

Calcium & Health

Studies and research have shown that people infected with HIV on HAART are at risk of suffering from bone disease and potentially, osteoporosis. Osteoporosis can be characterised by low bone mass and deterioration of bone tissue, which can lead to fractures and bone pain. It has been found bone mass density decreases in those on HAART, which then increases the risk of fractures and thinning of bones. The exact mechanism for why this happens is not yet known.

There are many risk factors for osteoporosis, which include lack of exercise, poor nutrition, sex, race, immobilisation and family history. Smoking and too much alcohol can also increase bone mass loss. The average human body contains 1.2kg of Calcium, 99% of which is found in bone and teeth. Having an adequate calcium intake can provide the bone with a good supply of calcium to remain healthy and strong.

Recommended Daily Amounts

	Department of Health Reference nutrient intake RNI (mg)
Teenagers aged 11-19 Male	1000
Teenagers aged 11-19 Female	800
Men and Women aged 19-50	700
Pregnant Women	700
Lactating Women	1250
Men and Women over 60	700

It is recommended by the European Federation for Osteoporosis and Bone Disease that those who are at high risk of osteoporosis should have a diet, which meets the RNI or above for calcium, but does not exceed **1500mg per day**.

Calcium can be found in many foods including dairy products, vegetables and cereals.

Tips:

- Vitamin D is also essential to help bone absorb calcium. The body can make Vitamin D but it requires sunlight. Make sure your skin is exposed to sunlight to make Vitamin D. If housebound then a Vitamin D supplement may be required. Dietary sources include oily fish, butter and margarine. Try to include these foods if you can.
- You may find it useful to take a calcium supplement sometimes the preparations contain Vitamin D.
- Include a variety of sources of calcium in your diet.
- Exercise- regular weight bearing exercise can help to increase bone mass density, e.g. walking, jogging, skipping and boxing.

- Avoid high levels of bran and tea in your diet as they contain *phytate* which can decrease absorption of calcium

Below is a list of calcium rich foods:

FOOD	SERVING SIZE	CALCIUM CONTENT
Cow's Milk-whole/semi-skimmed	½ pint (234mls)	350 mg
Soya milk (calcium enriched)	190 ml (1/3 pint)	226 mg
Evaporated milk	190 ml (1/3 pint)	480 mg
Yoghurt	150 g	225 mg
Ice cream	120g (2-3 scoops)	134 mg
Hard cheese-full/reduced fat	Matchbox sized piece (30g)	216 mg
Cottage cheese	100 g (1/2 pot)	82 mg
Sardines	½ tin (60g)	258 mg
egg	1 medium	30 mg
Tinned Salmon (with bones)	½ tin (120g)	500 mg
Fresh salmon	120 g	225 mg
Tofu/Soya bean curd	90g	428 mg
Spinach	120g	160 mg
Broccoli	120 g (4-6 florets)	45 mg
Bread white	30g (1slice)	33 mg
Baked Beans	½ can (120g)	59 mg
Sesame seed snaps	2 packs (120g)	100 mg
Brazil nuts	60g	95 mg
Dried figs	30 g	76 mg
Milk chocolate	60g	123 mg

An example of how easy it can be to meet the recommendations for calcium:

700mg = 1 glass (200ml) milk + 30g cheese + 1 small yoghurt (150g)

Food Ideas:

- Drinks: Smoothies- use milk, cream and ice cream.
- Have milky coffee, tea or hot chocolate.
- Have pilchards, sardines or baked beans on toast for a snack.
- Aim to have 1/2 -1 pt (234-568mls) milk per day.
- Add cheese, milk, or cream to foods, e.g. to mashed potato, soups and to puddings.

Nelfinavir Study - A common side effect when on Nelfinavir is diarrhoea. A recent study looked at the benefit of calcium supplements while taking Nelfinavir. They found the calcium supplement dramatically improved the symptoms.

If you have any queries about the amount of calcium in your diet, please book in to see the dietitian.

This information was provided by the Dietetics team of the HIV/GU Medicine Directorate of the Chelsea and Westminster Hospital. For more information please call 020 8746 8178.

Updated November 2006