

CALCULATING TDEE AND MACROS FOR CLIENTS

OPEX

Everyone knows that results don't only come from the gym—nutrition is also a huge factor in achieving fitness goals. Whether training to lose body fat or for high performance, eating the right kinds of foods in appropriate quantities is essential for success.

One way to manage food quantity is through a macronutrient plan. However, rather than relying on an online macro calculator, the best way to calculate, personalize, and adjust macros is with a few simple formulas and principles. Read on to learn how to calculate TDEE and macros, so you can tailor nutrition plans to each of your clients.

CALCULATING TOTAL DAILY ENERGY EXPENDITURE (TDEE)

Before you can determine macronutrients, you must first calculate the total amount of calories your client theoretically burns on a daily basis. This is referred to as **Total Daily Energy Expenditure (TDEE)**, and is the energy needed for maintenance.

TDEE is calculated by adding four numbers together:
Basal Metabolic Rate, Thermic Effect of Feeding, Exercise Energy Expenditure,
and Non-Exercise Activity Thermogenesis.

$$\text{BMR} + \text{TEF} + \text{EEE} + \text{NEAT} = \text{TDEE}$$

Basal Metabolic Rate (BMR)

Basal Metabolic Rate is the number of calories the body needs to maintain essential functions in a resting state. An accessible way we prefer to calculate BMR is through using a machine like an InBody. However, if you do not have access to one you can simply multiply body weight in kilograms by 20.

Example:

150 lb = 68 kg

68 x 20 = 1360 calories

Thermic Effect of Feeding (TEF)

When calculating TDEE, you must take into account how much energy is required to digest the food consumed. This is the Thermic Effect of Feeding. To calculate TEF simply multiply BMR by 0.1.

Example:

1360 x 0.1 = 136 calories

Exercise Energy Expenditure (EEE)

The third variable in the TDEE calculation is Exercise Energy Expenditure (EEE). This is the amount of energy used during exercise. There is no exact calculation for EEE and even fitness trackers are inaccurate, but for the majority of clients it will range from 200 calories for light exercise to 500 for intense exercise.

Example:

A beginner client doing a low intensity, 45 minute resistance training = 200 calories

An advanced client doing intense resistance and energy system training for 90 minutes = 500 calories

Non-Exercise Activity Thermogenesis (NEAT)

The fourth and final variable is Non-Exercise Activity Thermogenesis (NEAT). This accounts for the number of calories a client burns in their everyday life outside of exercise, whether that be from walking their dog, sitting at their desk job all day, or working manual labor. There is no exact calculation for NEAT, but a range of 200 to 500 calories is typical.

Example:

A sedentary desk worker = 200 calories

A fitness coach working on the floor = 500 calories

HOW TO CALCULATE MACRONUTRIENTS USING TDEE

The following calculations can be used to determine protein, fats, and carbohydrates for an individual to meet their TDEE, or maintenance calories. Daily caloric intake will need to be adjusted up or down from TDEE if the client needs to be in a caloric surplus or deficit to reach their goal.

CALCULATING PROTEIN

To calculate protein requirements, first determine the client's weight in pounds of lean mass or body weight, as well as considering their activity levels and percentage of body fat mass (if known). Their body weight or lean mass in pounds will then be multiplied by a range to arrive at their protein requirement in grams.

Highly active, leaner individuals will fall on the higher end of the ranges, whereas sedentary individuals with higher fat mass will fall on the lower end of the ranges.

$$\begin{aligned} \text{Protein grams} &= \text{Body weight in lb} \times 0.6-1.2 \\ &\text{OR} \\ &\text{Lean mass in lb} \times 0.5-1.3 \end{aligned}$$

[Watch this video](#) to learn more about calculating protein requirements and why it's important to consider protein before the other macronutrients.



CALCULATING FATS

To calculate fat requirements, you will need to know your client's body weight and consider their energy levels, activity, goals, and satiety.

Multiply their body weight by the following range to arrive at their fat requirement in grams.

$$\text{Fat grams} = \text{Body weight in lb} \times 0.4-0.6$$

CALCULATING CARBOHYDRATES

To calculate carbohydrate requirements, first determine protein and fat requirements and calculate how many calories they will be consuming in proteins (grams x 4) and fats (grams x 9).

$$\begin{aligned}\text{Fat} &= 9 \text{ cal per gram} \\ \text{Protein} &= 4 \text{ cal per gram} \\ \text{Carbohydrate} &= 4 \text{ cal per gram}\end{aligned}$$

Consider activity levels, body fat mass, and goals. Most clients will sit somewhere between 50 and 250 grams of carbohydrate. Highly active, leaner clients may require higher carbohydrate intake than sedentary clients with higher body fat mass. For clients requiring more carbohydrates, fat intake will be adjusted at the lower end of the range. For clients on a low carbohydrate diet, fat intake will be higher.

Subtract protein and fat calories from TDEE to determine the remaining calories that will come from carbohydrates. Divide this number by 4 to determine their carbohydrate intake in grams.

$$\text{Carbohydrate grams} = \frac{\text{TDEE} - \text{fat calories} - \text{protein calories}}{4}$$

CALCULATING TDEE AND MACROS EXAMPLE

Client: Barry, Male, 27
Goal: Increase lean mass
Activity Level: Moderate

BMR: 1600
Body weight: 175lb
Body fat %: 11%

Step 1. TDEE

BMR + TEF + EEE + NEAT

$$1600 + 160 + 300 + 300 = 2360$$

As Barry's goal is to increase lean mass, he will need to eat in a caloric surplus. As a starting point, we'll begin him at a 15% surplus, taking him to 2714 calories.

Step 2. Protein

$$175 \times 1.2 = 210 \text{ grams of protein}$$

$$[210 \times 4 = 840 \text{ calories}]$$

As Barry is moderately active, relatively lean, and desires to increase lean muscle mass, we will start his protein intake at the higher end of the range.

Step 3. Fat

$$175 \times 0.5 = 88 \text{ grams of fat}$$

$$[88 \times 9 = 792 \text{ calories}]$$

Step 4. Carbohydrate

$$2714 - 840 - 792 = 1082 \text{ calories remaining}$$

$$1082 \div 4 = 270 \text{ grams of carbohydrate}$$

In summary, to reach his goal of consuming 2714 calories to put him at a 15% caloric surplus, Barry will consume 210 grams of protein, 88 grams of fat, and 270 grams of carbohydrate.

Want to learn all the factors that go into setting calories and macronutrients?
Join the next OPEX CCP cohort to find out.

[CLICK HERE](#)

While we've established a baseline of calories, protein, carbohydrate, and fat for Barry, the art of nutrition coaching is in the ability to implement, observe, and adjust based on results. As best practice, monitor changes in energy levels, body composition, digestion, performance, and compliance over a few weeks, then adjust accordingly. This is what separates you from an online macro calculator—the ability to build a trusting relationship, monitor progress, and adapt the program as needed.

Some clients will thrive on a higher fat diet, whereas others will look and feel their best consuming more carbohydrates. There is no one-size-fits-all when it comes to nutrition, only principles that can guide individualized prescriptions.

One thing we do know for sure is that prescribing macros without addressing other essential factors like food quality and daily lifestyle behaviors is a short-term solution that will eventually fail. Food quantity is just one factor in a holistic fitness program that must be paired with healthy lifestyle practices and an exercise program tailored to each client's specific goal, whether that's to lose weight, gain muscle, or improve capacity.

In the [OPEX Coaching Certificate Program \(CCP\)](#), we teach coaches how to program exercise, lifestyle, and nutrition to work together, so that you can provide your clients with the complete fitness programs they need to reach their goals. If you're ready to offer a truly personalized approach to fitness coaching, then take the first step and apply today.

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COACHING CERTIFICATE PROGRAM

An OPEX CCP Coach is a trusted fitness advisor and a partner in delivering results to clients. They are leaders on the front lines, making a real difference in the lives of people in their community. Ultimately, what makes OPEX CCP Coaches stand out is their ability to meet their clients where they are at – regardless of age, training history, lifestyle, or goals – and design a comprehensive personalized fitness program.

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LEADING FITNESS PROFESSIONAL?

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