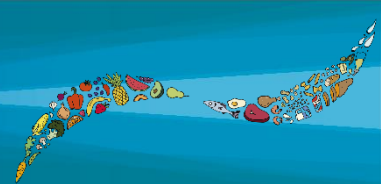


# BASICS ABOUT...



## PROTEIN

### WHAT?

Proteins are fundamental structural and functional elements within every cell of our body – therefore they are essential for growth, repair and the maintenance of good health. Proteins are long chains of amino acids, when we eat proteins we breakdown these chain down into the constituent amino acids and use them to build new proteins for our body.

### WHY?

Protein is the second most abundant compound in the body (following water) and plays both structural and functional roles. For example, the protein in our organs, hair and skin plays an important structural role whilst the proteins in our muscles allow them to contract and produce force.

### HOW?

Our protein needs change over the course of our lifetime but a growing and exercising body will need more protein for optimal repair and growth.

## Amino Acids and Protein Sources

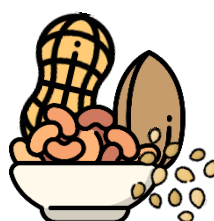
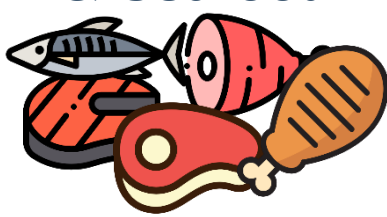
There are 20 different amino acids of relevance to the human body. Of these, seven of them are considered essential (i.e. we must consume them from our diet). Protein from animal sources contain the full range of essential amino acids whereas plant-based sources are often missing some or do not have them in sufficient amounts.

Some excellent sources of protein which promote repair & recovery:



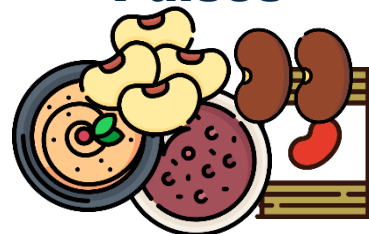
**Dairy & Egg**

**Beef, Poultry & Seafood**



**Nuts & Seeds**

**Beans & Pulses**



Each gram of protein provides 4kcal

Some plant-based proteins complement each other to provide all the amino acids e.g. beans on toast

Protein supplementation isn't necessary to meet your daily protein needs!

**The RNI for protein is 0.75g per kilogram of bodyweight per day for adults. But swimmers will need more to optimally grow and recover.**

### DAILY INTAKE

**1.4-2.0g/kg/day**

i.e. 98-140g per day for a 70kg swimmer, this is the same for males & females

### AROUND TRAINING

**~0.3g/kg**

i.e. a meal or snack containing ~21g protein (for a 70kg swimmer) is optimal to maximise muscle repair after training