



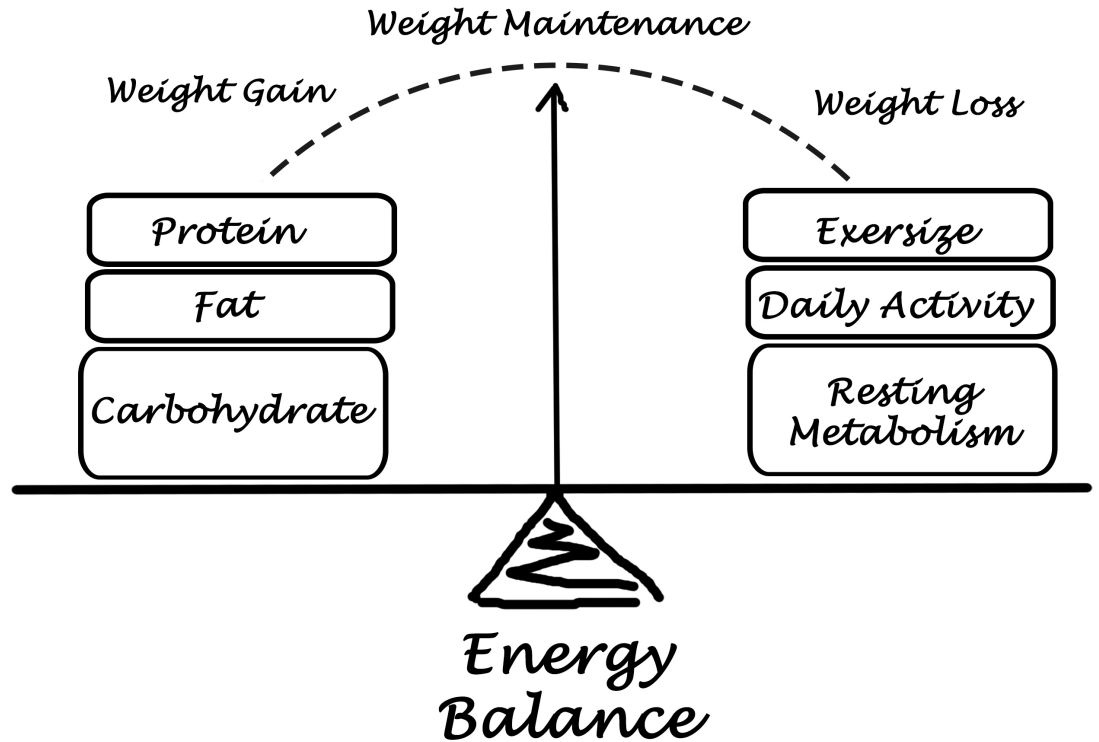
Optimizing Body Composition - Weight Loss vs. Fat Loss, Beyond Calories

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VP, Nutrition Services

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Content to be Presented

- Energy Balance – Beyond Calories
- Impact of Diet Quality
- Popular Diets and Composition of Weight Loss
- The Factors That Influence How Much Muscle is Lost or Gained
- Research Look: Losing Fat and Gaining Muscle Simultaneously
- How to Set Up Your Program to Prioritize Fat Loss
- Supplements to Facilitate Fat Loss

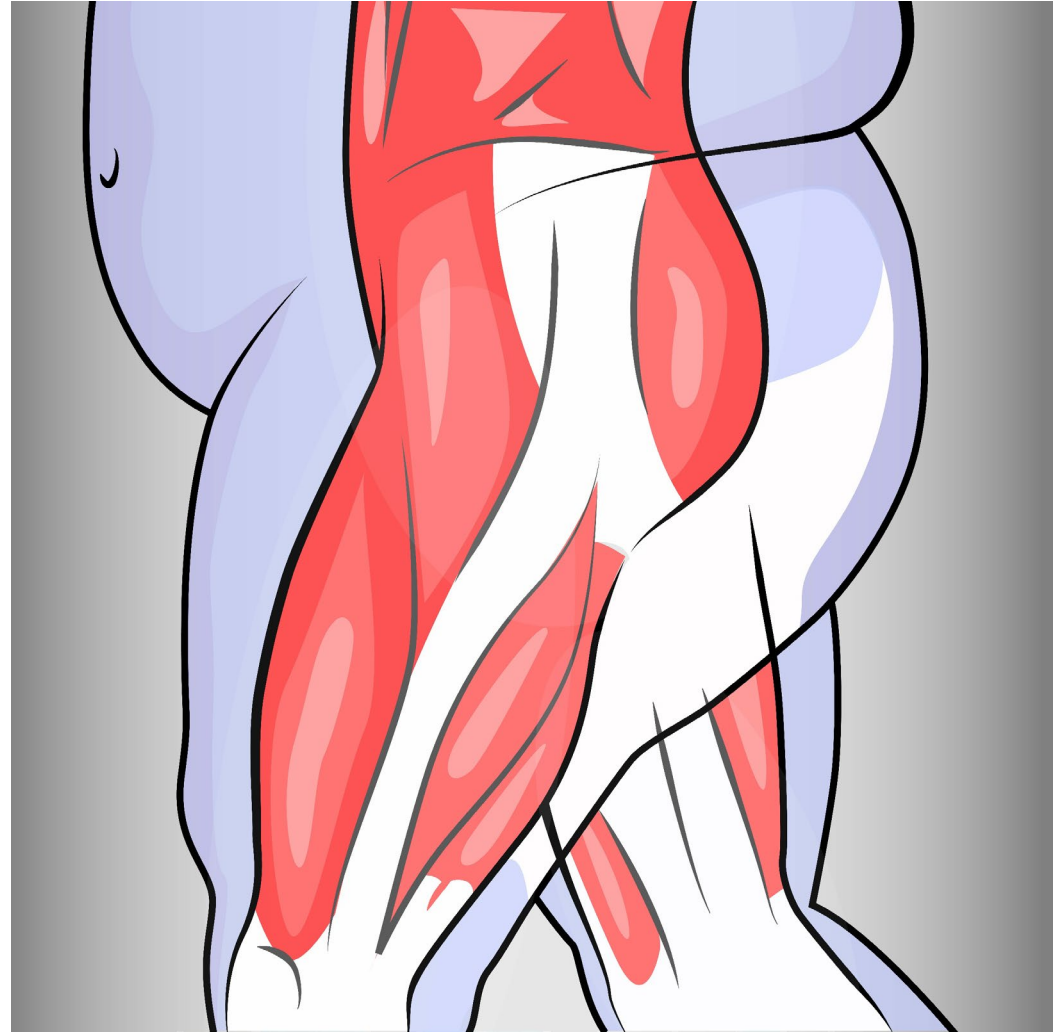


Definition of Terms

- **Maintenance** – calories required to maintain current weight
 - BMR + TEF + Exercise + NEAT
- **BMR** – Basal Metabolic Rate
 - Calories needed to sustain life
 - ~60% of daily energy expenditure/burn
- **TEF** – Thermic Effect of Feeding
 - Calories required to digest and absorb food
 - ~10% of total calories
- **NEAT** – Non-Exercise Activity Thermogenesis
 - All movement besides planned exercise
 - ~15–50+% varies greatly with occupation + lifestyle
 - Most flexible aspect of daily burn

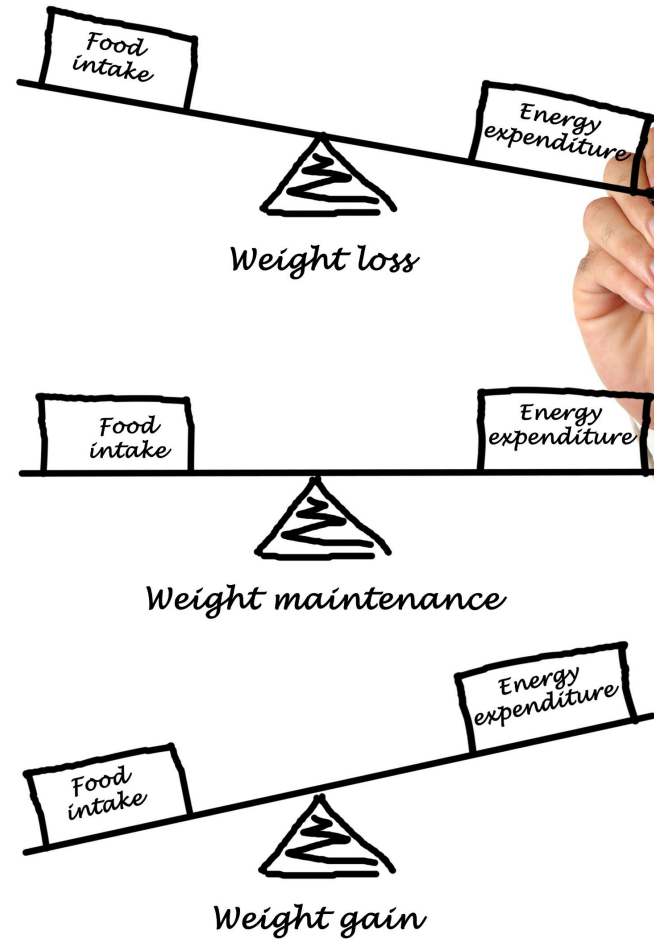
Definition of Terms

- **Caloric Restriction** – reducing calories below maintenance level to create a calorie deficit
- **Dieting vs. Diet**
 - Dieting - restricting calories for weight loss
 - Diet – refers to the type of food pattern one follows (keto, Mediterranean, balanced)
- **LBM** – lean body mass. Fat free mass: muscle, bone, fluid, connective tissue



Background – Energy Balance & Calories

- Energy Balance - also referred to as Calories In, Calories Out (CICO)
- Describes the physiological state the body is in
 - Balance = maintenance
 - Deficit = weight loss
 - Surplus = weight gain





Energy Balance & Calories In, Calories Out

- NOT Synonymous with “All Calories are Equal”
- The Quality of Your Diet Matters. It Impacts:
 - Muscle loss/gain
 - Daily energy expenditure
 - Total calorie intake
 - Micronutrient intakes
 - Risk of health issues
 - Immune function
 - Satiety/hunger levels
 - Energy levels
 - Recovery
 - Quality of workout sessions





KEY POINTS

- ***Weight loss** occurs when there's a **calorie deficit**, regardless of where the calories come from*
 - ***Weight gain** occurs when there's a **calorie surplus**, even if it's a high quality “healthy” diet*
- 

Impact of Diet Quality on Calorie Intake & Body Weight

20 inpatient adults were assigned to two different diets for two weeks at a time, ad libitum.

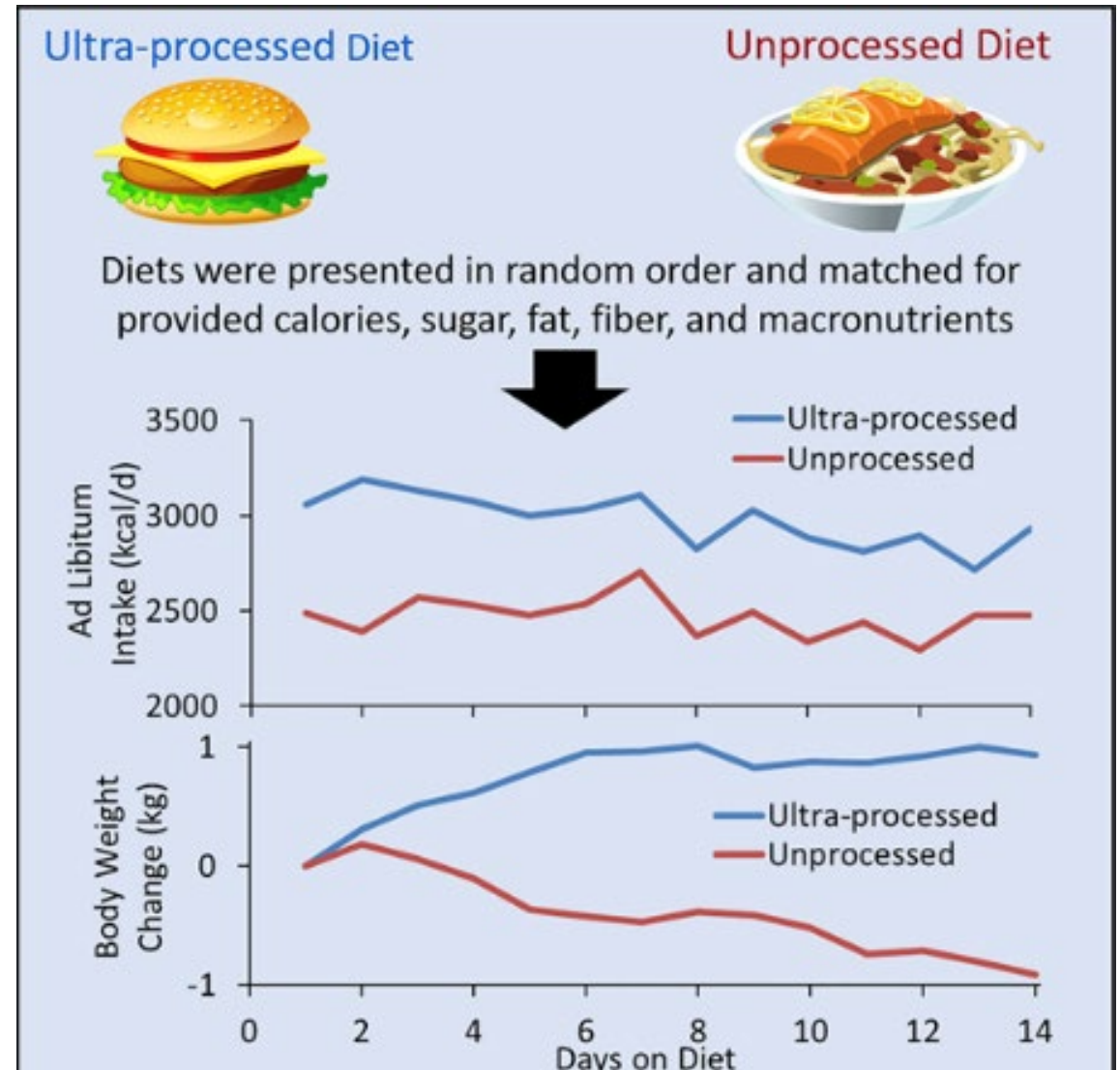
- Ultra-processed or unprocessed

Ultra-processed diet resulted in:

- 500 more calories consumed/day
- 2 lb. weight **gain**

Unprocessed diet resulted in 2 lb. weight **loss**

Takeaway: Ultra-processed diets spontaneously lead to overeating and weight gain. Unprocessed diets spontaneously lead to consuming fewer calories and weight loss.



Energy Balance & Calories In, Calories Out

- NOT synonymous with counting calories
- Counting calories is NOT required for weight loss
- Counting calories/macros or tracking food are useful tools for many, especially initially
 - Increases awareness
 - Builds food knowledge
 - Adds accountability



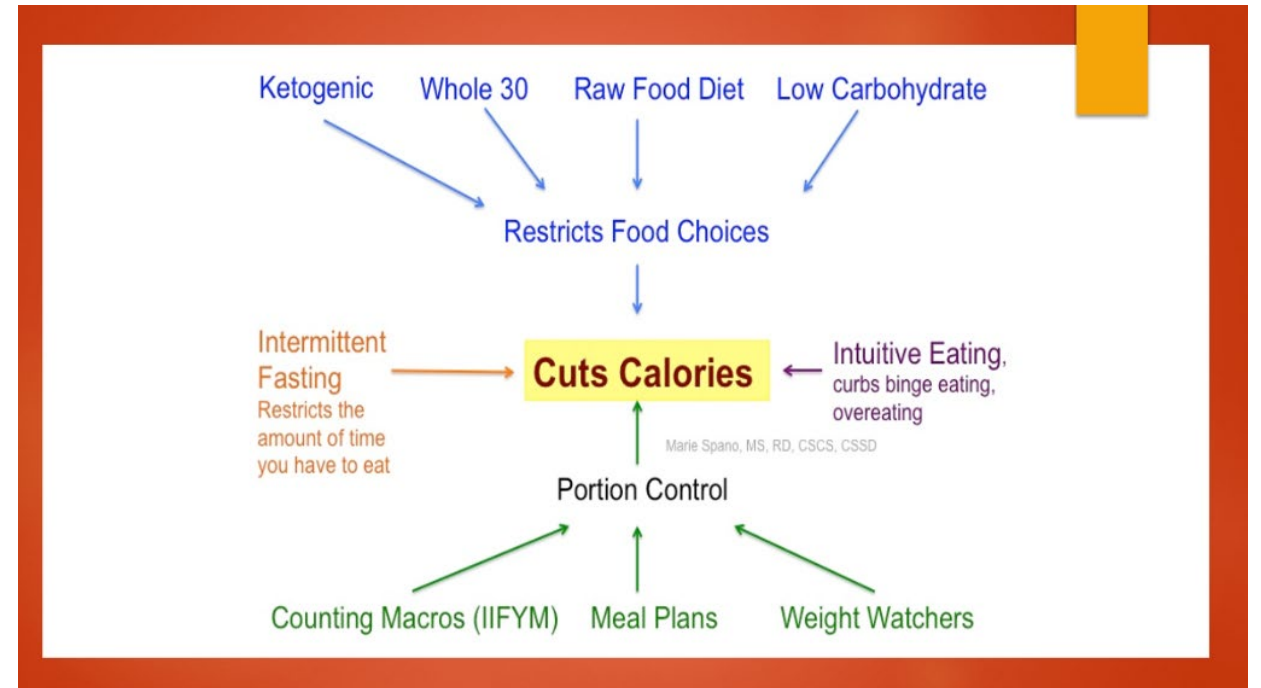


KEY POINTS

- ***Yes, diet quality matters. Focusing on minimally processed foods can make weight loss easier.***
 - ***No, you don't have to count calories, but it's a helpful tool.***
- 

Which Diet is BEST for Weight Loss?

- Among popular diets, there is no SINGLE superior diet for weight loss
- The ability to **adhere** to a diet is the biggest determinant of success
 - A calorie deficit must be sustained for continuous progress
 - Watch previous webinar on Popular Diets



Popular Diets Result in Micronutrient Shortages

- Menus of 4 Popular Diets Were Analyzed for 27 Vitamins + Minerals
 - Low Carb
 - Mediterranean
 - Low Fat
 - Medically Based
- Each one failed to provide 12-21 essential micronutrients

Calton *Journal of the International Society of Sports Nutrition* 2010, 7:24
<http://www.jissn.com/content/7/1/24>



RESEARCH ARTICLE

Open Access

Prevalence of micronutrient deficiency in popular diet plans

Jayson B Calton

DIET	How it Works	Nutrients at Risk for Insufficiency		Supplements to Fill Gaps
PALEO	No dairy, grains and grain products, legumes, processed foods, alcohol	Calcium Vitamin D B vitamins	Magnesium Fiber	• Multivitamin & Mineral • Calcium with Magnesium • Vitamin D3
KETO	5-10% Carbs (50 g/d max) 10-20% Protein 70-80% Fat	B vitamins Magnesium Fiber	Vitamin E & C Zinc Iron	• Multivitamin & Mineral • Calcium with Magnesium • Probiotic • Essential Amino Acids
VEGAN	No animal meats or products (eggs, milk, cheese, yogurt)	Vitamin D Calcium Protein Zinc	Omega-3 Fats B12 Iron Iodine	• Vegan MV • Calcium with Magnesium • Plant Protein • Essential Amino Acids • Vitamin D2 • Omega-3 Fats
GLUTEN FREE	Avoid all forms of wheat and wheat products. Rye, barley, bulger, some condiments, sauces and dressings	B Vitamins Vitamin D Iron Fiber	Zinc Magnesium Calcium Phosphorus	• Multivitamin & Mineral • Calcium with Magnesium • Vitamin D3 • Probiotic
INTERMITTENT FASTING	No food restrictions – no eating allowed for a specific time period Ex: 16:8 - fast for 16 hours and eat during an 8 hour window	Commonly under-consumed nutrients: Potassium, choline, magnesium Vitamins A, D, E, C Calcium, potassium, fiber Iron (for certain age/gender groups)		• Multivitamin & Mineral • Omega-3 Fish Oils (as needed) • Calcium with Magnesium (as needed) • Essential Amino Acids • Protein • Vitamin D3 (as needed)
IF IT FITS YOUR MACROS (IIFYM)	Varies based on individual needs, goals, preferences and training status	Commonly under-consumed nutrients: Potassium, choline, magnesium Vitamins A, D, E, C Calcium, potassium, fiber Iron (for certain age/gender groups)		• Multivitamin & Mineral • Omega-3 Fish Oils (as needed) • Calcium (as needed) • Vitamin D3 (as needed)

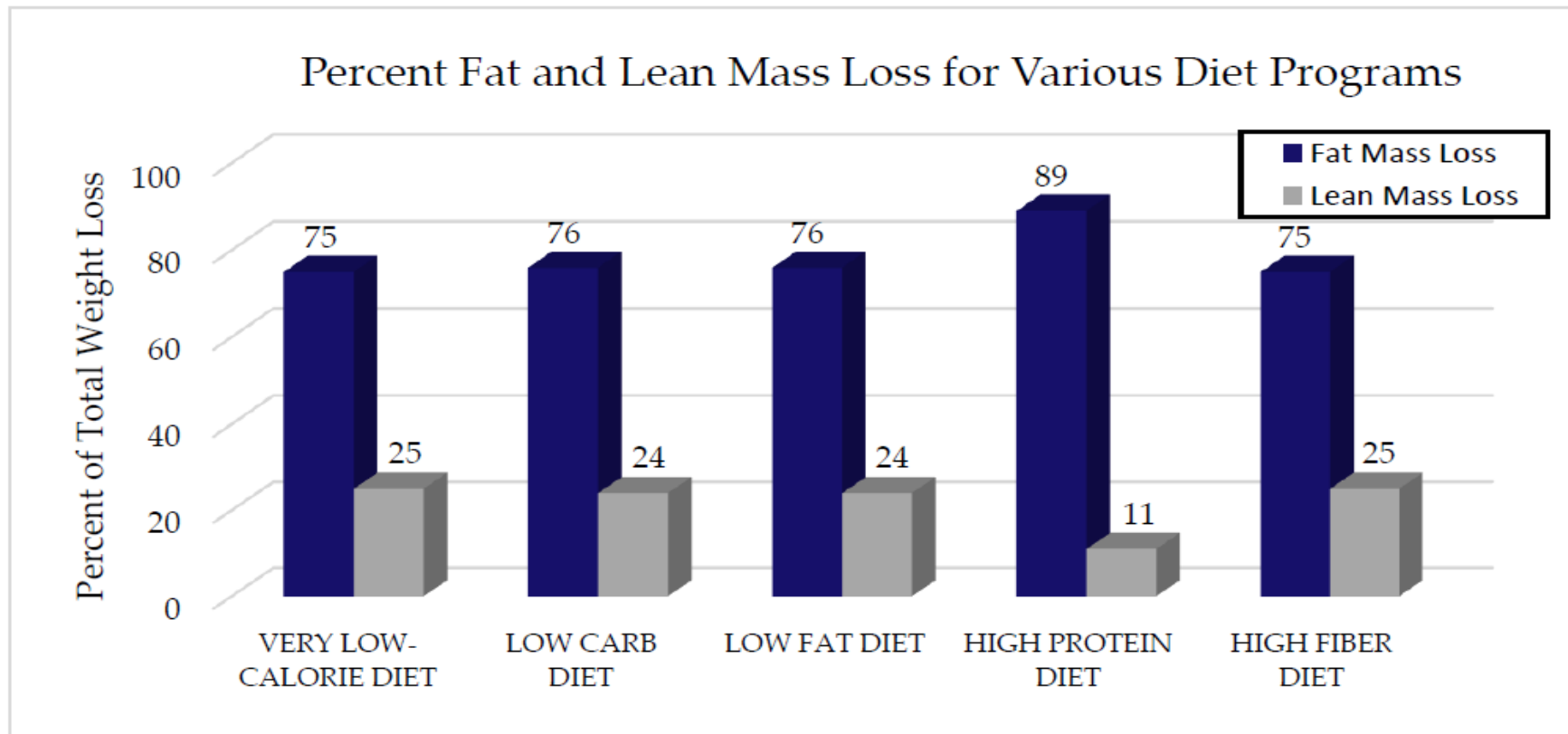


Figure 1. An overview of various weight loss clinical trials to examine the changes in body composition that occur from using popular diet programs. It should be emphasized that each diet program is distinct and contains unique and different exercise programs and diets that are thought to be helpful for weight loss but are not always evaluated by change in body composition. Results showed that all the popular diet programs examined lead to weight loss, though a large percent of the weight lost during these diet programs comes from a loss in LBM [14,16–18].

Popular Diets: Comparison of Changes in Fat Mass and Lean Mass

Consequences of Calorie Restriction

- Loss of glycogen, fat and muscle to fuel metabolism to prolong survival
 - Muscle protein synthesis (MPS) decreases, making it harder to build muscle
 - Muscle protein breakdown (MPB) increases, leading to loss of muscle
- Hunger – increase in ghrelin
- Decrease in NEAT to preserve energy
- Invokes survival mechanisms - BMR reduces to close the deficit
 - Metabolic adaption, adaptive thermogenesis
- Prolonged or severe restriction may make fat/weight gain easier
 - Fat overshooting





Weight Loss vs. Fat Loss

Weight Loss:

- Focus is on changes in scale weight, regardless of the composition of weight lost
 - May lead to obsessive/disordered behaviors
- Often occurs more rapidly due to the loss of lean body mass and glycogen stores
- Consequences of dieting are more severe in most cases, i.e., metabolic adaptation, hunger, decreased NEAT
 - May be medically necessary in obese
- Exacerbates micronutrient shortages
- Often leads to weight rebound
- May or may not include exercise



Weight Loss vs. Fat Loss

Fat Loss:

- Focus is on maximizing fat loss while preserving or building muscle
- Diet quality is prioritized
- Slower changes on the scale
- Consequences of dieting are less severe
- More sustainable
- Results in favorable changes in body composition and toned/fit/muscular appearance
- Includes resistance training and dietary support
- Supports functional independence and quality of life with age

Factors That Influence LBM Changes During Weight Loss

- Rate of Weight Loss = Size of Daily Deficit
- Resistance Training
- Protein Intake
- Micronutrient Intake
- Meal Frequency
- Age
- Training Status



Evidence Based Strategies to Optimize Body Composition

Maximize Fat Loss, Preserve or Build
Muscle, and Support Health and
Longevity



Key Strategy #1: Choose Appropriate Rate of Weight Loss

- Benefits to Slower Rate
 - Mitigates loss of muscle mass
 - Less severe metabolic adaptations – slowing of BMR
 - Less severe hunger/cravings
 - Allows time for the development of healthy habits & “fitness addiction”
 - Lower likelihood of regain
- Aim for 0.5% to 1.0% per week of body weight
 - Faster rates for obese



- Scenario 1:
 - 0.5% weekly weight loss rate = 0.7 lbs per week
 - Daily Calorie Burn = 1,983
 - **Daily Calorie Budget = 1,633**
 - **Daily Deficit 350 calories (18%)**
- Scenario 2
 - 1% weekly weight loss rate = 1.4 lbs per week
 - Daily Calorie Burn = 1,983
 - **Daily Calorie Budget = 1,283**
 - **Daily Deficit 700 calories (35%)**
- dotFIT Program allows you to set the weekly weight loss rate. Inputting weight/body fat weekly adjusts calories

Comparison of Different Rates of Weight Loss

155 lb. female, age 34, sedentary job, exercises 2-3 times a week. Wants to lose 15 lbs



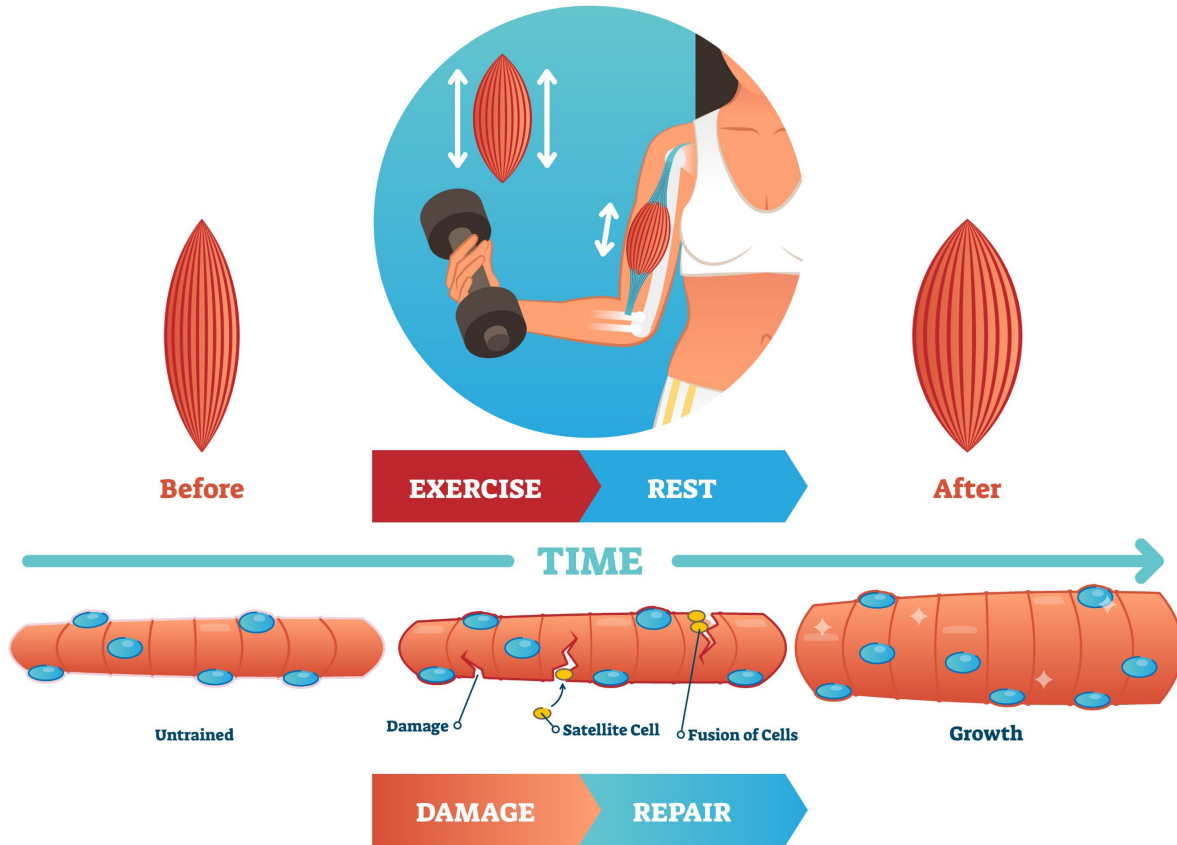
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KEY POINT

In general, slower rates of weight loss are more effective at preserving muscle mass, managing hunger and preserving metabolism



HOW MUSCLES GROW



Key Strategy #2: Resistance Train Consistently

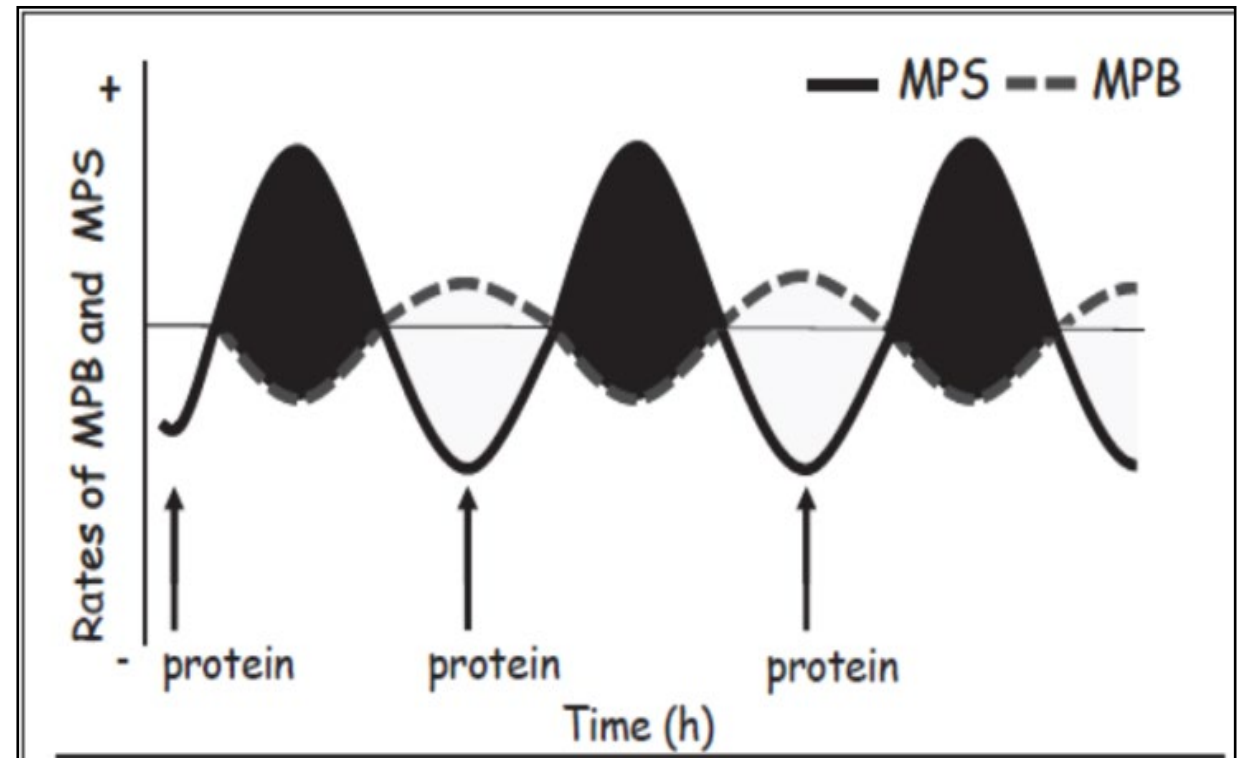
- Progressive resistance training is a potent stimulus for increasing muscle protein synthesis (MPS)
 - MPS decreases in a calorie deficit
- Sensitizes muscle to nutrient intake
- May help prevent metabolic adaptations and weight regain
- Aim for a minimum of 3 sessions per week

- RDA (0.36 g/lb. of body weight) is based on sedentary individuals to prevent deficiency
- Provides essential amino acids (EAAs) - building blocks of muscle tissue
- Adequate leucine is needed to start muscle-building machinery
 - At least 2-3 grams; more for older individuals
- Highest TEF compared to carbs and fat
 - ~20-30% of calories are used to digest/metabolize
- Satiating effect – lessens hunger
- Aim for 0.7 to 1.0 gram per pound of body weight OR 1 g/lb. of LBM, ideally across ~3-4 meals a day



Key Strategy #3: Prioritize Protein

- Protein intake with resistance training magnifies the increase in muscle protein synthesis (MPS)
- Regular protein-rich meals stimulates muscle protein synthesis throughout the day
- Consuming ~30 g of protein after resistance exercise while in an energy deficit resulted in a greater stimulation of muscle protein synthesis than did consumption of 15 g protein
 - (Areta et al., 2014. PMID: [24595305](#))



Losing Fat & Gaining LBM – Research

AKA Body Recomposition

Study Details:

- 40 overweight young active men
 - 40% calorie deficit
 - Full body circuit training + plyometrics 6 days a week
 - 4 weeks
 - Randomized to one of two groups:
 - Protein: 1.1 g/ lb of body weight (35% of calories)
 - Control: 0.54 g/lb of body weight (15% of calories)
 - Both groups: 50% of calories from carbs
 - Protein group used whey protein to reach daily target within total calories
 - Both groups ate more protein than the RDA (0.36 g/lb)
 - Same total weight loss – different composition

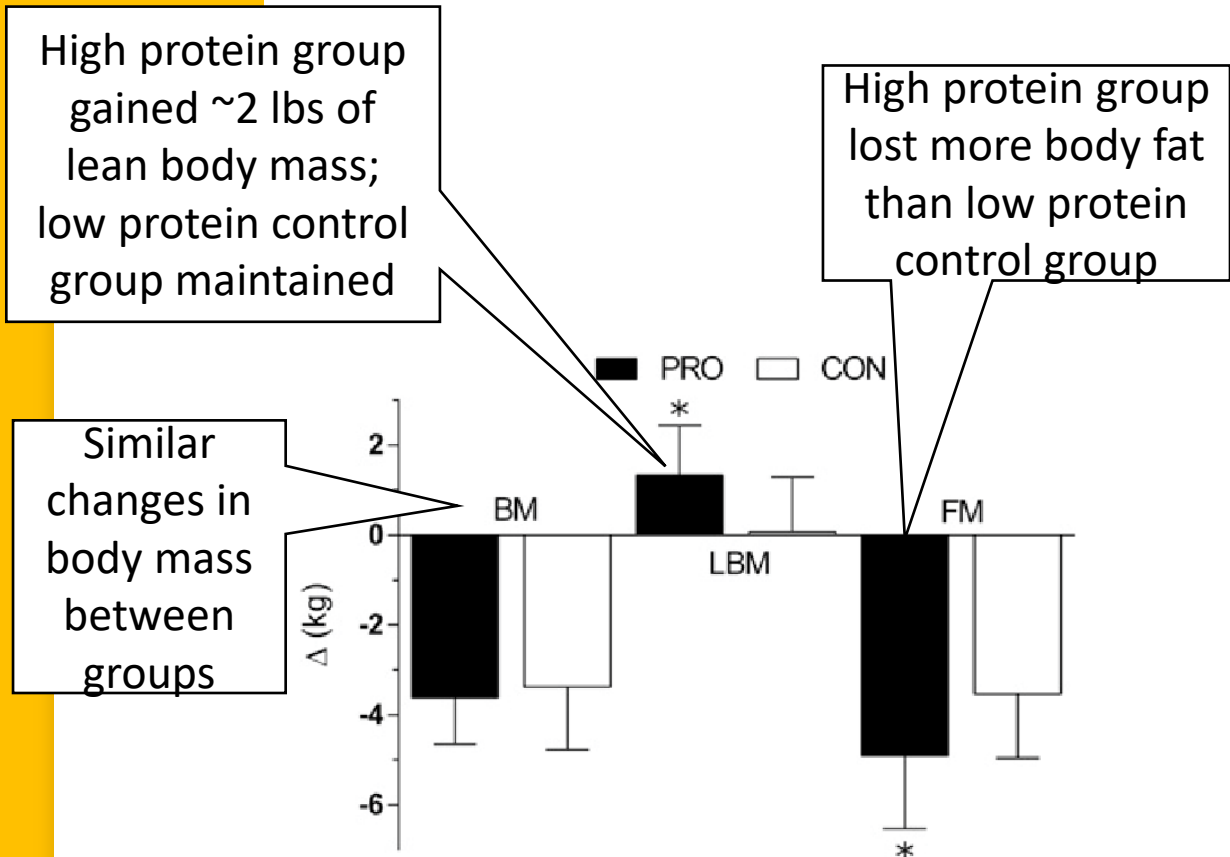


FIGURE 2 Four-compartment model-derived changes in BM, LBM, and FM during the intervention in both PRO and CON groups; data were analyzed with the use of an unpaired *t* test. Values are means $\pm$ SDs; *n* = 40 (20/group). *Significantly different from CON (*P* < 0.05). BM, body mass; CON, lower-protein ($1.2 \text{ g} \cdot \text{kg}^{-1} \cdot \text{d}^{-1}$) control diet; FM, fat mass; LBM, lean body mass; PRO, higher-protein ($2.4 \text{ g} \cdot \text{kg}^{-1} \cdot \text{d}^{-1}$) diet.

Body Recomposition Research

Study Details:

- 17 young, female novice physique competitors
- 8 weeks of supervised resistance training, 4 days a week (2 days upper, 2 days lower body)
- Randomly assigned to low or high protein intake
 - High: 1.1 g/lb/bw/d
 - Low: 0.4 g/lb/bw/d
- All macros were tracked

Results:

- High protein group experienced body recomposition
- Both groups increased LBM
 - High protein: 4.6 lbs
 - Low protein: 1.3 lbs
 - 3 of 9 lost LBM
- Only the high protein group lost a significant amount of fat
 - 2.4 lbs
- High protein group consumed more total calories from protein

Body Recomposition – Research

Antonio et al. *Journal of the International Society of Sports Nutrition* (2015) 12:39
DOI 10.1186/s12970-015-0100-0



RESEARCH ARTICLE

Open Access



A high protein diet (3.4 g/kg/d) combined with a heavy resistance training program improves body composition in healthy trained men and women – a follow-up investigation

Jose Antonio*, Anya Ellerbroek, Tobin Silver, Steve Orris, Max Scheiner, Adriana Gonzalez and Corey A Peacock

Study Details:

- 48 young, resistance trained individuals
- Randomly assigned to two groups:
 - Normal protein: 1 g/lb of body weight per day
 - High protein: > 1.5 g/lb of body weight per day
- Both groups performed heavy resistance training under supervision

Body Recomposition – Research Results

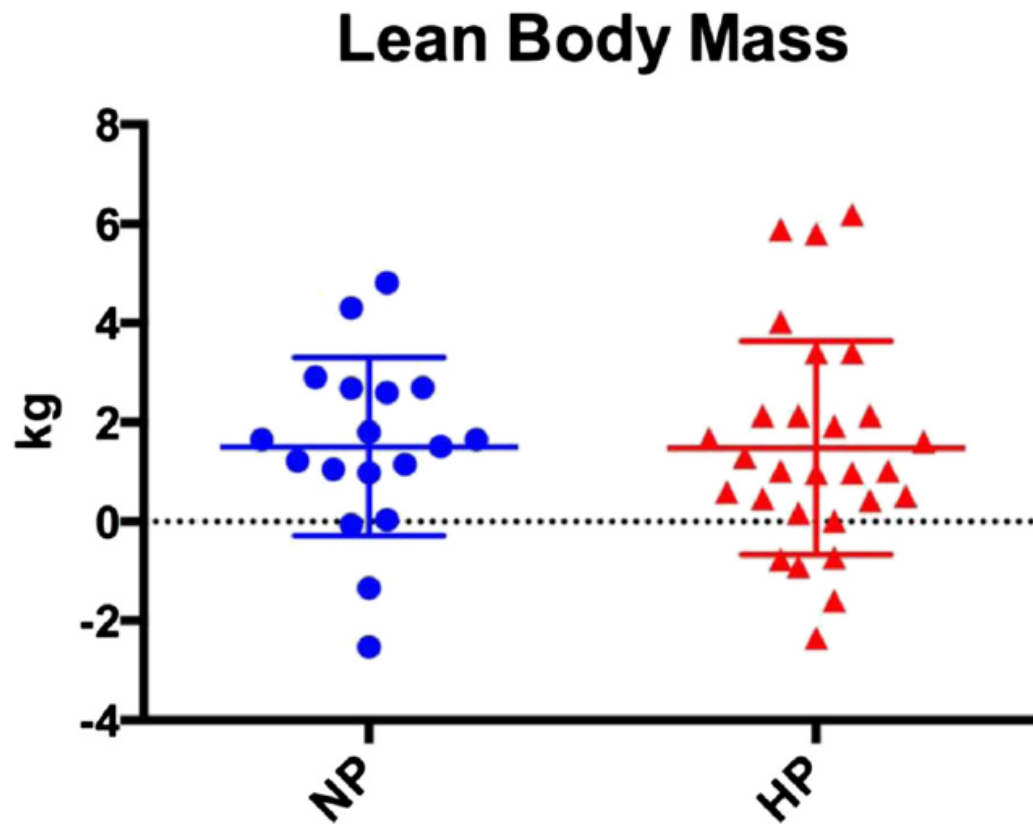
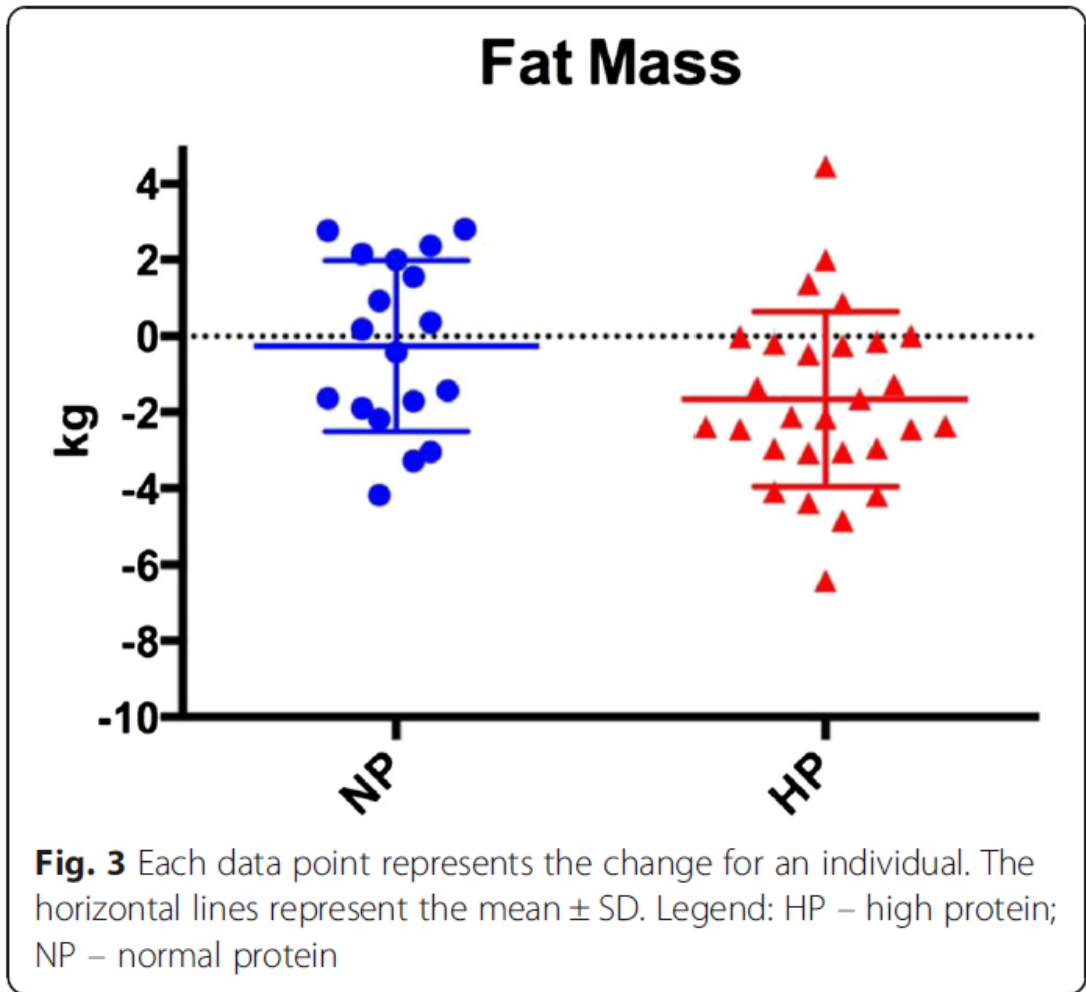


Fig. 2 Each data point represents the change for an individual. The horizontal lines represent the mean $\pm$ SD. Legend: HP – high protein; NP – normal protein

- Both Groups Gained an Average of 3.3 lbs of LBM
- NP: Normal Protein Group - 1.0 g/lb/bw/d
- HP: High Protein Group - 1.5 g/lb/bw/d

Body Recomposition – Research Results

- Both Groups Lost Fat
- High Protein Group Lost Significantly More
 - Averages: 3.5 vs. 0.66 lbs
- Key Takeaways:
 - Protein intakes greater than 1 g/lb of body weight per day did not result in greater gains in LBM but did promote additional fat loss in trained individuals
 - 70% experienced body recomp



Levels 1-3 Fat & Weight Loss Bundles – How Fast Do You Want to Go?

Take your results far beyond diet and exercise alone!

Maximize daily recovery and exercise-induced results, so you get paid overtime for your workout.

Feel better. Perform better daily. See significant changes weekly by feeding your muscles and starving body fat.



Weight Loss Bundles



Weight Loss Bundles:

<u>Level 1</u>	<u>Level 2</u>	<u>Level 3</u>
• LeanMR • ActiveMV • WeightLoss & LiverSupport	• LeanMR • ActiveMV • WeightLoss & LiverSupport • Amino Formula	• LeanMR • ActiveMV • WeightLoss & LiverSupport • Amino Formula • ThermAccel or CarbRepel



Weight Loss Bundle





Weight Loss Bundle





Weight Loss Bundle



The Simple Nutrition Solution That Leaves No One Behind

The Perfect Nutrition Hack



- 1 scoop a day replaces:
 - Active MV
 - Superior Antioxidant
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 - Digestive Enzymes
- And adds:
 - Two servings of veggies
 - 6 grams of fiber
 - Adaptogens for stress and inflammation: turmeric, mushrooms and ashwagandha
- For only \$3.00/day on a monthly recurring order

dotFIT Fat Loss Bundles



Level-1 Package: Go fast
Results paid in full

Level-2: Go Faster
Results Paid Overtime

Level-3: Fastest
Results Paid Double Time

Level 1 Fat Loss Bundle

Go Fast – Results Paid in Full
*We leave so much on the table
if we don't pick up where diet leaves off*

Meal Replacement diet integration is the #1 weight control solution, and we have the best with many delicious recipes - **and** you will save on groceries!

Best high whey protein/fiber mix available to curb hunger, control calories, feed muscles & starve bodyfat
My client's go-to for achieving & maintaining their desired body composition

Natural ingredients (such as green tea) to target mobilizing liver (belly) fat to improve sugar & overall fat metabolism/burning. African Mango to curb hunger to make this fitness journey pleasant



Optimize all VM activities to help maximize energy & all fat loss mechanisms, including burning more fat, fewer cravings, supporting immunity & reducing stress **without adding calories**

Only 4in1 complete MVM (high C&D) built specifically for athletes and exercisers & why it is NSF-CS and the most recommended/used MVM in high school, college, pro and Olympic sports – this is why we use it for our families and clients

Take Your Results Far Beyond Diet & Exercise Alone!

Maximize daily recovery and exercise-induced results –get paid in full for your workout!

Feel & perform better daily & see significant desired body composition changes weekly by feeding your muscles and starving body fat!

Level 2 Body Fat Reduction Success Package

Go Faster! Results Paid Overtime



Build and/or maintain muscle better & longer – beyond protein.

Amino acid blend that takes muscle support, energy levels, and daily recovery to the next level, giving you the **ability to control body composition** while enhancing recovery, muscle, and performance gains – **premier plateau buster! Maximum anabolic effect with lowest calories.**

Take Your Results Far Beyond Diet & Exercise Alone!

Maximize daily recovery and exercise-induced results –get paid overtime for your workout!

Feel & perform better daily & see significant desired body composition changes weekly by feeding your muscles and starving body fat!

WeightLoss & LiverSupport Product Summary

To support liver health to improve your overall metabolism and deliver better appetite management

Supports overall liver health
healthy/happy liver = better fat and carb burning

Helps mobilize liver (belly) fat to improve sugar
and fat metabolism

African Mango (Irvingia Gabonensis) helps
control appetite



Non-stimulant support with a green tea extract
and antioxidants that help accelerate results,
control appetite, and help you feel better daily.

Supplement Facts

Serving Size: 1 Tablet

Servings Per Container: 90

Amount Per Serving

		% DV
Green Tea (Camelia Sinensis) Leaf Extract	200 mg	*
[Standardized to 98% Polyphenols (196 mg), 80% Catechins (160 mg), 45% EGCG (90 mg), 2% Caffeine (naturally occurring 4 mg)]		
Choline (as Choline Bitartrate)	133 mg	*
N-Acetyl Cysteine	50 mg	*
Milk Thistle (Silybum Marianum L.) Seed Extract	166 mg	*
(Standardized to 80% Silymarin)		
Irvingia Gabonensis Seed Extract	150 mg	*

CarbRepel Product Summary

Carb lover's Go-To for assistance in appetite control and reducing sugar spikes



Significantly inhibits the enzyme that absorbs carbs

A natural *non-stimulant* to decrease carb calorie absorption to feel satisfied sooner and longer (eat more but get fewer calories)

Supplement Facts		
Serving Size: 2 Tablets		
Servings Per Container: 60		
Amount Per Serving		% DV
Phase 2 Starch Neutralizer®	750 mg	*
White Kidney Bean Extract (Phaseolus vulgaris)		
Citrus Pectin	375 mg	*
Pomegranate Fruit Powder	137.5 mg	*

Natural body fat reduction aid that eases the journey, accelerates results & protects LBM

ThermAccel – Bodyfat Reduction Product Summary

Safe and effective bodyfat reduction tool that works to accelerate results, control appetite, help you feel better daily, and see a significant change weekly –you can discontinue when the goal is achieved

Plateau Buster! Controlled stimulant formula to increase metabolism, daily movement while supporting appetite

Herb (Caralluma Fimbriata) to control appetite for a and easier journey to the goal



Natural ingredients in this 4 in1 product keep your metabolism fired up, appetite under control to burn more body fat, not LBM, through multiple actions to help avoid plateaus

Supplement Facts		
Serving Size 2 Tablets		
Servings Per Container 60		
	Amount Per Serving	% DV
Caralluma Fimbriata Powder	520 mg	*
Sinetrol™ (Mediterranean Citrus Extract)	600 mg	*
L-Theanine	100 mg	*
ThermAccel™ Thermogenic Complex	527 mg	*
[Caffeine Anhydrous (providing 200 mg of caffeine), Green Tea Leaf (providing 270 mg EGCG), Yerba Mate, Guarana Seed Extract and Cayenne Fruit]		



Summary

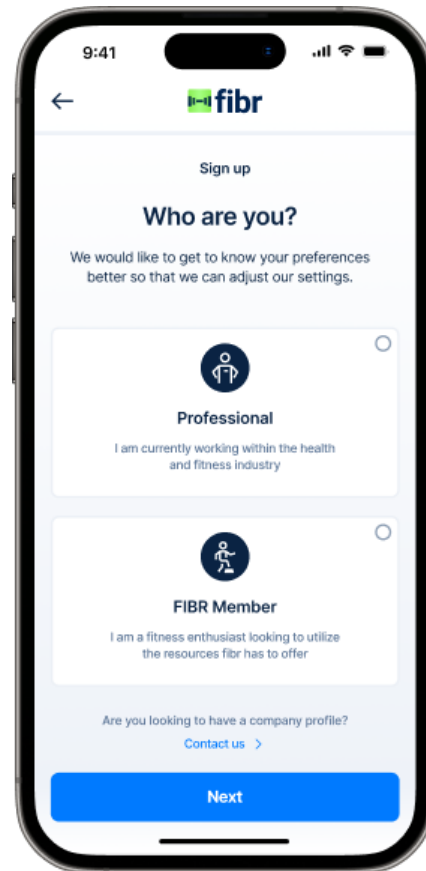
- Choose a slower rate of weight loss 0.5% to 1.0% per week
 - Higher for more overweight or for deadlines
- Include progressive resistance training at least three times a week
- Prioritize protein—at least 0.7 grams per pound of body weight OR 1.0 g per lb. of LBM
- Yes – it's possible to lose fat and gain muscle at the same time
 - Requires higher protein intake and proper supplementation –
“Calorically Efficient Nutrition.”



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What is fibrPRO?

FibrPRO is for fitness professionals to build up their own personal community and receive earnings on all purchases made by members of their community through the fibrSHOP.



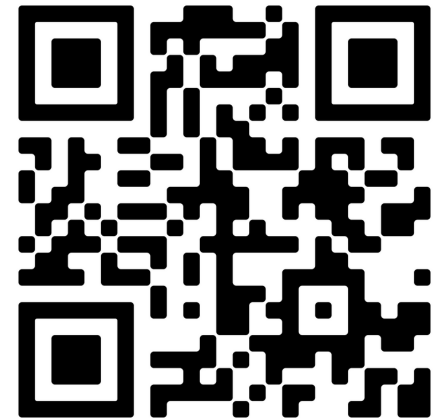
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Step 2: Sign up as a professional.

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