

PROTEIN

HOW TO BUILD MUSCLE

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INTRODUCTION

Your muscular system is the largest organ in your body. It's responsible for movement, generating heat, hormone secretion and metabolism regulation. It's also a big contributor to weight management and longevity. Put simply, the stronger and healthier your muscle is, the younger and healthier you'll feel. Full stop.

This doesn't mean you have to be pumping iron every day of the week. What it means is your body fat percentage to lean muscle mass is something to be mindful of and should be just as important as a small waist and optimal weight when you're undertaking a training program. A program consisting of hours of cardio and

low calories will cause muscle loss which will slow your metabolism, decrease fat burning and accelerate ageing. Therefore smart workouts including weight training and a healthy diet with adequate protein is essential to your body goals.

Muscle activation through exercise is key and once you meet protein requirements for muscle growth, the rest will be easy.

The key levers of muscle growth are:

1. Exercise
2. Protein intake



PROTEIN INTAKE

Presuming you're following a training program in the gym, let's take a look at protein.

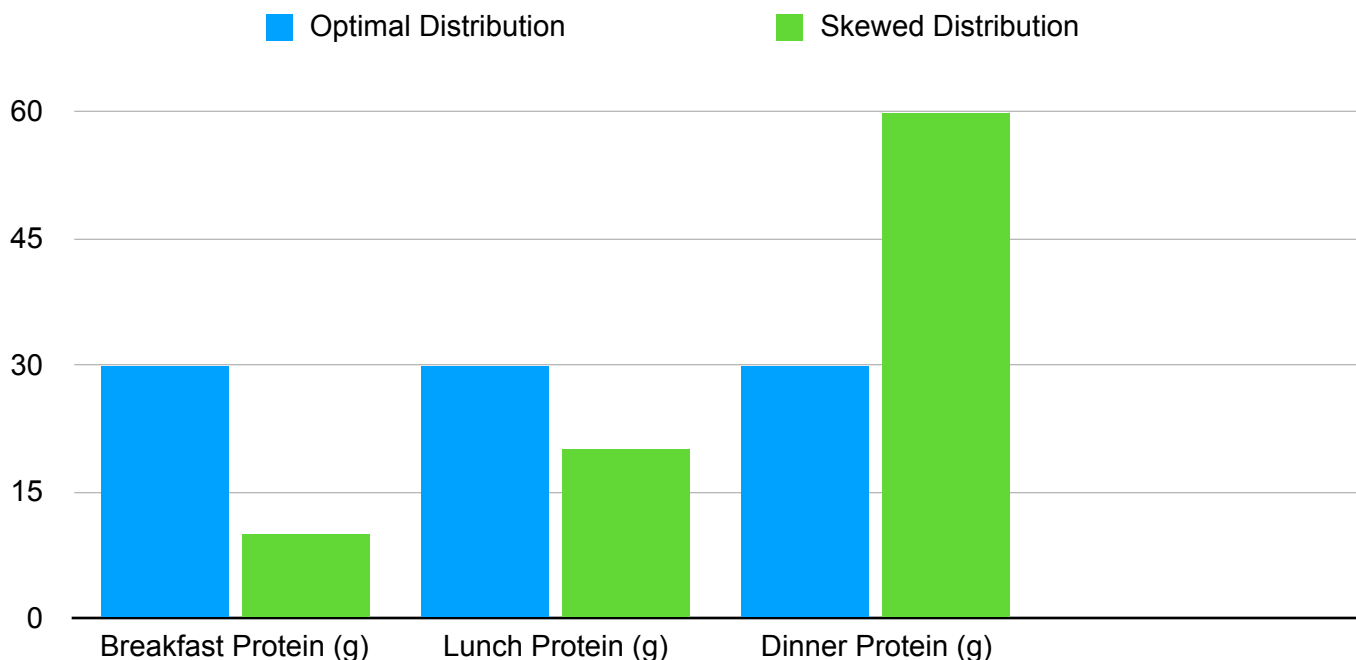
There are 3 macronutrients you should know about. Protein, carbs and fats. Proteins are complex structures made up of amino acids of which there are 20 of them. There are two types of amino acids, 9 are essential and 11 are non-essential. Essential means they need to be obtained from your diet and non-essential means your body produces them and therefore don't need to come from food. All 9 essential amino acids can be found in animal products like meat, poultry and dairy whilst plant foods like grains and pulses only contain some essential.

Protein is in charge of growth and repair of all cells including muscle, and when both are done well, you'll get the best out of your training sessions. It's also needed for the structure, function and regulation of all tissues and organs. Protein helps you feel fuller for longer, aids in cell signalling, thermogenesis and helps to keep your blood

sugar from spiking. The important roles of protein is exactly why it shouldn't be used for energy, instead glucose and fat should be first in line for this.

In order to stimulate muscle protein synthesis (muscle growth) throughout the day, you should aim to eat at least 2.5g of the essential amino acid leucine at every meal. This equals approximately 30g protein per meal in order to trigger muscle growth. But the way we tend to eat modern processed foods is simply not sufficient to meet this threshold.

A standard Westernised diet includes cereal for breakfast, sandwich for lunch and meat and vegetables for dinner. This means only 5-10g protein for breakfast, 10-20g at lunch and then maybe a surplus of protein at 50-60g for dinner. Although you might hit your protein target over 24 hours, muscle protein synthesis has only been stimulated in the evening, which is a waste, especially if growing muscle is your fitness goal.



BEST SOURCES OF PROTEIN IN ONE MEAL

Chicken breast	1 Palm	30g
Beef mince	1 Palm	33g
Turkey Mince	1 Palm	30g
Lamb	1 Palm	28g
Pork	1 Palm	31g
Salmon	1.5 Palms	30g
Shrimp	1.5 Palms	31g
Halibut	1.5 Palms	28g
Tofu and beans	2 Palms	32g

General nutrition guidelines for muscle building

I'm going to give it to you straight. When building muscle, macronutrient tracking is key. Meeting a minimum calorie requirement and controlling macronutrients is going to make your program most effective so you must weigh your food, even if it's time consuming. This is especially important if you're new to training because you simply don't have the experience. But over time you can learn to eyeball your meals and won't need to track forever.

Protein and fat are incredibly satiating and help to keep your blood sugar stable.

Fats will come from healthy sources such as:

olive oil
animal fats
Ghee
Lard

Avocado oil
avocados
nuts
seeds

Your carbohydrates will come mainly from non starchy vegetables and higher carb meals can be saved for after a workout when it will likely be used for muscle repair. The reason you should eat heaps of non starchy vegetables is they contain wonderful phytonutrients and antioxidants which will keep your body and muscles healthy. Carbs like:

Spinach
rocket
courgettes
Cauliflower
asparagus
radishes
cucumbers
salad greens
collard greens
broccoli



Aim for a macronutrient intake of 40:30:30 to begin with (40% carbs, 30% protein, 30% fats) and tweak as needed based on your energy levels and rate of progress in the gym.

Here are top tips for muscle protein synthesis:

- Each meal should include approximately 30g protein
- All meals should include non starchy vegetables and 1-2 meals some starchy vegetables
- Quality is important. Choose organic where possible, grass fed meat and dairy, full fat, free range if not organic.
- Protein shakes can be used to bump up protein intake in a meal
- Consider taking a Branched Chain amino acid supplement if you're vegetarian or vegan
- Avoid all ultra processed foods, hydrogenated oils, refined sugars, supermarket bought breads, sauces and alcohol. A poor diet steals essential vitamins and minerals and causes inflammation making it harder for your body to maintain healthy muscle

Macronutrient Recommendations:

*40% carbs
30% protein
30% fat*

Macronutrients calories per gram

*Protein 4 kcals per gram
Carbs 4 kcals per gram
Fat 9 kcal per gram*

E.g based on 2000kcal per day

*200g carbs per day
150g protein per day
150g fat per day*

Approximate kcals for men: 2100

Approximate kcals for women: 1600

Please know this is an estimate and should be tweaked based on your energy levels and progress in the gym.

What to do Now

- Buy a weighing scale for the kitchen
- Plan your meals for the week and have a shopping list ready
- Purchase glass Tupperware boxes for meal prep during the week
- Download MyFitness Pal, or Cronometer if you want additional support in tracking your food

