

Content by Topic

= Video Content = "Ask James" Content

- [Muscle Gain](#)
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Set Volume

[Set Volume for Muscle Size: The Ultimate Evidence-Based Bible](#)

[German Volume Training](#)

[Set Volume and Muscle Protein Synthesis](#)

[How long should you wait to change your training volume once you've hit a plateau?](#)

[H.I.T. vs. Volume Training](#)

[Is the length of the muscle protein synthesis response after a training session dependent upon the volume you do?](#)

[How do you implement the science on training volume and hypertrophy into program designs?](#)

[Is it better to use single or multiple exercises per muscle group, and is there a "sweet spot" for sets per exercise?](#)

Frequency

[Daily 1-RM Training vs. Traditional Training](#)

[Is it better to train a muscle group 2 days per week or 3 days per week for muscle size? Does it even matter?](#)

[The bro lore says that smaller muscle groups recover faster than larger ones, and therefore you can train them more frequently. Is this true?](#)

Repetition Ranges

[Are there individual hypertrophy differences in how people respond to various rep ranges?](#)

[Is it better to maintain my rep ranges for hypertrophy, or let the reps drop with each successive set as I fatigue?](#)

[Is high reps as useful as heavier weight/low reps for maintaining muscle while dieting?](#)

Periodization

[Periodization/Variation in Repetition Ranges for Muscle Size: Your Complete Evidence-Based Guide](#)

[Daily Undulating or Traditional Periodization for Hypertrophy?](#)

[Daily Undulating or Traditional Periodization for Hypertrophy? Part 2](#)

[Is Daily Undulating Periodization \(DUP\) or Linear Periodization \(LP\) better for muscle hypertrophy?](#)

[Do complex periodization schemes simply mask slow progress?](#)

[When should a novice start using periodization?](#)

Rest Intervals

[Rest Intervals for Muscle Size: Your Complete Evidence-Based Guide](#)

Short Rests for Hypertrophy? Say WHAAAAATTTT?

When training with 20+ RM, can short rests of 30 seconds compensate for lower mechanical tension through metabolic stress?

Should you do isolation exercises with long or short rest periods?

Exercise Selection

Do You Need Isolation Movements?

Train A Muscle From Multiple Angles?

Muscle Confusion?

Can I get the same leg development from a leg press as compared to a squat?

Is exercise variation important for hypertrophy?

Leg Extensions/Curls vs. Squats

When should a novice use isolation exercises, such as for rear delts?

Should beginners only do full body routines? Is it worthwhile for beginners to do isolation movements, or should they just do compound movements?

Is it better to use single or multiple exercises per muscle group, and is there a "sweet spot" for sets per exercise?

ROM

ROM and Hypertrophy

Do I need to train through a full ROM to maximize hypertrophy?

Do you need to do weight training exercises through a large range of motion to maximize hypertrophy?

Training to Failure

[To Fail or Not to Fail? Should You Train to Failure to Maximize Muscle Strength and Size?](#)

[To Fail or Not to Fail, Part 2. The Impact of Training to Failure on Muscle Size](#)

[Is there an RPE threshold for hypertrophy?](#)

[Is training to failure the stimulus for muscle hypertrophy, or is it load progression?](#)

[How does “training to failure” in research studies look like? Do the subjects get controlled for good form or is it a real world *Dorian Yates Blood and Guts* type of failure?](#)

[Do you need to train close to failure to maximize muscle protein synthesis?](#)

[Is it better to do body weight exercises to failure?](#)

Reduced Training/Detraining

[Periodic Training Breaks & Muscle Size](#)

[How Low Can You Go? The Impact of Reduced Training Frequency on Strength & Size](#)

[Detraining and Protein Supplementation](#)

Overtraining/Overreaching

[What is the timeline for recovery from overreaching in different modalities of training \(like heavy strength work versus hypertrophy work\)?](#)

[Why does progress eventually stall in terms of hypertrophy? What about overtraining and hypertrophy?](#)

Training Time of Day

[Time of Day Training for Muscle Size: Your Complete Evidence-Based Guide](#)

Intensity Techniques

[Straight Sets, Drop Sets, or Pyramid Sets for Muscle Size?](#)

[Holds for Hugeness?](#)

[Rest Pause Training for Muscle Size](#)

[Partial Reps for Muscle Size](#)

[Drop Sets for Muscle Size](#)

[When doing rest pause training, do the reps after the activation set technically count as low reps?](#)

Nutrition/Supplementation

Protein

[Night-Time Casein for Building Muscle](#)

[Do You Need to Spread Protein Intake To Maximize Muscle Gain? Part 1](#)

[Is There A Max Amount of Protein You Can "Use" During A Meal?](#)

[Protein + Carbs > Protein?](#)

[Does protein timing matter for trained subjects over untrained subjects due to differences in the muscle protein synthesis response?](#)

[Do different types of protein matter for building muscle if you eat protein frequently?](#)

Energy Intake

[At what numbers should you aim to gain weekly during a bulk so that its mostly muscle?](#)

[Is it better to be in a 10-20% surplus for muscle growth, or can you stay in maintenance and eliminate the fat gain?](#)

How much energy does it take to build one pound of muscle?

How long after returning from a deficit to maintenance can an individual reach their full anabolic potential?

Creatine

Is there any benefit to creatine supplementation in non-responders?

Meal Frequency

Is more frequent eating better for building muscle? If so, is it enough to be noticeable?

Progression

Can increased volume count as progressive overload?

Do I need to be constantly increasing my volume load (sets*reps*weight) to obtain progressive overload?

In addition to strength increases, tape measure, and body weight/composition, what else can you use to assess progress?

Progressive overload: cause or consequence? Do you need it to gain muscle?

Other

Time Course for Muscle Hypertrophy

Relationship Between Size and Strength

Muscle Protein Synthesis and Obesity

How does muscle protein synthesis compare between trained and untrained subjects, and what are the implications for designing training programs?

If I take multiple sets to failure, the drop off in reps with each set seems to vary from

one muscle group to the next. Why is this?

Do abdominal exercises help you slim or tighten your waist? Is there a particular abdominal exercise that you recommend?

Is it better to train abs like any other muscle group, or train them with body weight/very high reps?

How do you balance muscle growth with joint preservation?

Pre- vs. Post-Workout Stretching

Can post-tetanic potentiation (heavy, low rep sets followed by higher rep sets) enhance hypertrophy?

Why am I not getting a good pump anymore?

How do nuclei from satellite cells contribute to muscle growth?

Do people who train consistently have higher levels of anabolic hormones, like testosterone, growth hormone, and IGF-I?

Does moderate cardio after training hurt hypertrophy? Should it be done on leg or upper body days?

What are the primary drivers behind age-related loss of muscle, and how can it be prevented?

Appetite

Can Carbonated Beverages Make You Eat More?

White vs. Brown Rice for Satiety

Coconut Oil for Satiety

Why It's So Easy to Regain Weight: Fat Loss & Appetite Changes

Food Reward

[Do Hunger and Satiety Drive Eating Anymore?](#)

[Do Hunger and Satiety Drive Eating Anymore? Part 2](#)

[Do Hunger and Satiety Drive Eating Anymore? Part 3](#)

Exercise

[Individual Hunger Responses to Exercise](#)

[Does Exercise Make You Eat More?](#)

[Does Exercise Make You Eat More? Part 2](#)

[Does Exercise Make You Eat More? Part 3](#)

[Does Exercise Make You Eat More? Part 4](#)

[Effects of Exercise Intensity on Appetite](#)

Artificial Sweeteners

[Aspartame, Stevia, and Appetite](#)

Age

[Does Age Affect Appetite Regulation?](#)

Protein

[Can Post-Workout Whey Reduce Your Calorie Intake?](#)

[Why Does Protein Make You Feel Fuller?](#)

[Protein Bakes vs. Protein Shakes \(i.e., Solid vs. Liquid Protein for Appetite Control\)](#)

Food Variety

[Same 'Ol, Same 'Ol...The Impact of Food Habituation on Food Consumption](#)

Eating Rate

[Chew on This: The Impact of Chewing Rate on Food Intake](#)

[Eat Slow, Eat Less? Part 2](#)

[Eat Slow, Eat Less? Part 3](#)

[Eat Slow, Eat Less? Part 4](#)

Other

[Can a very small energy deficit be effective for minimizing hunger and muscle loss?](#)

Cardio/Endurance Exercise/Interval Training

[Active Commuting for Fat Loss](#)

[Interval Training vs. Steady Cardio for Fat Loss](#)

[Does Formal Exercise Impact NEAT?](#)

[Is combining cardio and lifting better for fat loss than lifting only?](#)

[Should individuals of smaller stature use cardio for fat loss?](#)

Intermittent Calorie Restriction/Fasting/Meal Patterns

[Time-Restricted Intermittent Fasting: Your Complete Evidence-Based Guide](#)

[Intermittent vs. Continuous Calorie Restriction for Fat Loss](#)

[Do You Need To Spread Your Protein Intake to Maintain Muscle While Dieting? Part](#)

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[Do You Need To Spread Your Protein Intake to Maintain Muscle While Dieting? Part](#)

What are the fat loss advantages of a Leangains cycle diet compared to other cyclic approaches?

What is the compensatory effect of fasting on subsequent calorie intake?

Resistance Training

How Much Does Weight Training Help With Fat Loss?

The Impact of Resistance Training on Energy Expenditure

Is it OK to change compound exercises when in an energy deficit?

Is high reps as useful as heavier weight/low reps for maintaining muscle while dieting?

Is combining cardio and lifting better for fat loss than lifting only?

Can I use a heart rate monitor to measure the calories I burn during weight training? Why or why not? If not, is there any method that I can use?

If volume is the most important factor in terms of energy expenditure from weight training, is the volume load from light weights and higher reps less effective for burning calories compared to that with heavier weights?

How many calories do you burn during recovery from a resistance training session?

Energy Expenditure/Metabolism/Physical Activity/Non-Exercise Activity
Thermogenesis (NEAT)

Metabolism

Does metabolism impact weight loss success?

Does metabolism impact future weight gain?

[Does “Starvation Mode” Exist? Part 1](#)

[Does “Starvation Mode” Exist? Part 2](#)

[Does “Starvation Mode” Exist? Part 3](#)

[Does “Starvation Mode” Exist? Part 4](#)

[Biggest Loser Metabolisms](#)

[Does Weight Cycling Cause Metabolic Damage and Interfere With Fat Loss?](#)

[Does Luxuskonsumtion Exist?](#)

[Do Spices Increase Metabolism?](#)

[Do Spices Increase Metabolism? Part 2](#)

[Portable Metabolism Testers](#)

[Can you enhance body fat metabolism?](#)

[How do I factor in age and muscle into the RMR estimate for the USDA Body Weight Planner?](#)

[What is the range in the slowdown of RMR over the short term and long term during weight loss?](#)

[Is the slowdown in RMR that occurs with weight loss reversible? Can refeed strategies help normalize RMR?](#)

[If muscle mass is the same between an obese and lean person, why does an obese person have a higher resting metabolic rate?](#)

NEAT

[Does Formal Exercise Impact NEAT?](#)

[A Not-So-NEAT Diet](#)

Lean vs. Obese NEAT

Physical Activity/Energy Expenditure

The Impact of Resistance Training on Energy Expenditure

Do People Accurately Report Their Physical Activity?

Obesity: Too Many Calories, Too Little Activity, or Both?

Is there an upper limit to total daily energy expenditure? Will my total daily energy expenditure stay the same even if I exercise more?

What is the relationship between PAL and TDEE?

How do we compare energy expenditure between people of different sizes and body composition?

Can I use a heart rate monitor to measure the calories I burn during weight training? Why or why not? If not, is there any method that I can use?

If volume is the most important factor in terms of energy expenditure from weight training, is the volume load from light weights and higher reps less effective for burning calories compared to that with heavier weights?

Weight Maintenance/Regain

Why it's So Easy to Regain Weight: Efficiency

Overfeeding

Overfeeding and Energy Expenditure, Part 1

Overfeeding and Energy Expenditure, Part 2

Appetite

Does Exercise Make You Eat More?

Does Exercise Make You Eat More? Part 2

[Does Exercise Make You Eat More? Part 3](#)

[Does Exercise Make You Eat More? Part 4](#)

[Effects of Exercise Intensity on Appetite](#)

Other

[How much energy do you expend with activities like thinking or studying?](#)

Energy Intake

[How To Use Kevin Hall's Models To Establish Calorie Targets](#)

[How Can We Better Estimate Calorie Intake?](#)

[Underreporting Examination, Part 1](#)

[Underreporting Examination, Part 2](#)

[Obesity: Too Many Calories, Too Little Activity, or Both?](#)

[What methods of tracking food intake can work for busy people and people who struggle to track?](#)

[What is my rule of thumb for calculating macros?](#)

Protein

[Can Post-Workout Whey Reduce Your Calorie Intake?](#)

[High Protein and Insulin Sensitivity During Weight Loss](#)

[Why Does Protein Make You Feel Fuller?](#)

[Protein Bakes vs. Protein Shakes \(i.e., Solid vs. Liquid Protein for Appetite Control\)](#)

[Do You Need To Spread Your Protein Intake to Maintain Muscle While Dieting? Part](#)

[Do You Need To Spread Your Protein Intake to Maintain Muscle While Dieting? Part](#)

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[Can You Overeat Protein and Not Gain Fat?](#)

[How does the absorption of protein from beef jerky compare to cooked beef?](#)

[Is a Protein Sparing Modified Fast \(PSMF\) a good strategy for bodybuilders to lose fat rapidly?](#)

[What is my rule of thumb for calculating macros?](#)

Carbohydrate

Low Carb

[Energy Expenditure and Fat Loss in Low Carb vs. High Carb Diets](#)

[Low Carb vs. High Carb](#)

[Can a Keto Diet Help You Keep Muscle During Extreme Dieting?](#)

Grains

[Do Whole Grains Favorably Impact Energy Balance?](#)

[White vs. Brown Rice for Satiety](#)

[Grains...An Undeserved Bad Reputation](#)

[Grains...An Undeserved Bad Reputation, Part 2](#)

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[Gluten...An Undeserved Bad Reputation](#)

[White Bread...An Undeserved Bad Reputation \(Sort Of\)](#)

Sugar

[The Impact of Sugar on Body Fat](#)

Glycemic Index

[The Futility of the Glycemic Index, Part 1](#)

[The Futility of the Glycemic Index, Part 2](#)

[The Futility of the Glycemic Index, Part 3](#)

[The Futility of the Glycemic Index, Part 4](#)

Other

[Do you have to be glycogen depleted to maximize fat loss?](#)

[What is my rule of thumb for calculating macros?](#)

Dietary Fat

[Coconut Oil for Satiety](#)

[Has there been any research into how much fat is actually on the food when one uses oil for cooking?](#)

[How much fat comes out of meats when they're grilled?](#)

[What is my rule of thumb for calculating macros?](#)

Supplements

[Holding Fat Burners to the Fire, Part 1](#)

[Holding Fat Burners to the Fire, Part 2: Green Tea](#)

[Holding Fat Burners to the Fire, Part 3: CLA and Taurine](#)

[The Health Effects of Green Tea](#)

[Does the body compensate for the elevated energy expenditure from thermogenic agents like ephedrine?](#)

Spot Reduction

[Spot Reduction: Reality or Myth?](#)

[Spot Reduction, Part 1](#)

[Spot Reduction, Part 2](#)

[Spot Reduction, Part 3](#)

[What is the most reliable way to get rid of stubborn fat?](#)

Brain/Palatability/Food Reward

[Brain Responses to Unhealthy Foods](#)

[Do Hunger and Satiety Drive Eating Anymore?](#)

[Do Hunger and Satiety Drive Eating Anymore? Part 2](#)

[Do Hunger and Satiety Drive Eating Anymore? Part 3](#)

[Same 'Ol, Same 'Ol...The Impact of Food Habituation on Food Consumption](#)

Weight Maintenance/Regain

[Why it's So Easy to Regain Weight: Efficiency](#)

[Why It's So Easy to Regain Weight: Fat Loss & Appetite Changes](#)

Fat Loss Rate/Muscle Retention

[Why It's So Hard To Build Muscle & Lose Fat At The Same Time](#)

[Weight Training, Weight Loss, and Protein Synthesis](#)

[What's the Maximum Rate At Which You Can Lose Fat While Minimizing Lean Mass Loss?](#)

[Fat Loss Too Fast? The Effect of Rate of Fat Loss On Lean Mass Retention](#)

[Does Size Matter \(Of the Energy Deficit, That Is\)?](#)

[Can performance on key compound lifts be a good gauge of muscle retention during a diet?](#)

[Is a Protein Sparing Modified Fast \(PSMF\) a good strategy for bodybuilders to lose fat rapidly?](#)

[Can a very small energy deficit be effective for minimizing hunger and muscle loss?](#)

[Is there a way for someone to know how hard to push a deficit but not so hard as to lose muscle?](#)

Artificial Sweeteners

[Could Diet Beverages Actually Hinder Fat Loss?](#)

[Can Artificial Sweeteners Help You Lose More Weight Than Water?](#)

[Artificial Sweeteners: an Undeserved Bad Reputation](#)

[Artificial Sweeteners: an Undeserved Bad Reputation...Gut Flora](#)

Aspartame

[Aspartame...Deserved or Undeserved Bad Reputation???](#)

[Aspartame...an Undeserved Bad Reputation](#)

[Aspartame...an Undeserved Bad Reputation, Part 2](#)

[Aspartame...an Undeserved Bad Reputation, Part 3: The Soffritti Studies](#)

[Aspartame...an Undeserved Bad Reputation, Part 4: The Deception of Anti-](#)

[Aspartame Groups](#)

[Aspartame...an Undeserved Bad Reputation, Part 5: The Neurological Effects](#)

[Aspartame, Stevia, and Appetite](#)

[Aspartame and MSG...Undeserved Bad Reputations](#)

Acesulfame K

[Artificial Sweeteners: An Undeserved Bad Reputation, Part 2 - Acesulfame Potassium \(Acesulfame K\)](#)

Sucralose

[Sucralose: An Undeserved Bad Reputation](#)

[Sucralose: An Undeserved Bad Reputation, Part 2](#)

Saccharin

[Saccharin: An Undeserved Bad Reputation](#)

Stevia

[Is Stevia Safe?](#)

[Aspartame, Stevia, and Appetite](#)

Neotame

[Artificial Sweeteners: an Undeserved Bad Reputation](#)

Obesity

[Obesity: Too Many Calories, Too Little Activity, or Both?](#)

[Do Obese People Have a Defect in Fat Metabolism?](#)

Dietary Adherence

What Predicts Lapses in Adherence After Losing Fat?

Do you have any specific strategies to keep client adherence to their diet?

If a client isn't losing fat, how can we determine if it's an adherence problem or just that the calorie prescription is too high?

Other

Morning Exercise for More Fat Loss?

Lame Liposuction

My Fat Loss/Contest Prep Journey, Part 1

My Fat Loss/Contest Prep Journey, Part 2

Do you need to cut water, sodium, dairy, and/or fruit when prepping for a photo shoot or contest?

If a client doesn't lose weight, and you know this is quite impossible considering the caloric deficit in the diet/exercise routine you gave him/her, what would be your plan for such a scenario?

When meal planning, is it better to provide a few meal examples with a calorie/macro prescription, or an entire meal plan?

In addition to strength increases, tape measure, and body weight/composition, what else can you use to assess progress?

What does the evidence say about gut microbiome's effect on health and weight?

Do you gain more fat from a caloric surplus if you are consuming alcohol?

Do you gain the same amount of fat from a very large overnight surplus as compared to a small surplus drawn out over a month?

If you are in a caloric deficit for a single day, did you lose body fat in that day/night

or does it take longer to “kick start”?

How long after returning from a deficit to maintenance can an individual reach their full anabolic potential?

Artificial Sweeteners

Could Diet Beverages Actually Hinder Fat Loss?

Can Artificial Sweeteners Help You Lose More Weight Than Water?

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Muscle

[Do You Need To Spread Your Protein Intake to Maintain Muscle While Dieting?
Part 1](#)

[Do You Need To Spread Your Protein Intake to Maintain Muscle While Dieting?](#)

Part 2

Night-Time Casein for Building Muscle

Do You Need to Spread Protein Intake To Maximize Muscle Gain? Part 1

Is There A Max Amount of Protein You Can “Use” During A Meal?

Protein + Carbs > Protein?

Does protein timing matter for trained subjects over untrained subjects due to differences in the muscle protein synthesis response?

Do different types of protein matter for building muscle if you eat protein frequently?

Other

High Protein and Insulin Sensitivity During Weight Loss

Can You Overeat Protein and Not Gain Fat?

Do you count incomplete proteins in your daily protein requirements?

Why does the body produce insulin when we eat protein?

When combining complete & incomplete proteins, do the incomplete proteins compete and “take away” essential amino acids?

Carbohydrate

Grains

Do Whole Grains Favorably Impact Energy Balance?

White vs. Brown Rice for Satiety

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[The Futility of the Glycemic Index, Part 4](#)

Fiber

[Do you really need fiber in your diet?](#)

Dietary Fat

[Coconut Oil for Satiety](#)

[Do you need omega 3 supplements if you consume pastured animal products?](#)

[Why are higher fat intakes typically recommended even though the daily requirements for essential fatty acids are very low?](#)

Salt

[Salt...an Undeserved Bad Reputation?](#)

[Do you need to limit your salt intake below 5 grams per day? Does 1 gram of salt "store" 100 mL in your body?](#)

Other

Is it true you can't hydrate with bottled water because it has no minerals in it?

Does drinking water during a meal affect digestion?

Sleep

How does the time of day of exercise impact sleep quality?

Body Composition

What is the lower end of a healthy body fat percentage and what symptoms start to occur when you reach it?

Is there any truth to the "middle age spread", and what are the mechanisms behind it?

How accurate is CT scanning for body composition?

Research

What recent research has significantly changed what we believe, or how we might coach people in practice?

What resources would you recommend to learn how to evaluate research?

What is a good strategy when searching for literature/studies/reviews on a particular topic and how to use it?

Insulin

Do we have better insulin sensitivity in the morning or evening? What are the mechanisms?

Endurance athletes rely on lipolysis and fatty acid oxidation even when insulin levels

[are elevated. What happens if insulin levels are elevated from protein but not carbs?](#)

[Why does the body produce insulin when we eat protein?](#)

Other

[What are the functions of ketones in the body? How do they compare as a fuel source for aerobic versus anaerobic exercise?](#)

Evidence Based Guide

[Set Volume for Muscle Size: The Ultimate Evidence-Based Bible](#)

Appetite

[Do Hunger and Satiety Drive Eating Anymore?](#)

[Do Hunger and Satiety Drive Eating Anymore? Part 2](#)

[Do Hunger and Satiety Drive Eating Anymore? Part 3](#)

Metabolism & Energy Expenditure

[Portable Metabolism Testers](#)

[Overfeeding and Energy Expenditure, Part 1](#)

[Overfeeding and Energy Expenditure, Part 2](#)

Ask James

- [Is it better to maintain my rep ranges for hypertrophy, or let the reps drop with each successive set as I fatigue?](#)

- What recent research has significantly changed what we believe, or how we might coach people in practice?
- If I take multiple sets to failure, the drop off in reps with each set seems to vary from one muscle group to the next. Why is this?
 - What shoes can be best for weightlifting or moderate pace running? Do shoes really make a big difference, and do they save us from injuries?
 - Do I need to train through a full ROM to maximize hypertrophy?
 - What resources would you recommend to learn how to evaluate research?
 - Do abdominal exercises help you slim or tighten your waist? Is there a particular abdominal exercise that you recommend?
- Is there an upper limit to total daily energy expenditure? Will my total daily energy expenditure stay the same even if I exercise more?
- How long should you wait to change your training volume once you've hit a plateau?
 - Can I get the same leg development from a leg press as compared to a squat?
- Is it better to train a muscle group 2 days per week or 3 days per week for muscle size? Does it even matter?
 - Is exercise variation important for hypertrophy?