**Vitamins and Minerals**

Those at risk in older / housebound populations

| **Vitamin / Mineral at Risk** | **Why they are at Risk in the Care home population** | **Role / Function in Body** | **Best Food Sources** | **How Much to have** | **Vitamin Supplements** |
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| **Vitamin D** | Our body makes Vitamin from the action of sunlight on the skin.  People who don’t get outside much are at greater risk of deficiency.  Those with osteomalacia may experience bone pain.  Vitamin D and Calcium are closely linked. | Keeps bones, teeth and muscles healthy. | Oily Fish (Salmon, Sardines, Herring, Mackerel)  Eggs (yolk)  Margarine (Fortified)  Yoghurt  Breakfast Cereal (Fortified)  Some Squash / Cordial drinks (Fortified)  Red Meat  Liver | All Adults -10ug /d | It's recommended that over-65s take a supplement of vitamin D of 10 micrograms per day. (not more than 100mg /d unless directed medically to do so).  Especially those living in North of England.  Try to get out in the sun for 10-15 minutes a day without sunscreen, too.  Taking too many vitamin D supplements over a long period of time can cause too much calcium to build up in the body (hypercalcaemia). This can weaken the bones and damage the kidneys and the heart. |
| **Calcium** | Over the age of 50, the skeleton begins to shrink, reducing in density, increasing risk of osteoporosis (which is irreversible) and osteomalacia.  People with Chronic gut disorders or endocrine disorder e.g., hyperparathyroidism, can have defective absorption. | Supports bone and teeth formation.  Regulates muscle contractions, including heart.  Helps Blood Clotting | Animal Milk – 200ml  Cheese – 30g  Yoghurt – 125g  Animal Milk Alternatives e.g., Soya (if fortified)  Leafy Green Vegetables (Curly Kale, Okra but not Spinach)  Nuts  Tinned Fish (Sardines, Pilchards – if eat bones)  Bread (Fortified) | All Adults – 700mg/d  3 – 4 portions of dairy foods each day (to slow down losses) | Consult GP before taking supplements – as they can cause diarrhoea and stomach pains, as well as high levels affect heart rhythm.  Physical Activity supports maintenance of bone density. |
| **Iron** |  | Helps make red blood cells to carry oxygen around the body.  Supports Immunity | Red Meat  Liver  Red Kidney Beans, Edamame Beans,  Chickpeas  Eggs  Wholegrain Products  Nuts and Seeds  Green Leafy vegetables  Dried Fruit (Apricots)  Breakfast Cereals (Fortified)  \*To Improve Absorption  Avoid Drinking Tea and Coffee with meals  Instead have drinks containing Vitamin C. | All Adult Males and Adult female aged 65+ – 8.7mg/d  Adult Female aged  19- 50 yrs – 14.8mg/d | Only supplement when directed by a GP.  Deficiency in the over 50s is often a sign of an underlying problem so should be investigated. |
| **B12** | Older Adults and those with Gastrointestinal diseases or surgical alterations are less able to absorb Vitamin B12 (sometimes due to lack of intrinsic factor in the stomach).  Deficiency can damage the nervous system is left untreated | Helps healthy red blood cell formation to carry oxygen around the body.  Help break down energy from food.  Nervous System health by helping Folate to be used properly. | Breakfast Cereal (Fortified)  Yeast Extract (Marmite or Bovril)  Red Meat  Fish  Cod  Salmon  Milk  Cheese  Eggs | All Adults – 1.5ug /d | Where intrinsic factor is lacking or where there are GI problems or where surgery has altered the GI, intramuscular injections will be needed.  \*Vegans may need supplements |
| **B6 (Pyridoxine)** |  | Helps to use and store energy from protein and carbohydrates.  Helps healthy red blood cell formation to carry oxygen around the body. | Pork  Poultry  Some Fish  Peanuts  Soya Beans  Wheatgerm  Oats  Bananas  Milk  Breakfast Cereals | All Adult Males – 1.4 ug/d  All Adult females – 1.2ug /d | Taking 200mg or more a day of vitamin B6 [LK2] can lead to a loss of feeling in the arms and legs known as [peripheral neuropathy](https://www.nhs.uk/conditions/peripheral-neuropathy/). |
| **Folate (B9) / Folic Acid** | There is a strong relationship between folate and B12.  Older adults often lose ability to absorb B12 from foods.  This can lead to anaemia. | Helps healthy red blood cell formation to carry oxygen around the body. | Broccoli  Brussel sprouts  Leafy green vegetables (Cabbage, kale, spring greens, spinach)  Peas  Chickpeas  Kidney Beans  Liver  Breakfast Cereals (Fortified) | All Adults – 200ug / d | Taking doses of folic acid higher than 1mg can mask the symptoms of vitamin B12 deficiency, which can eventually damage the nervous system if it's not spotted and treated. |
| **B1 (Thiamine)** | Often diminished body stores in those who have been or are alcoholic. | helps to turn food into energy and to keep the nervous system healthy. | Peas  Bananas  Oranges  Nuts  Wholegrain Bread  Breakfast Cereals (Fortified)  Liver | Males 19- 64 – 1mg/d  Males 65+ - 0.9mg/d  Females 19-64 – 0.8mg/d  Females 65-74 – 0.8mg  Females 75+ - 0.7mg/d | For current / ex alcoholics a daily supplement will be needed. |
| **Vitamin C** | Ageing causes breakdown of collagen and proteins in the body.  Exposure over time to radiation can lead to cancers.  Any Antioxidants can help to reduce these risks.  Medications may cause Vitamin C to be lost in urine. | It is an antioxidant which helps to fight infections and helps with wound healing.  It helps protect cells from damage.  Supports healthy skin, blood vessels and bones and cartilage.  Deficiency leads to scurvy (bleeding gums) | Citrus Fruit  Strawberries  Blackcurrants  Mango  Peppers  Tomato  Frozen Veg  Broccoli  Brussels Sprouts  Potatoes (especially just under the skin)  *\*it is heat and water sensitive, so cooking methods matter!* | All Adults – 40mg /d | Do not take in large amounts (1000mg /d) |

***References:***

Age UK <https://www.ageuk.org.uk/information-advice/health-wellbeing/healthy-eating/vitamins-for-older-people/>

Public Health England <https://assets.publishing.service.gov.uk/media/5a749fece5274a44083b82d8/government_dietary_recommendations.pdf>

NHS Vitamins and Minerals <https://www.nhs.uk/conditions/vitamins-and-minerals/>