# Macronutrients

# FATS/LIPIDS

long-term fuel, build cell membranes & hormones

#### **DETAILS**

- energy stored in fatty acid chains, typically attached to glycerol molecule
- 9 calories per gram
- can be saturated, polyunsaturated, or monounsaturated
- processed oils are damaging (whereas whole food fats are essential)

#### **METABOLIC OPTIONS**

- burned for fuel
- used to build membranes/hormones
- stored in adipose cells

#### **HEALTHY SOURCES**

- animals & fish
- dairy & eggs
- nuts & seeds
- olives
- coconut
- avocado
- Healthy oils such as Coconut, Avocado and Olive

## **PROTEINS**

build structures, hormones, neurotransmitters, & enzymes

#### **DETAILS**

- composed of amino acid (AA) chains (polypeptides)
- 4 calories per gram
- can be complete (all AAs, animal sources) or incomplete (plant sources)

#### **METABOLIC OPTIONS**

- used to build structures
- can be converted to glucose if needed
- AAs not stored (extras excreted)

#### **HEALTHY SOURCES**

- plants: nuts & seeds,
- beans & legumes, grains
- · animals & fish
- dairy & eggs



### **CARBOHYDRATES**

quick fuel

#### **DETAILS**

- energy stored in monosaccharide chains or rings
- 4 calories per gram
- can be simple (sugar) or complex (fiber)
- · carb tolerance is bioindividual
- processed sugar is damaging (whereas whole food sugars are not)
- glucose consumption impacts blood sugar and insulin levels

#### METABOLIC OPTIONS

- burned for fuel
- stored as glycogen (muscles & liver)
- · converted & stored as fat

#### **HEALTHY SOURCES**

- beans & legumes
- vegetables (esp starchy)
- fruit
- dairy (lactose)
- natural sweeteners: honey, maple syrup, natural sugars, etc
- processed sugars: corn syrup, cane sugar, sucrose, etc\*

\*minimize consumption