**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)YoghurtBreakfast Cereal (Fortified)Some Squash / Cordial drinks (Fortified)Red MeatLiver | 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 – 200mlCheese – 30gYoghurt – 125gAnimal Milk Alternatives e.g., Soya (if fortified)Leafy Green Vegetables (Curly Kale, Okra but not Spinach)NutsTinned Fish (Sardines, Pilchards – if eat bones)Bread (Fortified) | All Adults – 700mg/d3 – 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 MeatLiverRed Kidney Beans, Edamame Beans, ChickpeasEggsWholegrain ProductsNuts and SeedsGreen Leafy vegetablesDried Fruit (Apricots)Breakfast Cereals (Fortified)\*To Improve AbsorptionAvoid Drinking Tea and Coffee with meals Instead have drinks containing Vitamin C.  | All Adult Males and Adult female aged 65+ – 8.7mg/dAdult 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 MeatFishCodSalmonMilkCheeseEggs | 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. | PorkPoultrySome FishPeanutsSoya BeansWheatgermOatsBananasMilkBreakfast Cereals | All Adult Males – 1.4 ug/dAll 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. | BroccoliBrussel sproutsLeafy green vegetables (Cabbage, kale, spring greens, spinach)PeasChickpeasKidney BeansLiverBreakfast 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. | PeasBananasOrangesNutsWholegrain BreadBreakfast Cereals (Fortified)Liver | Males 19- 64 – 1mg/dMales 65+ - 0.9mg/dFemales 19-64 – 0.8mg/dFemales 65-74 – 0.8mgFemales 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 FruitStrawberriesBlackcurrantsMangoPeppersTomatoFrozen VegBroccoliBrussels SproutsPotatoes (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/>