



GAINING SIZE & STRENGTH

NUTRITION

NUTRITION: Gaining Size & Strength



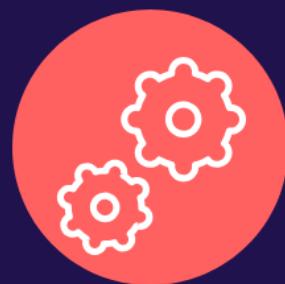
Nutrition
Importance



Food Choices



Setting Up Your
Macronutrients



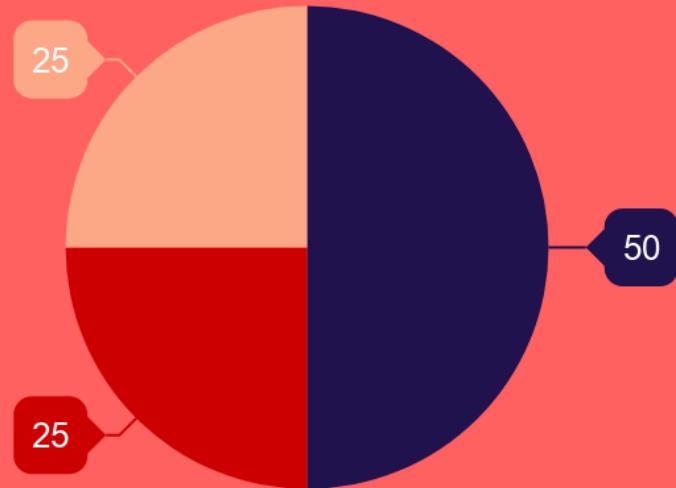
Making Changes
to Gain More



Performance
Requires Fuel

Nutrition makes up 50% (or more) of your progress while building/gaining muscle and increasing strength.

Proper nutrition provides the fuel to perform and recovery required to improve. It is an essential aspect of any training routine if taken seriously.



■ Nutrition (50%) ■ Training (25%) ■ Recovery (25%)

FITNESS BREAKDOWN

Nutrition
Training
Recovery

50%
25%
25%

100% 

WHAT HAPPENS TO MUSCLE DURING/AFTER WORKOUTS

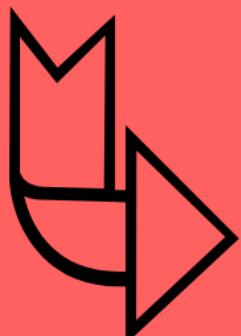
T TRAUMA

When muscles undergo intense exercise, as from a resistance training bout, there is trauma to the muscle fibers that is referred to as muscle injury or damage in scientific investigations. This disruption to muscle cell organelles activates satellite cells, which are located on the outside of the muscle fibers.

R REPAIR

In essence, a biological effort to repair or replace damaged muscle fibers begins with the satellite cells fusing together and to the muscle fibers, often leading to increases in muscle fiber cross-sectional area or hypertrophy.

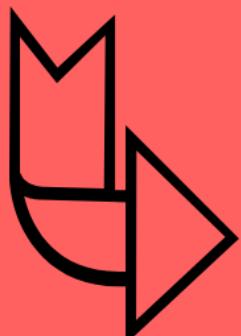
MUSCLE PROTEIN SYNTHESIS



Muscle protein synthesis (MPS) is the rebuilding of muscle tissue and it occurs as a result of the stresses that we place on our body, whether it is to repair injury (such a muscle tear) or because we intentionally try to damage it (microtrauma from training).

The anabolic effects of nutrition are principally driven by the transfer and incorporation of amino acids captured from dietary protein sources, into skeletal muscle proteins. The purpose of this is to compensate for muscle protein that is lost during training.

STIMULATING MPS



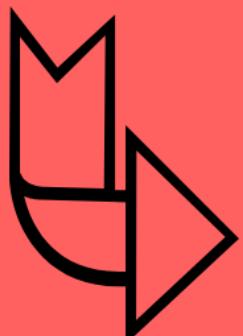
The magnitude of acute response of muscle to resistance exercise in terms of MPS is dependent upon both workload and intensity.

Exercise at intensities $\leq 40\%$ of one-repetition maximum (1-RM), there are no detectable increases in MPS.

Exercise at intensities greater than 60% 1-RM, exercise increases MPS 2- to 3-fold.

In conclusion, training with heavier loads at rates of higher intensity will increase the stimulus of muscle protein synthesis to build more muscle.

NUTRITION IMPORTANCE

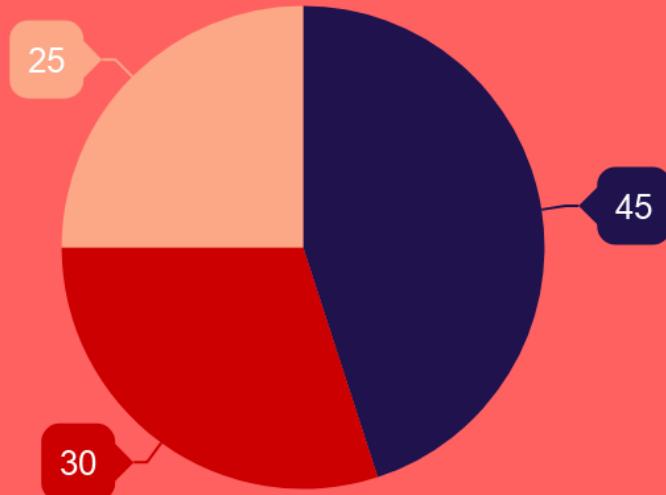


So when we put all of this above information together - what does it mean and why is nutrition so important?

Your overall diet is important to sustain health, build muscle and increase your ability to perform/recover, however, post workout nutrition is key...

While you workout at a high rate of intensity you create trauma to your muscles. This stimulates muscle protein synthesis. Proper post workout nutrition fuels muscle protein synthesis to recover muscle trauma and build muscle to adapt to this stimulus.

With Nutrition being so important to gaining size and strength it is essential to know how much you should consume...



■ Carbohydrates (45%) ■ Protein (30%) ■ Fat (25%)

MUSCLE BUILDING MACRONUTRIENTS

Carbohydrates
Protein
Fat

45%
30%
25%

100% 

MACRONUTRIENTS



P

PROTEIN

Proteins are essential nutrients for the human body. They are one of the building blocks of body tissue and can also serve as a fuel source. As a fuel, proteins provide 4 calories per gram.



C

CARBS

Carbs are a source of energy; they are mainly sugars and starches that the body breaks down into glucose that the body uses to feed its cells. As a fuel, carbs provide 4 calories per gram.



F

FAT

Dietary fats are not just a source of energy; they function as structural building blocks of the body, carry fat-soluble vitamins and are involved in vital physiological processes in the body. As a fuel, fat provides 9 calories per gram.

SETTING UP YOUR MACROS

By tracking your macronutrients (protein, fats and carbohydrates) you can be more accurate in reaching your goals. It also provides you a consistent factor and objective result of why you might need to make changes in your diet to reach your goals.

- If you are consuming too many calories - you won't lose weight.
- If you aren't consuming enough calories - you won't gain weight.
- If you are not consuming enough calories - it may be impacting your strength.

It is recommended to find a Mifflin-St. Jeor Calculator online to find your necessary caloric needs:

According to Nutrition Therapy and Pathophysiology, the Mifflin-St. Jeor equation was developed in 1990 and has been validated by more than 10 studies. The Mifflin-St. Jeor equation is gaining popularity among the nutrition professionals for accurately estimating caloric needs.

SETTING UP YOUR MACROS



Calculate your BMR (basal metabolic rate) using the Mifflin-St. Jeor Equation calculator online.

The results will provide you daily caloric intakes based off weight maintenance, weight gain or weight lose.



Set up your daily macronutrient goals based off the below guidelines and using your recommended caloric intake from the Mifflin-St. Jeor Equation.



Protein = 0.8 - 1.25 grams / pound of bodyweight



Fat = 0.35 - 0.45 grams / pound of bodyweight



Carbs = Fill in remaining calories

SETTING UP YOUR MACROS



Below is an example of how to use the Mifflin-St. Jeor Calculator Equation and setting up your macronutrients.

EX: 210 pound male, very active, maintenance calories.



This example is assuming you have already found your needed caloric intake based off your goals with the online calculator.

Calories: 3,399



210 pounds x 1.20 = 252 gram of protein (1,008 calories)



210 pounds x 0.40 = 84 grams of fat (756 calories)



3,399 calories - 1,764 (protein + fat calories) = 1,635 remaining

1,635 / 4 = 409 grams of carbohydrates

RECOMMENDED FOODS

PROTEIN

- chicken breast
- chicken thighs
- eggs/egg whites
- steak
- turkey
- protein powders
- green yogurt
- fish
- bacon
- cheese
- beef jerky
- beans
- nuts

CARBS

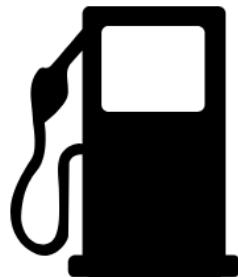
- rice
- potatoes
- oatmeal
- high fiber cereals
- fruit
- vegetables
- quinoa
- beans
- whole wheat breads
- pasta

FATS

- olive oil
- coconut oil
- nuts
- nut butter
- avocado
- whole eggs
- chia seeds
- fatty fish
- ground flaxseed
- seeds

MAKING CHANGES TO GAIN MORE

For many of us - we are looking to increase our size and strength.



**PERFORMANCE
REQUIRES
FUEL.**



**500
calories**

A calorie surplus is a state in which you consume more calories than you burn leading to weight gain in the form of muscle or body fat. While a calorie surplus is required to gain weight, simply eating more only leads to unsightly body fat. To gain muscle, you must combine a calorie surplus with a solid strength training routine.

By increasing your calories you place yourself in a caloric surplus. Try starting out at an additional 500 calories a day to compliment your training and recovery.