

PH35

EXERCISE AND ENERGY EXPENDITURE

As we exercise we use energy that has been stored in our bodies.

The amount of energy used depends upon the **type or mode** of exercise performed, the **duration** and **intensity** of the exercise, and your physical characteristics (i.e. **body weight, body composition** and **gender**).

Type of exercise

Endurance exercise (e.g. long distance running, swimming, cycling and walking)

This is moderate intensity exercise, usually performed over a long period of time.

It predominantly uses fat stores, and some carbohydrate, as energy sources.

Strength, power and sprint exercise (e.g. lifting weights, sprinting and circuits).

Strength training and high intensity exercise demand lots of energy over a short period of time.

Carbohydrate, in the form of glucose, is mainly used to fuel your muscles.

The energy expenditure of performing strength and sprint sports is higher than endurance sports. However, normally you will undertake endurance activities for longer, such that your total energy expenditure is likely to be higher overall.

DURATION OF EXERCISE

- > The longer you exercise, the more energy (kilocalories) you will expend.

PHYSICAL CHARACTERISTICS

- > The greater your body weight the more energy you will expend doing the same amount of work compared with a lighter individual.
- > It will also take a heavier individual less time for them to expend the same amount of energy (kilocalories) as a lighter individual.
- > It generally takes women longer to burn off the same amount of energy compared with men, as they tend to weigh less.

WORK OFF A TREAT

- > The tables overleaf detail the approximate **number of minutes** that you need to perform **different types of exercise** (running, circuit training, rowing and cycling) to 'work off' a range of "treat" foods.
- > Each box shows a different kind of exercise (e.g. running) and the corresponding number of minutes you would need to do to work off an example treat.
- > The number of calories in each treat food are given so that you can estimate for yourself how long you would need to exercise to work off your favourite treat.

Running	Male			Female		
	Body Weight (kg)			Body Weight (kg)		
	70	90	110	60	70	80
FOOD	Activity Duration (min)					
Half a Pizza (197 kcal)	26	22	19	33	30	27
Sports Drink (310 kcal)	40	34	30	52	46	42
Meat Pasty (509 kcal)	66	57	49	85	76	70

Circuit Training	Male			Female		
	Body Weight (kg)			Body Weight (kg)		
	70	90	110	60	70	80
FOOD	Activity Duration (min)					
Ice Cream (200 kcal)	24	20	18	30	27	25
Frijj Milkshake (475 ml) (304 kcal)	31	27	23	40	36	33
Can of Cola (139 kcal)	17	14	12	21	19	17

Rowing	Male			Female		
	Body Weight (kg)			Body Weight (kg)		
	70	90	110	60	70	80
FOOD	Activity Duration (min)					
Doughnut (210 kcal)	26	22	19	33	30	27
Packet of Crisps (170 kcal)	23	20	17	30	36	33
Bacon/ Sausage Sandwich (350 kcal)	43	37	32	21	19	17

Cycling	Male			Female		
	Body Weight (kg)			Body Weight (kg)		
	70	90	110	60	70	80
FOOD	Activity Duration (min)					
Sausage Roll (339 kcal)	50	42	37	63	57	52
Haribo (160 g bag) (550 kcal)	81	69	60	103	93	85
Slice of Cake (197 kcal)	29	25	21	37	33	30