

NUTRITION BASICS: A BALANCED DIET ON ANY BUDGET

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MAIN TOPICS

- What do we mean by “balanced diet”?
 - What are its key components?
- A balanced diet in practice: Examples of simple balanced meals
- Healthy food shopping and cooking suggestions on a budget
 - Q&A

A BALANCED DIET

- **Diet:** From the Greek word διαίτα (*diaita*), “way of living”. **Not** “30-day torture”, “way of losing body fat” or “boring food protocol”.
- **Balanced:** containing key components for health and weight control.

WHAT MAKES A BALANCED DIET?

- Energy from food (measured in calories)
- Macronutrients (protein, fat, carbohydrates)
 - Micronutrients (vitamins and minerals)
 - Fluids
 - Fibre (non-digestible carbohydrate)

ENERGY

- Measured in calories
- Weight maintenance: energy in = energy out
 - Fat loss: energy in < energy out
 - Weight gain: energy in > energy out

NUTRITION \neq WEIGHT MANAGEMENT

- No “bad food” and “good food” in weight loss
 - Weight management is about **food quantity**
- Health and sport performance are about **food quality**
- So certain foods might be “better” for health and sport performance than others, but not “good” or “bad” because “they make you fat”
- Weight management is only **one component** of the multifaceted topic that is nutrition. Weight/fat loss is a further subcategory within weight management.

MACRONUTRIENTS

- Protein: 4 kcals/gr
- Carbs: 4 kcals/gr
- Fat: 9 kcals/gr

What do they do for us?

What foods are they in?

How much do we eat of each one?

PROTEIN

- Types: complete or incomplete
- Fundamental for the repair, growth, development, and function of most bodily tissues, such as muscles
- Maintains and builds new muscle (caveat: resistance training)**
 - Building blocks: amino acids (20 in total, 9 essential, i.e. we need them from food)
- UK recommendations: 1gr/kg of bodyweight or 10-15% of total daily calories for health
 - If vegetarian or vegan, you potentially need more
- Depending on the sport, athletes may need more (e.g. bodybuilders)

COMPLETE PROTEIN SOURCES

- Red/white meat and poultry
- Tuna, tilapia, and other lean fish
 - Salmon, sardines, and other fatty fish (omega-3)
 - Eggs and egg whites
 - Dairy
- Soy and soy derivatives (tofu)
 - Quinoa
 - Quorn
- Unflavoured protein powders

INCOMPLETE PROTEIN SOURCES

- Peas, butter beans, lentils, and other legumes/pulses
 - Seitan
 - Tempeh
- Vegetarian/vegan meat alternatives

1 or 2 PALMS with most meals and snacks.

CARBOHYDRATES

- The body's first choice for energy for brain and nervous system; daily activities; and athletic performance
 - Broken down into glucose (sugar = instant energy in the blood) or converted to glycogen (stored as energy reserve in muscles and liver)
- Types: intrinsic sugars (still part of the plant); milk extrinsic sugars (in dairy); non-milk extrinsic sugars (in honey and manufactured/processed foods and drinks); starches (polysaccharides); fibre
- Fibre from whole grains, fruit, and veggies for healthy bowels: slows down digestion and avoids sharp rises and falls in blood sugar levels (GI)
- Won't make you fat! Only an excess will be stored as body fat (same for protein and dietary fat)
 - UK recommendations: 50-55% of total daily calories

STARCHES

- Root vegetables
 - Bread
 - Rice
 - Pasta
- Whole wheat/whole grain varieties of bread/rice/pasta
- Potatoes and sweet potatoes

SUGARS

- Most fresh or frozen fruit
 - Table sugar
 - Honey
 - Jam and jelly
 - Sports drinks
 - Fizzy drinks/soda

2 FISTFULS of vegetables/fruit with all meals and snacks.
1 or 2 CUPPED HANDFULS of starches with most meals and snacks.

DIETARY FAT

- Alternative energy source to carbs, keeps us warm, transports certain vitamins around the body, prevents water loss, is key for cell construction
- **Most common type (95% of fatty foods we eat):** triglycerides: 3 fatty acids + 1 glycerol molecule
 - **Saturated fats:** usually solid at room temperature – limit
 - **Unsaturated fats:** usually liquid at room temperature – focus on these
 - **Trans fat:** artificially added to foods – look out for “hydrogenated” or “partially hydrogenated” on ingredients lists (usually said about oils) – avoid altogether
- **Omega-3 and omega-6 polyunsaturated fatty acids** are essential, i.e. must be consumed via food as our bodies can't produce them
- UK recommendations: 30-35% of total daily calories, no more than 11% from saturated fat, no more than 2% from trans fat

SATURATED

- Butter and margarine
- Coconut and palm oil
 - Fat spreads
 - Egg yolks
- Full-fat dairy
 - Chocolate
 - Fatty meat
- Processed meat

UNSATURATED

- Avocado
- Olive and vegetable oil
 - Salmon, mackerel, sardines
- Nuts and seeds

1 or 2 THUMBS with some meals and snacks.

THE MACRO-SMART SHOPPING LIST

Carbohydrate sources

Fresh or frozen fruit and vegetables
Bread
Rice
Pasta
Whole wheat/whole grain varieties of bread/rice/pasta
Potatoes and sweet potatoes
Corn
Oats and cereals
Sugar, honey, jam, and jelly
Sports drinks
Fizzy drinks/soda

Protein + Carbs

Quinoa
Peas, edamame, butter beans, lentils, and other legumes/pulses
Fat-free milk
Low-fat protein shakes and smoothies
Seitan and other low-fat/fat-free vegetarian/vegan products

Protein sources

Lean cuts of red meat
Chicken and turkey breast
Tuna, tilapia, and other lean fish
Egg whites
Low/fat-free yogurt, cottage cheese, and other dairy
Unflavoured protein powders

Protein + Fat

Fatty cuts of red meat
Chicken thigh
Lamb
Whole eggs
Sausages, bacon, and other processed meat
Salmon, mackerel, sardines, and other fatty fish
Nuts and seeds/nut and seed butters

Fat sources

Butter and margarine
Avocado
Coconut and palm oil
Olive and vegetable oil
Fat spreads
Egg yolks
Seafood
Full-fat cheese and other full-fat dairy products
Chocolate

Foods high in fat and carbs and low in protein, vitamins and minerals are high-calorie, palatable but less nutritious, e.g. French fries/chips/crisps, ice-cream, waffles, cake, cookies, etc. Eat these in moderation.

Eatwell Guide

Check the label on packaged foods

Each serving (150g) contains

Energy	Fat	Saturated	Sugars	Salt
1048kJ 250kcal	3.0g	1.3g	34g	0.9g
13%	LOW	LOW	HIGH	MED

of an adult's reference intake
Typical values (as sold) per 100g: 697kJ/ 167kcal

Choose foods lower
in fat, salt and sugars

Use the Eatwell Guide to help you get a balance of healthier and more sustainable food. It shows how much of what you eat overall should come from each food group.

6-8
a day

Water, lower fat milk, sugar-free drinks including tea and coffee all count.

Limit fruit juice and/or smoothies to a total of 150ml a day.

Eat at least 5 portions of a variety of fruit and vegetables every day

Fruit and vegetables



Eat less often and
in small amounts

Choose wholegrain or higher fibre versions with less added fat, salt and sugars



Beans, pulses, fish, eggs, meat and other proteins
Eat more beans and pulses, 2 portions of sustainably sourced fish per week, one of which is oily. Eat less red and processed meat



Dairy and alternatives
Choose lower fat and lower sugar options



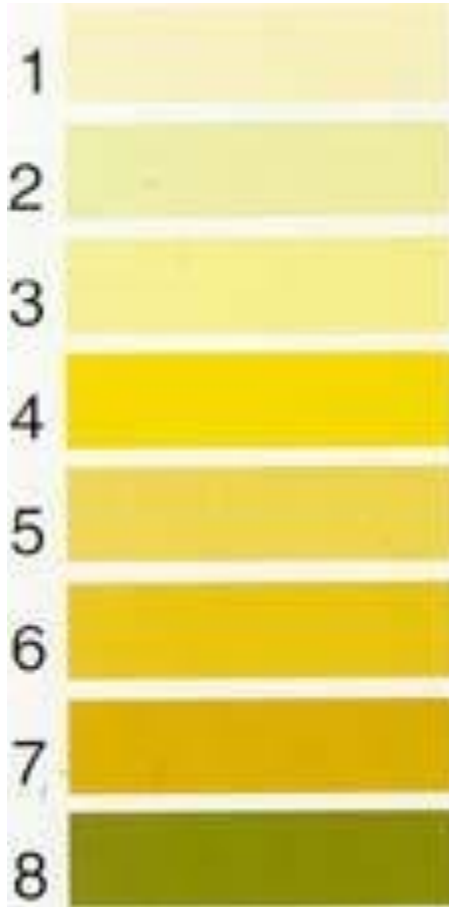
Choose unsaturated oils
and use in small amounts

Per day 2000kcal 2500kcal = ALL FOOD + ALL DRINKS

MICRONUTRIENTS

- Vitamins and minerals
 - Loads of bodily functions without which we would die, e.g. fluid regulation (minerals) and tissue growth/repair (vitamins)
- Adequate micronutrient intake: 3-5+ **different** veg/fruit every week + a balance of protein/carbs/fat

FLUIDS



- Water keeps you alive. 'Nuff said.
- Makes up 50-75% of your bodyweight
- Functions: Nutrient transport, digestion, waste removal, temperature regulation, tissue building/repair, etc.
- Other hydrating foods/drinks: juice, smoothies, shakes, tea, coffee (potentially diuretic), sports drinks, water in vegetables, fruit, and other food, etc.
- Alcohol **does not** actually hydrate you. Sorry, folks.
- How much? Aim to drink to thirst and get at least 5 clear pees per day.

SUPPLEMENTS?

- Not necessary to have a balanced healthy diet, saved for exceptional circumstances, e.g. vitamin D, vitamin B12, etc.
 - **Not** one of the components of a balanced diet
 - Synthetic vitamins might not be as effective as micronutrients in food
 - Change your way of eating first. Supplements supplement; they do not fix a bad diet.
 - Ask your doctor or dietician.

A BALANCED DIET IN PRACTICE

Breakfast

2 medium boiled
eggs
¼ can of beans
2 fistfuls of cooked
spinach
(2 slices of
wholemeal bread)

Lunch

1 chicken breast (1
palm)
2 tablespoons tomato
sauce
(2 closed handfuls of
wholemeal spaghetti)
(5-10 sprays of
vegetable oil spray)

Dinner

1 salmon fillet
1 jacket potato
cooked without oil
2 fistfuls of oven-
baked aubergine

A VEGGIE-FRIENDLY BALANCED DIET IN PRACTICE

Breakfast

1 200gr pot of
Quark or Greek
yogurt

1 banana

(1-2 handfuls of
oats)

(1 non-heaped
tablespoon of
peanut butter)

Lunch

2 palm-sized servings of
tofu without oil

2 tablespoons tomato
sauce

(1-2 handfuls of
wholemeal spaghetti)

Dinner

1 thumb of
edamame beans

1 palm-sized
serving of Quorn
pieces

1 jacket potato
cooked without oil
2 fistfuls of oven-
baked aubergine

 **FIT TO TRANSFORM** + Enough water/fluids to result in 5 clear pees.

HEALTHY EATING BUDGET TIPS

- Build diet around protein, fruit/veg, and omega-3s – making everything else optional makes your diet cheaper
 - Local, seasonal, or frozen fruit/veg are cheaper
- Price per kilogram or pound vs price per item: e.g. £5/kg helps make comparisons vs. £5/box (how much in each box?)
 - Common foods on international shelves are cheaper
- Bulk ingredients vs ready meals (e.g. 1 sandwich: £3 for 1 meal vs 1kg chicken breast + 1 head of lettuce + 1 pack Warburtons wholemeal toast: £7 for 4-5 meals)

EASY AND HEALTHY COOKING METHODS

- Microwaving: potatoes, most vegetables, pre-cooked noodles, oats, mug cakes, most Quorn products, poached eggs
- Broiling (oven setting): no oil required, takes 10-15 minutes – but messy and needs thorough cleanup afterwards, ideal for meat and fish
 - Grilling (oven setting): no oil required, takes 15-20 minutes, ideal for vegetables, meat, fish, potatoes
- Boiling: using hot water from kettle for time, makes boiled eggs, pasta/rice, potatoes, any vegetable, meat, fish, etc.
- Stir-frying: oil or oil spray in a pan, cooks most foods in 15-20 minutes, ideal for vegetables, meat, fish; potatoes take their sweet time

WHAT IS A HEALTHY DIET APPROACH?

(Alan Aragon, 2013, AAUKC)

1. Respects your personal taste preference
2. Supports physical and mental performance goals
3. Covers macro- and micronutrient needs
4. No unnecessary or scientifically unfounded food restrictions
5. Respects medical intolerances and allergies
6. Convenient
7. Affordable
8. Socially acceptable
9. Compatible with personal ideologies
10. Sustainable long-term

Questions & Answers

1. When training for a half-marathon distance, doing regular 12-18km road runs - What can they advise to eat the night before, and whether to eat before or not? Whenever I eat before running I end up with stomach cramps, even if an hour or two before. If running super early, is it better to run fasted/on nothing?

Questions & Answers

2. What do I do to stop myself comfort eating?

Questions & Answers

3. Is it OK for me to eat later at night?

Questions & Answers

4. Protein: I've seen wildly differing opinions on how much protein we should be eating every day, from the tiny amounts on nutrition/healthy eating websites (I found I was constantly hungry and lost quite a bit of strength when I tried to stick to this) through to 1g per 1lb of lean body mass for someone who lifts weights and is trying to gain muscle (like me). What are your thoughts on this?

Questions & Answers

5. Any advice on measuring body fat %? I have one of those scales that's supposed to do it but it has a different setting for male and female that yield wildly different results. Which one is likely to be more accurate (I have been on low-ish dose T for 18 months)? How much of a calorie surplus should I eat to gain muscle and minimise regaining fat?

HELPFUL RESOURCES

- British Nutrition Foundation website:
<https://www.nutrition.org.uk>
- Find Your Balance portion size guide:
<https://www.nutrition.org.uk/healthyliving/find-your-balance/portionwise.html>
- Eat Well (NHS): <https://www.nhs.uk/live-well/eat-well/>
- Brighton and Hove Food Partnership (charity):
<https://bhfood.org.uk>

THANK YOU FOR ATTENDING, AWESOME HUMANS!

Get in touch for remote training via Skype, face-to-face sessions (to be resumed after lockdown), and online coaching and nutrition advice.

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