- Amino acids are categorized as:
 - Non-essential - Our bodies can make
 - Essential - Our bodies cannot make we need to get from food



How much do we need?!

- Most people on a standard Western diet are likely getting adequate amounts of protein
 - Has some meat protein and are more sedentary therefore does not need much for growth and repair

BUT

- Adequate does not mean optimal
 - Difference between living and thriving
 - Evidence is showing we need more than previously recommended



Reasons for Increased Protein Intake

- Increased training or physical activity
- Gain lean muscle mass or strength
- Injured, sick or recovering from surgery
- Older age - do not digest proteins as well therefore need more
- Protein loss via other pathology ie. Chronic stress

Most people can benefit from more protein. There may be specific medical conditions that warrant a lower protein diet. Ie. Kidney disease, etc.



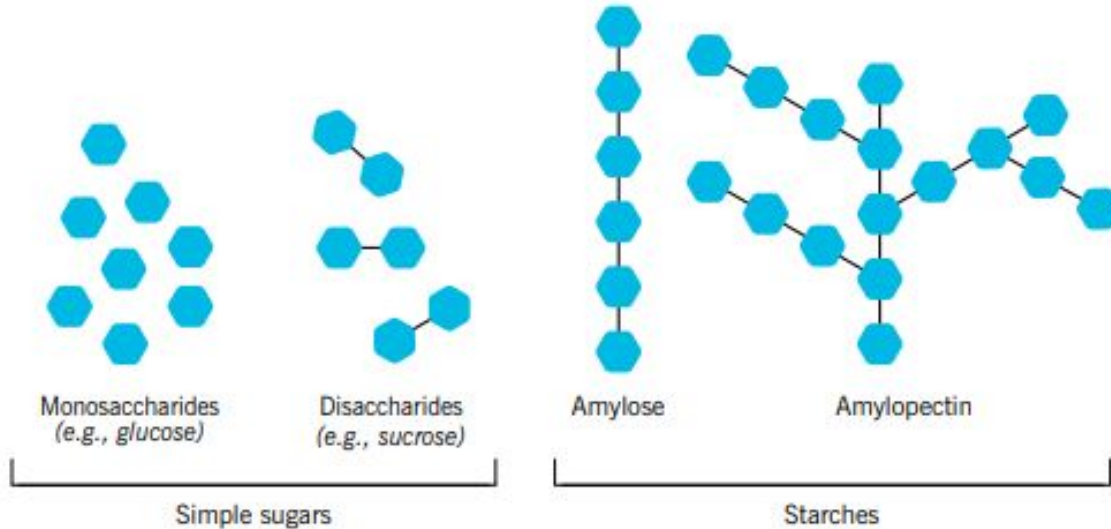
Let's talk Carbohydrates

- Are AMAZING
- Let's dispel some myths:
 - They are not killing you
 - They are not the reason you gain weight
 - Low carb is not better than some or even high carb



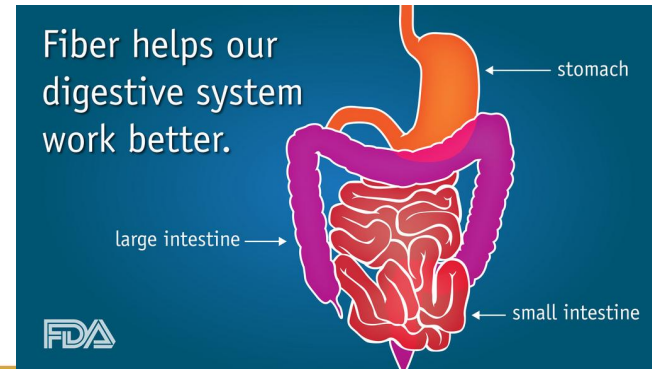
Carbohydrates Or Sugar?

- Carbohydrates are made of long chains of smaller molecules called saccharides or sugars
 - Simple vs. Complex Carbs



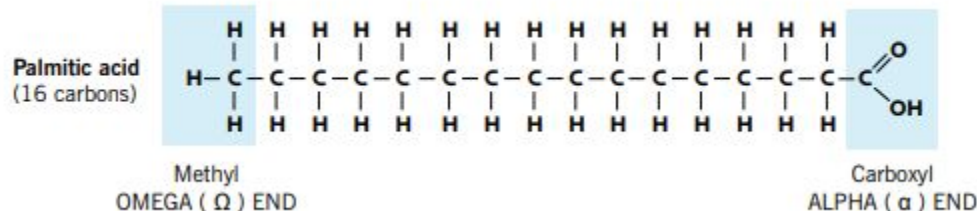
Facts about carbs...

- Require less energy to be digested compared to proteins
- Non-essential; preferred but can live without ie. Keto
- ‘Carbon + Hydrate or Water’ = Carbohydrate
 - Carbohydrates bind up water ~3-4 grams of water per gram of carbohydrates
 - Reduce carb consumption then large drop in weight - this is water weight NOT fat
- Functions:
 - Energy and energy storage - Glucose/Glycogen
 - Mucus/Joint fluid - Glucosamine?
 - GI Health - Fiber



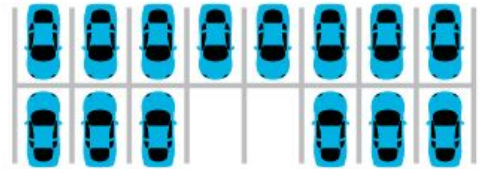
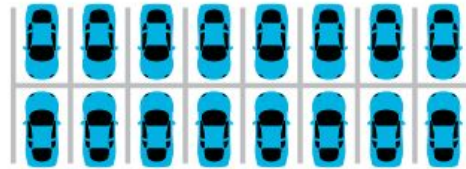
The Skinny on Fats?

- Also called Lipids....
 - Multiple kinds and functions
- Fatty Acids
 - Simplest unit of a lipid
 - Vary in length, saturation (saturated, monounsaturated, polyunsaturated), and configuration (molecular level trans or cis)
- Example: Omega-3 Fatty Acids
 - Double bond 3rd carbon in from the 'Omega'



Too saturate or not?

- Unsaturated Fats
 - Polyunsaturated and monounsaturated
 - Means hydrogens are missing - have 'kinks' and are more fluid
 - Generally liquid at room temperature
- Saturated Fats
 - No missing hydrogens
 - Straight and can tightly pack together
 - Solid or semisolid at room temperature



Should we eat fats?

Yes, Absolutely!

- Fats are essential
 - Provide energy
 - Makes and balances hormones (sex hormones)
 - Cell membranes
 - Brain and nervous system
 - Transport fat soluble vitamins
- Omega-3 and Omega-6 fats we must obtain from our diet
 - Omega-3 Fatty Acids = Anti-inflammatory
 - Omega-6 Fatty Acids = Pro-inflammatory
 - Note: Some inflammation is good and necessary for function!



Quick Point on Cholesterol

- HDL = Good cholesterol
 - We want more of this
- LDL = Bad cholesterol
 - We want less of this
 - Trans and Sat Fats = bad

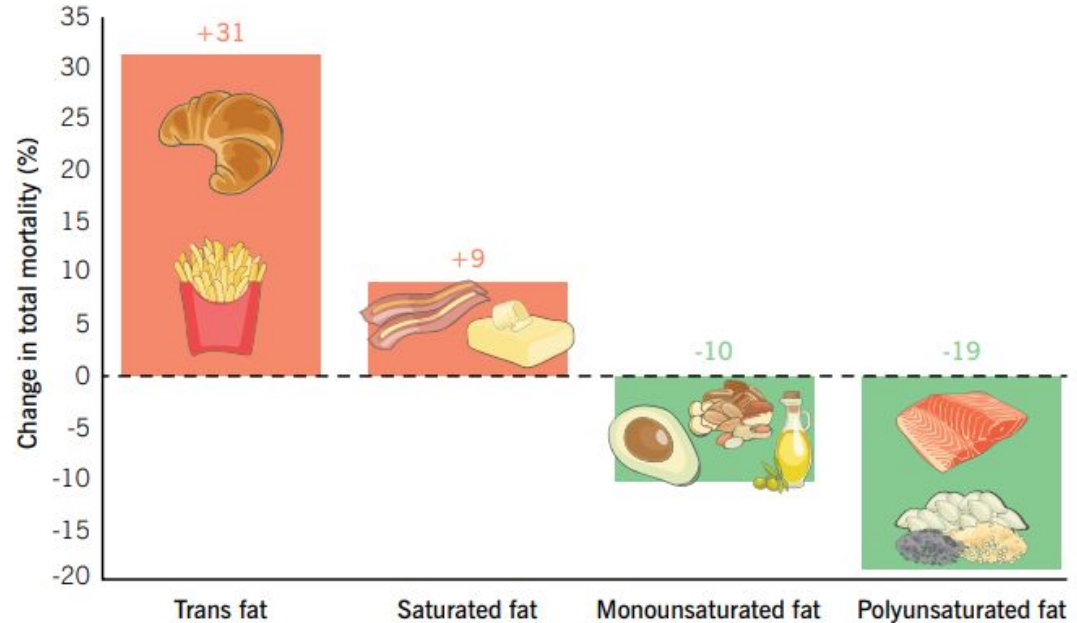


Figure adapted from: O'Keefe JH, DiNicolantonio JJ, Sigurdsson AF, Ros E. Evidence, not evangelism, for dietary recommendations. *Mayo Clinic Proceedings* 2018 Feb 1 (Vol. 93, No. 2, pp. 138-144).

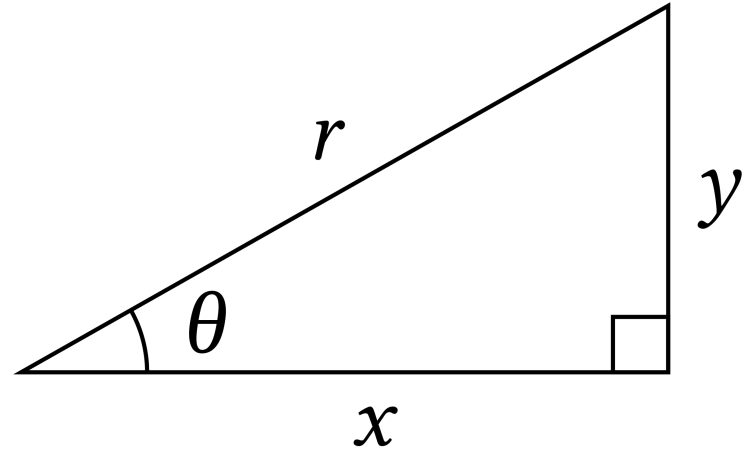
Framework

- 1) **Variables to Consider**
- 2) **Estimating Energy Needs**
- 3) **Calculating Protein Needs**
 - a) Maybe calculate carbs and fat....?



Variables

- Goals?
 - Weight-loss? Muscle gain? Performance? Health?
- Current Body Weight
- Body Composition
- Biological Sex
- Age
- Activity Level
- Previous dieting/Restrictive eating patterns



Want to keep these things in mind as you make changes...



Energy Needs

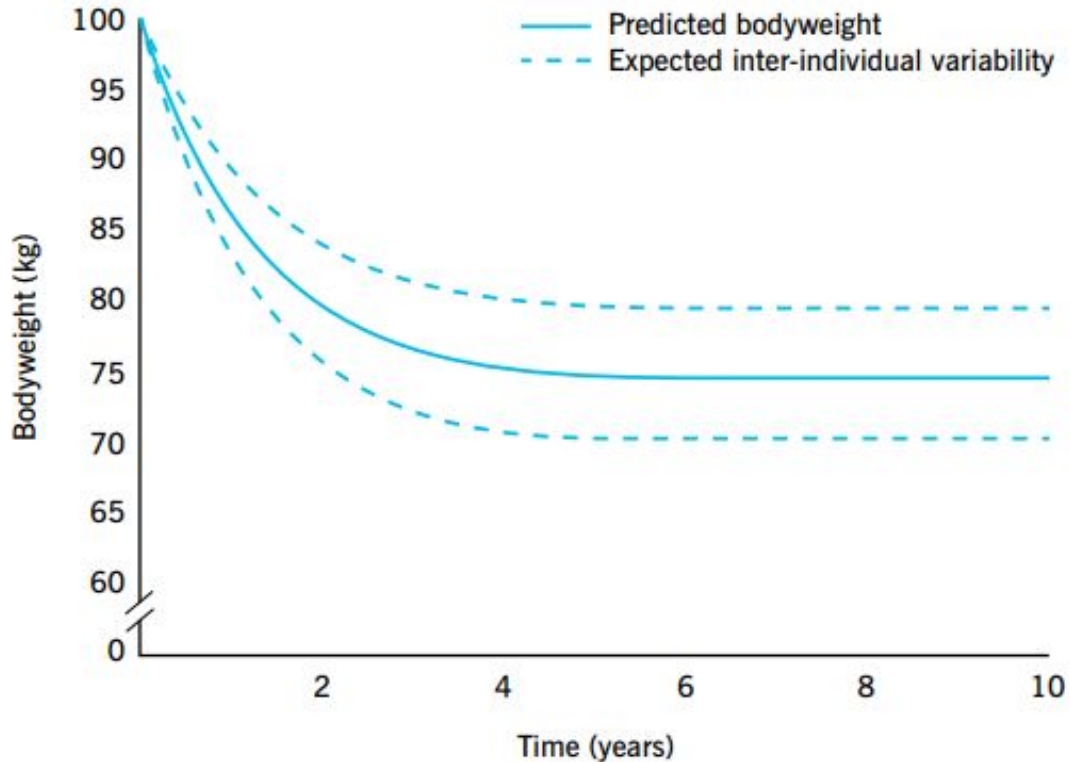
We will focus on weight-loss here....

- Calories IN < Calories OUT - Calorie Deficit is necessary
- 'Sweet Spot' - Energy intake that moves us towards our goals but also supports optimal health and functioning!
- Reality - we will be working with estimations at first but this process requires trial and error and....

CONSISTENCY



Do we actually know what we are doing?



Simple, Simple, Simple....

- Goal Body Weight (GBW)
 - Number you weighed before that was comfortable?
 - Weight that you feel you can maintain
 - Weight where you would be the leanest you wish to be...
- GBW is a starting point
 - Do we have to reach this weight? NO.
 - It gives us a direction
- Not sure?
 - Pick a number and start...



Calculating Energy Needs

Calorie Intake for Weight-loss?

- **Goal Body Weight x 12 = Daily Calorie Intake**



Too simple...?

Example:

- GBW = 170lbs
- Daily Calorie Intake = $170\text{lbs} \times 12 = 2040$ calories/day

That's it....



Go home you are drunk...

Common Criticisms:

- 1) Way too simple.....
- 2) That is way too many calories....



Try it for 90 days.....

- Get out a calendar
- Aim for 75-80% consistency - 68-72/90 days
 - Each day you meet your target put down an **X**
 - Each day you miss your target either **too low or high** put down an **O**
 - Our goal is not come under this calorie amount
 - 100% consistency is impossible
- Will you reach your goal weight in 90 days?
 - Probably not....but you will be moving in the right direction and you can come tell me if I am full of sh*t or not....



Leeway...

- Again perfection is impossible....
- Give yourself a range of +/- 100 calories around target
 - Example: Target Calories = 2040cals/day with a range from 1940-2140cals/day
 - If your calories fall within that range we can consider it a successful day....
- There will be days where you are more above or below....That is OK
 - This is life....
 - We just get back on track the following day....



What if I have a lot to lose?!

- Equation stays the same...
 - $\text{GBW} \times 12 = \text{Calorie Intake for Weight-loss}$
- Caveat: If you have +50lbs to lose choose a more realistic GBW to start
 - Ie. Current weight 400lbs and GBW 200lbs start with a GBW of 350lbs
 - Adjust as you progress
 - Allows you to eat more calories while still losing weight
 - Too lose more weight will have eat less calories eventually so delay the inevitable



Calorie Cycling

- There might be days where we have increased or decreased hunger
 - Exercise
 - Women during menses
- Calorie cycling may help...
 - Days with increased appetite increase calorie intake by 100-200 cal/day
 - Days with decreased appetite decrease calorie intake by 100-200 cal/day
- High and Low Days



Calorie Cycling Example

Example:

- GBW = 170lbs
- Calorie Intake = 170lbs x 12 = 2040 calories/day

Exercise Days (High Day) = 2240 calories/day

Non-Exercise Days (Low Day) = 1840 calories/day

OR Eat the same amount of calories everyday...

- **Find what works for you....**



OK so what about the macronutrients....

- 1g of Protein contains **4 calories** of energy
- 1g of Carbohydrates contains **4 calories** of energy
- 1g of Fat contains **9 calories** of energy



What do I recommend?!

- Focus on the KING that is protein.....
 - Carbs and Fat can be figured out via your remaining calories
 - Protein is the most versatile and important macronutrient
 - Helps keep you fuller, maintains lean muscle mass, etc.
- Calculating Protein Intake
 - $GBW \times 1$



I see you are still drunk....

Example:

- GBW = 170lbs
- Calorie Intake = 170lbs x 12 = **2040 calories/day**
- Protein Intake = 170lbs x 1 = **170g of protein**

Remember 1g of protein = 4 calories

- 170g x 4 = 680 calories from protein



You are hammered....

Common Criticisms:

- 1) Again too simple....
- 2) Way too much protein....



It is relatively simple but not necessarily easy to attain that much protein....



Protein

Prioritize fresh, lean, minimally processed sources of protein, and consider limiting red meat to ~18 oz (or 4 palms) per week or less.

EAT MORE



Eggs and egg whites



Fish



Shellfish



Chicken



Duck breast and thighs



Turkey



Lean beef



Bison



Lean pork



Wild game



Other meats
goat, camel, horse kangaroo, crocodile



Plain Greek yogurt



Tempeh



Tofu



Edamame



Cultured cottage cheese



Insects



Lentils and beans

These only count as your protein source if a more protein-rich option (such as above) is not in the meal. Otherwise, they count as a carbohydrate source (as they contain more carbohydrates than protein).

EAT SOME



Uncultured cottage cheese



Medium-lean meats



Canadian bacon



Meat jerky



Lamb



Minimally processed lean deli meat



Poultry sausage



Protein powders



Seitan



Tempeh bacon



Textured vegetable protein



Black bean burgers



Traditional veggie burgers

These only count as your protein source if a more protein-rich option (such as above) is not in the meal. Otherwise, they count as a carbohydrate source (as they contain more carbohydrates than protein).

EAT LESS



Fried meats



Chicken fingers, nuggets, and wings



High-fat meat



High-fat sausages



Processed deli meats



Protein bars



Pepperoni sticks



High-mercury fish



Plant-based meats
Burgers, sausage, hot dogs, tofurky, etc.

This includes items such as Impossible, Beyond, Gardein, Boca, etc. Most of these are made from a highly-processed plant protein, along with added oils, salts, sugars, flavors and colors.

Cause I know you will ask....

Fats and Carbohydrates

- Fat is my second focus
 - It is also filling and important
 - Fat Intake = $0.25 \times$ Daily Calories

Example:

- GBW = 170lbs
- Calorie Intake = $170\text{lbs} \times 12 = \mathbf{2040 \text{ calories/day}}$
- Fat Intake = $0.25 \times 2040\text{cals/day} = 510 \text{ calories from Fat}$
 - So 1g of Fat = 9 calories therefore $510\text{cals}/9 = \mathbf{56.6g \text{ or } 57g \text{ of Fat}}$



Fats

Aim for a mix of whole-food fats (like nuts and seeds), blended whole foods (like nut butters), and pressed oils (like olive and avocado).

EAT MORE



Extra virgin olive oil
Walnut oil
Marinades and dressings with oils in this category



Avocado and avocado oil
Cheese, aged > 6 months
Egg yolks



Seeds: chia, flax, hemp, pumpkin and sesame
Cashews
Pistachios



Almonds
Brazil nuts
Pecans



Peanuts & natural peanut butter
Walnuts
Olives



Pesto made w/ extra virgin olive oil
Nut butters from other nuts in this category
Fresh unprocessed coconut

EAT SOME



Virgin and light olive oil
Expeller pressed canola oil
Sesame oil



Flaxseed oil
Coconut oil / milk
Peanut oil and regular peanut butter



Dark chocolate
Marinades and dressings with oils in this category
Fish and algae oil



Cream
Cheese aged <6 months
Flavored nuts and nut butters



Trail mix



High oleic safflower oil
High oleic sunflower oil

These naturally-bred oils are high in heart-healthy monounsaturated fats and contain little saturated fats and no trans fats.

EAT LESS



Bacon
Sausage

Also sources of protein, though usually higher in less desirable fats.



Butter
Margarine
Processed cheese



Corn oil
Cottonseed oil
Sunflower oil



Canola oil
Soybean oil
Safflower oil



Marinades and dressings with oils in this category
Vegetable oil
Fat-rich foods with 10+ g added sugar



Hydrogenated oils and trans fats
Shortening

What about the CARBS?!

- The rest of your calorie intake for the day
 - Technically veggies are here
 - Most veggies are nil in terms of calories and most people need to eat more veggies....
 - Focus on whole grain, unprocessed carbs if possible...
- Carb intake can vary depending on activity levels - more exercise = more carbs
 - Keep in mind if you are vegan or for culture reasons your diet might be higher in carbs and that is OK



Calculating Carb Intake

- Carbohydrate Intake
 - GBW = 170lbs
 - Daily Calorie Intake = $170\text{lbs} \times 12 = \mathbf{2040 \text{ calories/day}}$
 - Protein Intake = $\text{GBW} \times 1 = 170\text{lbs} \times 1 = 170\text{g of protein} \times 4 = \mathbf{680 \text{ calories of proteins}}$
 - Fat Intake = $0.25 \times \text{Daily Calories} = 0.25 \times 2040\text{cals/day} = \mathbf{510 \text{ calories of fats}}$
 - Carb Intake = Remaining Calories = $2040 - 680 - 510 = \mathbf{850 \text{ calories of carbs}}$
 - Macronutrient Amounts in Grams
 - Proteins = $680 \text{ calories}/4 = \mathbf{170\text{g}}$
 - Fats = $510 \text{ calories}/9 = \mathbf{57\text{g}}$
 - Carbs = $850 \text{ calories}/4 = \mathbf{213\text{g}}$



If you are gaining weight on 213g of carbs it is because you are not in a calorie deficit.....



Carbohydrates

Focus on whole, minimally processed sources of carbohydrates that pack lots of nutrition and fiber, and include a mix of starches and colorful fruits.

EAT MORE

- Beans and lentils
- Steel-cut, rolled, and old-fashioned oats
- Buckwheat
- Quinoa
- Whole-grain, black, and wild rice
- Sorghum
- Farro
- Millet
- Potatoes
- Amaranth
- Plain non-Greek yogurt
- Plain kefir
- Fresh and frozen fruit
- Corn
- Sweet potatoes
- Barley
- Taro
- Yuca
- Whole or sprouted grain bagels, breads, English muffins, pastas, and wraps

EAT SOME

- Couscous
- White rice
- Granola
- Instant or flavored oats
- Milk
- Vegetable juices
- Flavored yogurt
- Flavored kefir
- Pancakes and waffles
- Whole-grain crackers
- Oat-based granola bars
- Canned, dried, and pureed unsweetened fruit
- Bean and pulse pasta
- White bagels, breads, English muffins, pastas, and wraps

EAT LESS

- Cereal bars
 - Fruit juices
 - Flavored milk
 - Honey, molasses, and syrups & jellies
 - Canned, dried, and pureed fruit w/ added sugar
 - Sweetened sports drinks
 - Juice drinks
 - Sweetened energy drinks
 - Plant milks, sweetened
 - Soda
 - Crackers
 - Sugar
 - Pretzels
 - Foods with 10g added sugar
- These foods are also rich sources of fats, so be mindful of both their carbohydrate and fat content*
- Chips
 - Fries
 - Ice cream and frozen yogurt
 - Candy bars
 - Donuts
 - Cookies
 - Pastries
 - Muffins
 - Cakes

Vegetables

When eating vegetables (and fruits), try to “eat the rainbow.” Different colors imply different nutrients and health benefits.



Protein Portions....

Example:

- Chicken Breast Cooked
 - Serving = 4oz or 112g
 - Physical chicken on your plate
 - Serving contains:
 - 30g of protein
 - $30g \times 4 = \sim 120$ calories



You can measure and weigh if you would like.....

Here's the general idea.



A portion of protein
= 1 palm



A portion of
vegetables = 1 fist



A portion of carbs
= 1 cupped hand



A portion of fats
= 1 thumb

This handy portion-measuring system works well for many reasons.

Hand portions for the win....

	Hand Portion	Macronutrient	Conventional Measurement
Protein	1 palm	~20-30 g	~3-4 oz cooked meat/tofu, 2 whole eggs, 1 cup Greek yogurt
Carbs	1 cupped hand	~20-30 g	~1/2-2/3 cup cooked grains/legumes, 1 medium fruit/tuber
Fats	1 thumb	~7-12 g	~1 tbsp

This approach helps most folks meet their protein, vegetable, carb, fat, and calorie needs without having to count a gram or weigh an ounce of food.




Don't need to weigh and measure....

- Dividing 170g of Protein through the day
 - 20-30g of protein/meal
 - 10-20g of protein/snack
- Hand Portions
 - Women: 1 palm = ~20g of protein
 - Men: 1 palm = ~30g of protein
- Example:
 - $170\text{g}/30\text{g} = 5.6$ round up to 6
 - Male would aim for 6 palm portions of protein daily

Portion Control Made Easy

PER SERVING:



The graphic shows four hand gestures used for portion control: 1. A blue palm with a blue circle on it, representing protein. 2. A green fist, representing vegetables. 3. An orange cupped hand, representing carbohydrates. 4. A yellow thumb, representing fat.

PROTEIN	VEGETABLES	CARB	FAT
Women: 1 palm Men: 2 palms	Women: 1 fist Men: 2 fists	Women: 1 cupped hand Men: 2 cupped hand	Women: 1 thumb Men: 2 thumbs

Adjust portions up or down according to:

- How frequently you eat
- Your size/caloric needs
- How active you are
- Your results
- Appetite and satiety
- How frequently you eat

graphic courtesy Precision Nutrition

Ok I have been talking for a long time...

- Reality this entire presentation could have been on:
 - Calorie Intake = GBW x 12
 - Protein Intake = GBW x 1
 - Consistency
 - Everything else just adds complexity....
 - Amount of carbs and fat you eat might be different - find what works for you....
- This is just a starting point...
 - Managing our weight is still complex and there are multiple contributing factors
 - Complex problems do not need equally complex solutions



Tips

- Hungry?
 - Increase protein or fats
- Too many carbs?
 - Eat fewer carbs and more fats
- Tracking?
 - Scale, clothes, tape measurements, etc.
 - Monitor trends not single time points
 - Allow for 2-4 weeks before making any changes
 - Remember 75-80% consistency
- Food Journal
 - Helps to ensure consistency
 - Hand written, MyFitnessPal, Chrononutrition, Excel Spreadsheet



Final Points

- Chronically dieting or following 1200 calorie/day diet?
 - Eating more might be:
 - Challenging
 - Terrifying....
 - This is normal
- Start slow and work your way up to where you need to be - this like everything else is a process



Final Points

Criticism - 'I have eaten more before and all I did was gain weight?'

- Weight gain will likely occur

BUT

- Chronic dieters/low calorie diets this will be water and glycogen weight
 - Muscles taking up carbs and water - this is normal especially if you are more active
- Fat gain will be minimal, if any
 - Chronic dieters may depend on amount of metabolic adaptation present
 - Knee jerk reaction to any increase on the scale
 - Weight fluctuates daily
 - Again - consistency is the key



- 1) HEALTH**
- 2) CONSISTENCY**
- 3) CALORIES**
- 4) PROTEIN**





HEALTHCARE
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THANK YOU!
ANY QUESTIONS?



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!

ARE MY MEDICATIONS CAUSING ME TO GAIN WEIGHT?

FREE LIVE WEBINAR WITH DR. DAN
WEDNESDAY, NOVEMBER 24, 2021
ONLINE AT 6PM MST



REGISTER @ [EVENTBRITE.COM](https://www.eventbrite.com)

DECEMBER 2021 - NO EVENT

JANUARY 2022 - EXERCISE - THE NOT SO HOLY GRAIL OF WEIGHT LOSS?!

Let's connect!

Where to find me:



Channel: Dr. Dan - Weight-loss via Habit Mastery



Page: Dr. Dan - Healthcare Evolution (@theofficialdrdan)
Group: HE Family with Dr. Dan



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