

# SELENIUM

Selenium is a trace element that is naturally found in the soil to varying degrees, hence the selenium level in plants depend on the amount of selenium in the soil the plants are grown.

## Why do we need selenium?

- Selenium is part of many enzymes which are substances that speed up the chemical reactions in our bodies.
- It is an anti-oxidant and protects cell membranes and DNA from damage.
- It helps the thyroid gland in the the production of thyroid hormones.
- It plays an important role in fertility by protecting both the eggs and the sperm from free radical damage.

infants <1 yr	10 mcg/day
children 1-3 yr	15 mcg/day
children 4-6 yr	20 mcg/day
children 7-10 yr	30 mcg/day
children 11-14 yr	45 mcg/day
<u>men</u> 15-18 yr	70 mcg/day
19+ yr	75 mcg/day
<u>women</u> 15+ yr	60 mcg/day
pregnancy	no increase
lactation	+15 mcg/day

## SELENIUM DEFICIENCY

### Signs & symptoms

- hypothyroidism (fatigue, mental slowing, hair loss, goitre)
- nail discolouration
- infertility
- extreme deficiency can cause Keshan disease (cardiomyopathy) or Kashin-Beck disease (a type of osteoarthritis)

! Intake shouldn't exceed 450 mcg per day since too much selenium can cause selenosis (hair and nail loss or brittleness, skin rashes/lesions, nausea, vomiting)

## FOODS RICH IN SELENIUM

- One Brazil nut can contain 70-90mcg selenium.
- 100g of sunflower seeds contain about 55mcg selenium
- 100g of sesame seeds contain 45mcg selenium.
- Other foods with low amount of selenium: mushroom, tofu, carrots, raisins
- In the UK, many cereals and wholegrain breads are fortified with selenium.

*Animal products provide selenium because supplements are added to the feeds of the factory-farmed animals.*

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