Vitamins, Minerals and Natural Medicines

Natural medicines have grown in popularity in recent years and have been shown in many cases to be very effective in treating and preventing many medical conditions. However, a recent report in the Daily Telegraph in the UK (and reported in the Irish Independent on November 6th 2012) showed that supplement use has reduced in the UK since 2008; there are two reasons for this according to the report. One is because of the economic slowdown, the man reason is people have less money to spend due to the economic slowdown; the second is due to the lack of evidence of the effectiveness and the benefit of taking supplements. According to the Irish Independent article "In recent years an increasing number of studies have questioned claims that taking health supplements brings major health benefits". For example, a study in the Journal Heart earlier this year concluded that that those taking calcium supplements to strengthen bones may have double the risk of heart attack. The Harvard study, also published in November 2012, concluded that multivitamins have no benefit on cardiovascular health. According to some health experts, individuals who believe they are deriving benefits from supplements may be less likely to engage in other preventive health behaviours such as eating their 5 a day and exercising regularly. According to the British Diabetic Association, if you have a balanced diet such as five portions of fruit and veg a day, eating oily fish regularly, and food from all groups and you are well then you should not need to take supplements. However according to the British Diabetic Association there were some groups of people such as the under-fives, pregnant and breastfeeding women, and the elderly - who should take them, as recommended by Department of Health.

Immune System Boosters (Echinacea, Garlic and Vitamin C)

Echinacea

Echinacea is used to fight off infections including bacteria, viruses and fungus. It is most commonly used to prevent and fight off colds and flus. There have been a few small studies showing its effectiveness; however there are no well-designed or conclusive clinical trials to prove the effectiveness of Echinacea. Side effects are extremely rare with Echinacea, though allergic reactions, while very uncommon, have occurred in the past. There is little evidence of Echinacea interacting with other medicines, but it is best avoided with warfarin as there is anecdotal evidence it increases its effect. It should not be used people with multiple sclerosis and AIDs.

Garlic

Garlic is an antioxidant and may help at preventing and fighting colds. It is thought to stimulate the activity of white blood cells which means it helps fight off infection. It is also known to stimulate enzymes in the liver that get rid of toxic substances in the body including carcinogens. Garlic is thought to be beneficial in preventing heart disease. There is some evidence it helps reduce blood pressure. Garlic interacts with warfarin to increase the risk of bleeding and it reduces the blood concentration of some HIV drugs such as saquinavir so should not be used with these medicines.

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Vitamin C

Vitamin C is one of the most powerful of all known anti-oxidants. The damage done to cells by free radicals is acknowledged to be the cause of most age-related conditions including diabetes, high blood pressure, vision problems, Alzheimer's disease, heart disease and cancer. Antioxidants like vitamin C, E and A may help prevent or lessen the damage done by free radicals.

Vitamin C is proven to boost the body's immune system and help create antibodies thus preventing illnesses like colds and flus. Vitamin C also helps the absorption of iron thus helping oxygen transport in the body so maintaining energy levels.

Ginseng

Ginseng is commonly used to boost energy and stamina. There is some who believe it boosts concentration and memory. It is thought to do this by boosting the activity of neurotransmitters in the brain. It may also increase the body's resistance to stress. There is anecdotal evidence that it acts as an aphrodisiac, however there is no clinical evidence of this. The incidence of side effects is low, however there are some reports of temporary nervousness, headache, insomnia, inability to concentrate, increase in blood pressure and allergies. There are some reports of an oestrogen like effect in post-menopausal women causing vaginal bleeding in some elderly patients. It should not be used in pregnancy, people with high blood pressure and diabetics. It should be avoided by those suffering from inflammatory conditions and COPD (bronchitis) as there is evidence it makes them worse. It interacts with steroidal drugs used for inflammatory conditions like bronchitis and arthritis and it increases the effect of some diabetic drugs.

St John's Wort

St John's Wort is well known for its mild antidepressant properties. It is thought to be effective for mild to moderate depression. Its active ingredient is hypercin which is thought to have an effect on the level of serotonin, dopamine and noradrenaline in the brain to boost mood. It is thought to work in a similar way to SSRIs. In some countries such as Germany, it is commonly used to treat mild depression, especially in children and adolescents. A number of trials have been done on St John's Wort, but according to the National Medicine Information Centre in St James Hospital, Dublin, "most have been flawed due to the methodology, selection criteria or rating scales used". A report in the medical Journal Cochrane Review in 2008 stated that it is as effective as standard antidepressants and with fewer side effects. Other studies have been less conclusive.

St John's Wort is available over the counter in many countries but has been a prescription only medicine in Ireland and the UK since 2000 because of serious concerns for its safety. The main problem is that it interacts with so many medicines.

This is because it stimulates an enzyme called cytochrome P450 in the body, which is a major enzyme in breaking down and getting rid of drugs from our bodies.

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Therefore it reduces the effect of many drugs. This is especially true for drugs with "narrow therapeutic indexes", meaning there is a fine balance between them being non-effective, effective and toxic. Therefore, it should not be used by people taking warfarin for blood clots, digoxin for heart conditions, cyclosporin for organ transplants and theophylline for asthma and bronchitis. Other major interactions are with benzodiazepines and HIV medication. It can also reduce the effect of oral contraceptives leading to unplanned pregnancies. It should not be taken with prescription antidepressants. You should never take St John's Wort with other medicines before checking with your pharmacist or GP. Side effects reported with St John's Wort include gastrointestinal side effects, dizziness, confusion, drowsiness and increased sensitivity to light. NICE, the drug advisory body in the UK advise against taking St John's Wort because of variations in strengths of different preparations, concerns about appropriate dosage and duration of effect and interactions with other medicines.

Ginkgo Biloba

Gingko is thought to stimulate blood flow in the brain and hence increase memory and alertness. It is only available on prescription in Ireland. Many trials have been done on its effectiveness. Some trials have proven positive about its benefit in slowing down the progression of early stage Alzheimer's disease. Studies have shown reasonable success in improving the symptoms of intermittent claudication; including increasing walking distances. Intermittent claudication is a condition common in people over 65 caused by poor circulation. Symptoms include pain, cramps and numbness in muscles, especially the calf. There is uncertainty about the long term safety and efficacy of Ginkgo Biloba and whether it should be used long term or intermittently. Side effects are rare, the main ones being headaches and stomach upset. Diarrhoea, nausea and vomiting occurred in less than 1% of clinical trials. There is little information about its interaction with other drugs but it has been shown to increase bleeding in drugs used to prevent clots. Therefore it should not be taken with warfarin, aspirin or clopidogrel (Plavix®, Clodel®). It should not be used during pregnancy.

Lecithin

Lecithin has been shown to reduce cholesterol slightly. Lecithin reduces cholesterol by binding cholesterol and fats to water in your intestinal tract, hence reducing the absorption of cholesterol. Lecithin is a soy derived product. It is not absorbed into the bloodstream as it passes straight through the digestive tract. Lecithin is not nearly as effective at reducing cholesterol as prescription only statins, however it may reduce cholesterol by 10 to 15%. Therefore it can be a good natural option for those with borderline cholesterol. It is available in granule form from supermarkets (can be sprinkled over porridge or added to yogurt for example) and in capsule form.

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Valerian

Valerian is a herb used as a mild sedative to aid sleep. It is thought to work by increasing the neurotransmitter GABA in the brain. This is the same neurotransmitter that prescription sleeping tablets like zolpidem exert their effect on. Studies done so far do not conclusively confirm the effectiveness of valerian for the treatment of insomnia. Few side effects have been reported. Possible side effects include headaches, dizziness, itching and gastrointestinal disturbance. Hangover the next morning is extremely rare. Valerian should not be taken by pregnant or breastfeeding women or by people on prescription only sedatives such as benzodiazepines. In my experience, valerian is of no benefit to those suffering from long term and chronic insomnia. However, it may be of benefit to those suffering from short term sleep disturbance.

Peppermint Oil

Peppermint oil is used to treat stomach bloating and stomach cramps. It is available without prescription for Irritable Bowel Syndrome (IBS).

Fish oils

Which is more important: Omega 3, 6 or 9?

Omega-6 and 9's can be found abundantly in many of our common vegetable cooking oils, but not olive oil. Omega 6 and 9 are common ingredients in many of the foods we eat. Western diets tend to be lacking in Omega 3 so it is more important to supplement with Omega 3 than Omega 6 and 9. This is especially important for those who do not eat much fish.

Omega 3
Fish oil is recommended for a healthy diet because it contains the omega-3 fatty acids, eicosapentaenoic acid (EPA), and docosahexaenoic acid (DHA), precursors to eicosanoids that reduce inflammation throughout the body. Fish do not actually produce omega-3 fatty acids, but instead accumulate them from either consuming microalgae that produce these fatty acids, as is the case with fish like herring and sardines, or, as is the case with fatty predatory fish, by eating prey fish that have accumulated omega-3 fatty acids from microalgae.

Cod liver oil is a form of fish oil derived from liver of cod fish. It has high levels of the omega-3 fatty acids, EPA and DHA, and very high levels of vitamin A, vitamin D and vitamin E.

Omega 3 fatty acids are primarily found in oily fish such as salmon, fresh tuna, mackerel, herring, sardines and pilchards. We should eat two portions of fish per week, one of them oily. Flaxseed oil which is also known as linseed oil is six times richer than most fish oils in and its oil are perhaps the most widely available botanical source of omega 3.

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Only 10% of the population eat enough fish
Approximately 10 per cent of the Irish population eat sufficient oily fish to receive their necessary intake of Omega 3, a new survey suggests. According to a report in the Irish Times in April 2012, an IPSOS/MRBI survey found 89 per cent of Irish people do not eat enough salmon, fresh tuna, sardines or trout to ensure that they receive the required dose of Omega 3.

Omega 3 and the heart
Omega 3 fish oils have in some studies been shown to stimulate blood circulation, increases the breakdown of fibrin, a compound involved in clot and scar formation, and may reduce blood pressure slightly.
Some evidence indicates that omega fatty acids reduce cholesterol levels, especially triglycerides. Regular intake may help reduce the risk of heart attack.

The American Heart Association recommends the consumption of 1 gram of fish oil daily, preferably by eating fish, for patients with coronary heart disease.

Healthy women who said they ate fish five times a week or more had a 45 percent lower risk of dying of heart disease over the next 16 years than healthy women who ate fish less than once a month, according to the Journal of the American Medical Association. An editorial in the May 15, 2000 issue of the American Journal of Cardiology claimed the time had come to add fish and fish oil supplements to the list of standard treatments of coronary heart disease.

In recent years, cardiologists have regularly prescribed omega 3 supplements to patient post myocardial infarction (heart attack) to reduce triglycerides levels. Triglycerides are a form of cholesterol that contributes to a build-up of fatty substances (plaque) in the blood vessels that leads to clots including heart attacks and strokes. However the effectiveness of triglycerides for preventing clots questionable. The HSE recently took omega 3 supplements off the GMS list meaning that Omega 3 is no longer available for free to medical card patients and meaning it is no longer subsidised for private patients under the HSE's Drug Payment Scheme. The reason behind this according to the HSE is a lack of evidence of the effectiveness of omega 3s to prevent clots.

Omega 3's and mood
There is evidence that omega 3 fatty acids supplementation might be helpful in cases of depression and anxiety. Studies report highly significant improvement from omega 3 fatty acids supplementation alone and in conjunction with medication. Research has shown a link between the amount of a fish people in different countries eat and the level of depression. In Japan, where people eat on average 70kg of fish a year, the rate of depression is 0.12%. Whereas in New Zealand, where people eat only 18kg of fish a year, the rate of depression is almost 50 times higher. It is thought that omega 3 may help your brain work more efficiently, so serotonin, which can boost your mood, has more of an effect on you. Evidence of their effects on mood is still not conclusive.

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Negative side effects and precautions with fish oil supplements

A safe dose
Medical nutritionists and the American government agency Food and Drug Administration declared that a dose of 3 grams (3000 mg) of omega-3 daily may be considered as generally safe. In *Circulation*, the influential Journal of Cardiology, a panel of specialists of the American Heart Association published a study indicating that a daily dose of 8 grams (8000 mg) omega-3 daily is acceptable.

The most frequent side effect of omega-3 supplements is its fish aftertaste.
The fish oil supplement, MorEPA, undergoes a special purification process (formula A1) in order to eliminate the fish taste as much as possible. However, if you are very sensitive to the taste of fish, I would suggest you either take the capsules at the beginning of your meal or use PlusEPA.

Digestion
Most people don't have any digestion problems with fish oil supplements unless taken in high dosages. Some people may experience mild intestinal problems (i.e. more than one bowel movement per day or liquid bowel movement) when they suddenly take high dosages of fish oils. If that is the case, it is advisable to lower the dose.

Coagulation of the blood
In rare cases, the intake of high dosages (more than 3 grams per day) of omega-3 fatty acids could result in haematomas (bruises). However this is very rare, for example, a daily dose of 3 grams of omega-3 fatty acids corresponds with four MorEPA or six PlusEPA capsules per day. Similar to aspirin, omega-3 fatty acids have an inhibiting effect on the coagulation of the blood; they inhibit the adherence of blood platelets (aggregation of blood platelets). Generally, this inhibiting effect on the aggregation of blood platelets is considered a benefit because it counteracts the formation of blood clots, thereby lowering the risks of heart attack or stroke. Yet, it could constitute a problem for people who are prone to getting bruises or for individuals who take anti-coagulant medication (blood thinners) such as warfarin.

Probiotics

The World Health Organisation (WHO) describes probiotics as “live organisms which when administered in adequate amounts confer a health benefit on the host”. Probiotics have been proven to boost the immune system and prevent gastrointestinal problems such as bloating as well as preventing side effects from antibiotics. However, bear in mind that the high sugar content of popular probiotic yogurts and drinks available in supermarkets counteracts the benefits of the probiotics. Therefore a natural Probiotic supplement with clinical evidence behind it is best to use if you decide to take a probiotic. An example of this is the Optibac® range of probiotics. (Get more detailed information on probiotics in Whelehans or at www.whelehans.ie)

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Preventing Side Effects of cholesterol medication

Statins are world's most prescribed drugs and are used to reduce cholesterol. Statins are so popular because heart disease is the world's second biggest cause of death after cancer. Reducing cholesterol if high can greatly reduce the risk of heart disease and death. In Ireland in 2000, heart disease was the leading cause of death being responsible for 41% of all deaths. Therefore statins have an important role in saving lives. Though like all medication, they have the possibility of side effects in some people.

One issue with statins is that they reduce Co Enzyme Q10, a vital nutrient in almost every cell of the body. Reduction in the level of Co-enzyme Q10 is a reason for some of the side effects of statins. Co Enzyme Q10 so helps prevent side effects of statins such as:

- Headaches
- Tired aching muscles
- Muscle cramps
- General fatigue

If you currently take a statin and experience a side effect such as headache, I would advise trying Co Enzyme Q10. In Whelehans we have encountered Co Enzyme Q10 supplements stopping the side effects of statins in some people. If you have high cholesterol, statins are very important way of prolonging your life so it is important not to give them up if possible.

Cranberry juice

Cranberry may ease lower urinary tract infections (also called bladder infections or cystitis). Cranberry can prevent the recurrence of urinary tract infections. Cranberry helps deodorise urine and fight E. coli and other bacteria. Cranberry juice available in supermarkets can help; however it contains a lot of sugars which bacteria can feed on. Therefore, Cranberry Capsules are a good choice as they are sugar free.

Glucosamine and Chondroitin

Glucosamine and chondroitin supplements can provide pain relief for those suffering from joint pain. These chemicals are found naturally in cartilage and it is thought that taking these supplements may improve the condition of damaged cartilage. They may also slow down thinning of the cartilage. However, evidence of their effectiveness is questionable. The NHS is currently reviewing whether glucosamine should continue to be available on prescription on the NHS for inflammatory joint conditions. The HSE recently took glucosamine off the GMS list meaning that glucosamine is no longer available for free to medical card patients and meaning it is no longer subsidised for private patients under the HSE's Drug Payment Scheme. The reason behind this according to the HSE is a lack of evidence of their effectiveness.

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Evening Primrose Oil

Evening primrose oil is traditionally used to relieve the discomforts of PMS (premenstrual syndrome), menstruation and endometriosis. By interfering with the production of inflammatory prostaglandins released during menstruation, the GLA in evening primrose oil is thought to help to lessen menstrual cramps.

It may also minimise premenstrual breast tenderness, irritable bowel flare-ups, and carbohydrate cravings, and help to control endometriosis-associated inflammation.

Evening primrose oil may ease the joint pain and swelling of rheumatoid arthritis and reduce the symptoms of the skin conditions eczema, acne and rosacea. It may slow down diabetes-associated nerve damage and combat damage from multiple sclerosis. More evidence is probably needed to the effectiveness of evening primrose oil for these indications.

Safety of Herbal and Natural Medicines

There can be a general perception that just because a medicine is natural that it must be safe. However, like any medicine, there are possible side effects and situations where they should not be used. People should be aware of these. You should always check with your pharmacist before taking a natural medicine, especially if you suffer from a long term medical condition or take a prescription medicine.

New rules for herbal medicines

New EU rules came into law from May 1st 2011 regarding the sale of herbal medicines. The new rules aim to protect consumers from potential adverse effects of herbal medicines. The new law means that herbal medicines will have to adhere to certain guidelines or they will be taken off the shelves. As of May 2011, about 50 herbs have been taken off the market in the UK, including horny goat weed, the so called “natural Viagra”. However many well-known herbs such as Arnica, Echinacea and St John’s Wort have passed the new regulations in the UK. It is difficult to say how many herbal medicines will go off the market in Ireland, however already many popular brands of herbs such as Echinacea and Milk Thistle are already gone off the market because of the extra cost of licencing for the companies involved. The new rules mean herbal medicines must now be manufactured to the same standards as conventional medicines and must be proven safe before they can be sold. Therefore the new rules are good for consumers. The Irish Medical Board (IMB) has been registering herbal medicines in Ireland since 2007, and as of May 1st 2011, any herbal medicine not registered with the IMB by the manufacturer can no longer be sold. You can view which herbal medicines are now registered on the Irish Medical Board’s website (www.imb.ie).

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Vitamins and Minerals

Vitamin A and Beta Carotene

Vitamin A helps you see in the dark. In particular, it helps your eyes adjust to darkness after being exposed to bright light, like the headlights of an oncoming car at night. You can also thank vitamin A for healthy skin, strong bones, and a sound immune system. The vitamin itself shows up primarily in organ meats, but many fruits and vegetables contain beta-carotene and other carotenoids that are converted to vitamin A in the intestine. Eating foods rich in these substances may protect you against heart disease and certain forms of cancer.

What foods are the best sources of vitamin A?
Orange, red, and dark green vegetables and fruits are particularly rich in beta-carotene and the 50 other carotenoids that the body converts to vitamin A. Just one red pepper or half a cup of spinach contains enough to meet your daily requirement for A. But the more carotenoids you get, the better, so don't be afraid to load up on foods with vitamin A!

Liver is by far the richest source of vitamin A -- so rich that you probably shouldn't eat it more than once a week. Fish and egg yolks are also packed with it, and some brands of milk are fortified with A, to help your bones absorb calcium.

Should I take a supplement?
No. You're not likely to be deficient in the vitamin, and vitamin A supplements can easily give you a toxic dose, and while beta-carotene supplements are probably not harmful, they won't give you all the health benefits of carotenoid-rich foods. Researchers in Finland found that smokers who took vitamin A supplements were slightly more likely to develop lung cancer.

Can I get too much vitamin A?
Yes. As little as 10,000 mcg of vitamin A per day can cause birth defects in pregnant women and, over time, headaches, hair loss, and liver damage. But unless you're eating a lot of liver, it's hard to get that much from your diet. You can't overdose on carotenoids, and your body will only convert what it needs to vitamin A.

B vitamins

The B vitamins are often referred to as the “energy” vitamins, mainly because they are involved in energy release in the body. There are in fact eight different B vitamins, each with a different role in the body. The eight B vitamins are Vitamin B1, B2, B3, B5, B6, B7, B9 and B12. Getting enough B vitamins help keep energy levels up, increase mental alertness, help memory, boost the immune system and perhaps even help fight depression. Many elderly people, vegetarians or people who are on strict diets don't get enough of these important vitamins.

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People who are stressed, eat out often, don't have a good balanced diet with plenty of fruit and veg, or abuse alcohol can also be deficient.

Types of B vitamins

Vitamin B1 is also called thiamine. It helps to regulate mental functions and nerve growth and can also help with memory. It also helps convert food to energy. Thiamine can be found in whole grains, beans, oranges, peas, peanut butter, pork, liver and fish. A deficiency of vitamin B1 is common among people who abuse alcohol and alcoholics therefore need more thiamine. Alcohol reduces the absorption of thiamine in the body so vitamin B1 supplements are often needed by alcoholics. Heavy smokers or people who consume too many carbohydrates have a greater need for vitamin B1. Stress related conditions will also deplete vitamin B reserves within the body including vitamin B1. The recommended daily allowance of vitamin B1 is 1.4mg.

Vitamin B2 is also called riboflavin. It releases energy from foods, makes many of the body's hormones and helps growth and development. It can be found in dairy products, green leafy vegetables, avocados, meat, beans and nuts. A shortage of this vitamin may cause cracks and sores at the corners of the mouth, eye disorders, inflammation of the mouth and tongue, and skin lesions. The recommended daily allowance of vitamin B 2 is 1.2mg.

Vitamin B3 is also called niacin and is used for over 50 body processes including releasing energy from food, making hormones, removing toxins and helping to keep cholesterol within the normal range. Niacin can be found in dairy products, meat, chicken, fish, beans, peas, nuts and peanut butter. Vitamin B3 deficiency is rare in Ireland, with alcoholism being the most common cause. The recommended daily allowance of vitamin B3 is 18mg.

Vitamin B5 is also called pantothenic acid. It releases energy from food. It works with other B vitamins to help break down proteins, fats and carbohydrates from food to give the body energy. It is also needed to make vitamin D and red blood cells. It can be found in liver, fish, chicken, beans and whole grains. Deficiency of vitamin B5 can cause fatigue, headaches, nausea, tingling in the hands, depression, personality changes and cardiac instability have been reported. The recommended daily allowance of vitamin B5 is 6mg.

Vitamin B6 is also known as pyridoxine. It can help prevent heart disease and reduce depression. We get Pyridoxine by eating fish, chicken, potatoes, bananas, peas, beans, and avocados. Signs of vitamin B6 deficiency include dermatitis (skin inflammation), glossitis (a sore tongue), depression, confusion, and convulsions. The recommended daily allowance of vitamin B6 is 2mg. Deficiency in Ireland is rare, and only occurs in people with extremely poor diets.

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Vitamin B7 is also called biotin. It helps to break down the proteins, carbohydrates and fats into energy. We get Biotin by eating liver, salmon, clams, eggs, milk, peanut butter and bananas. Long-term antibiotic use can interfere with biotin production in the intestine and increase the risk of deficiency symptoms, such as dermatitis, depression, hair loss, anaemia, and nausea. Long-term use of anti-epilepsy medications may also lead to biotin deficiency. The recommended daily allowance of vitamin B7 is 300mcg.

Vitamin B9 is more commonly called folic acid and helps cells grow and divide properly, prevents birth defects and prevents heart disease. We get folic acid by eating dark green leafy veggies, avocados, beets, orange juice, beans and liver. Women planning to conceive should take folic acid 400mcg daily prior to conception and for the first 12 weeks of pregnancy. This prevents spina bifida in the new born child. Folic acid 400mcg is available over the counter in pharmacies for women trying to conceive and for the first 12 weeks of pregnancy. It is also available for free on the medical card. The normal recommended daily allowance of folic acid for all other adults is 100mcg. Most people assume folic acid is only needed during pregnancy. However folic acid is important at all ages to properly form red blood cells and for our bodies to metabolise protein for energy.

Vitamin B12 is also called cobalamin. It breaks down proteins, carbohydrates and fats to give energy. Vitamin B12, like the other B vitamins, is important for metabolism. It helps in the formation of red blood cells and in the maintenance of the central nervous system. It also helps prevent heart disease and combats depression. You can get cobalamin by eating eggs, milk, yogurt, chicken, fish and meat. Because vitamin B12 comes primarily from animal products, people who follow a strict vegetarian or vegan diet and do not consume eggs or dairy products may require vitamin B12 supplements. Those who had surgery on specific parts of the small intestine or stomach are also prone to a deficiency if they do not take B12 supplements. Low levels of B12 can cause anemia, numbness or tingling in the arms and legs, weakness, and loss of balance. The recommended daily allowance of vitamin B12 is 6mcg. For people who are deficient in vitamin B12, their GP may decide to prescribe vitamin B12 injections. If this is the case, a 1000mcg cobalamin injection is generally given once monthly via an intramuscular injection.

Vitamin E

Vitamin E works together with other antioxidants, such as vitamin C and selenium, to help prevent chronic illnesses such as diabetes and heart disease.

Vitamin E captured the attention of cardiologists in 1993, when a Harvard University study showed that men who took vitamin E had a 35% lower risk of heart disease than those who didn't take the supplement. These results bolstered the theory that vitamin E helps keep heart problems at bay by preventing so-called bad cholesterol (LDL) from clogging up your arteries.

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Vitamin E is most commonly found in vegetable oils, nuts, fatty fish such as tuna and salmon, dark, leafy vegetables, and whole grains. Frying or cooking with a lot of oil could cause a loss of vitamin E.

If you tend to skimp on vegetables, nuts, and whole grains, you may benefit from taking a vitamin E supplement.

Vitamin D

Your body also needs vitamin D to absorb calcium properly. Vitamin D is found in certain foods, including cod liver oil, oily fish such as sardines and herrings, margarine and egg yolks. It's also made by your skin when in the sunlight. The National Osteoporosis Society recommends about 20 minutes of sun exposure to the face and arms, every day during the summer, to provide you with enough vitamin D for the year. However, to reduce your risk of getting skin cancer, you should cover your skin between 11am and 3pm, and don't allow your skin to burn. Between 40 to 80 per cent of people over 65 have vitamin D deficiency in Ireland. Vitamin D deficiency also causes a mild muscle weakness and hence increases the risk of falls and hence fractures. Therefore, vitamin D supplementation is especially important in this age group.

New Research
Between 40 to 80 per cent of Irish people over 65 have a vitamin D deficiency. New research has found that a daily supplement of 700 to 1000IU of vitamin D reduces the risk of fractures from falls among older people by 19%. The British Medical Journal shows that a dose of less than 700IU per day has no effect in reducing fractures. Research is also showing that vitamin D plays an important role in helping the immune system. It may also help prevent illnesses like diabetes, heart disease, rheumatoid arthritis, multiple sclerosis as well as some forms of cancer.

Drug interactions
Some blood pressures called diuretics (eg thiazides) can reduce the urinary excretion of vitamin D hence increasing the risk of too much vitamin D. Some epilepsy medication such as phenytoin can reduce vitamin D levels.

Adult D®
If you are not getting enough vitamin D from your diet, Adult D® Capsules which are available from Whelehans Pharmacy are a good source of vitamin D. Adult D® Capsules contains 1000IU of vitamin D3 which is the easiest type of vitamin D to absorb. It is recommended by the Food Safety Authority of Ireland and only costs €2.98 per month. It is not recommended to take above 4000IU of vitamin D daily but unlike vitamin A, there is no evidence that high levels of vitamin D pose any risk to health.

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Vitamin D in infants and children

New guidelines regarding Vitamin D were released in 2010 by the Food and Safety Authority of Ireland and the Department of Health. It is recommended that all infants, from birth to 12 months, whether breastfed or formula fed, be given a daily supplement of 5 µg (200 IU) vitamin D. This should be provided by a supplement containing vitamin D exclusively. These guidelines where released because children (and adults) in Ireland have been found to have low levels of vitamin D. There has been an increase in the number of cases of rickets in Ireland in recent years.
Babies need vitamin D supplements for the following reasons:

- Babies skin is very sensitive to the sun and should not be exposed to direct sunlight
- Babies food (breast milk, formula milk or solid foods) may not have enough Vitamin D
- Between 0-12 months, babies grow very quickly and have a greater need for vitamin D to form strong bones

Babies with African, Afro-Caribbean, Middle- Eastern or Indian ethnic backgrounds are at even higher risk of having low levels of vitamin D. Their stores of vitamin D may be particularly low when born as their mothers' skin may not be as efficient at making vitamin D from low the levels of sunlight experienced in Ireland.

What type of Vitamin D supplement should be given to a baby?

Vitamin D_3 (cholecalciferol) is the preferred form of vitamin D for infants. Liquid form is preferred. Products that contain other vitamins as well as vitamin D (such as multivitamin products) should not be used. In Whelehans we sell *BabyD*® Vitamin D liquid and *BabyVitD*$_3$® drops. They each contain 5 µg of vitamin D_3 recommended for children aged 0-12 months. Very high amounts of vitamin D are harmful. The recommended 5µg vitamin D a day is very safe for babies. Harmful effects only begin at levels that are five times higher than this recommended dose. For children over 1 year, Whelehans stock *JuniorVitD*$_3$® drops which contains 10µg of vitamin D_3.

Calcium

Eating a diet rich in calcium is important for maintaining healthy bones. Dairy products and green leafed vegetables are good sources of calcium. Postmenopausal women with osteoporosis should aim to take 1,000mg of calcium every day, either in their diet or as a supplement. This can be obtained from 600ml of milk with either 50g of hard cheese (eg) Cheddar or Edam), one pot of yogurt, or 50g of sardines. Care must be taken as many dairy products are high in fat; however the low fat versions have the exact same calcium levels as full fat versions. You should try not to drink fizzy drinks or have too much caffeine, salt or animal protein such as beef, as these can affect the balance of calcium in your body.

Eating plenty of fruit and vegetables can help to cancel out the effects of too much protein in your diet. Smoking can have a harmful effect on your bone strength and can also cause an early menopause. If you smoke, you should try to give up. You should also be careful not to drink too much alcohol.

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Hair, Skin and Nails

Nutritional deficiencies can contribute to increased hair loss by weakening hair shafts that cause breakage to the hair and slow re growth. Hair problems that are caused by nutritional deficiencies can be corrected by a good diet. The main nutrients involved in hair health include vitamin A, certain B vitamins, the vitamin biotin, vitamin C, copper, iron, zinc, protein, and water. Of all nutrients, biotin has the biggest impact on hair growth. It is found in food sources such as eggs and liver, however if someone has thinning or damaged hair; a biotin supplement is a good choice.

Lutein for eyes

Age Related Macular Degeneration (AMD) is thought to affect one in ten people over the age of 55. Over 60,000 Irish people suffer from this condition in Ireland. Lutein, Zeaxanthin, bilberry and grapeseed are recommended to reduce the risk or slow the progression of Age Related Macular Degeneration. They are available in over the counter supplements designed to reduce the risk and slow down the progression of AMD in at risk patients. *Lutein Omega 3*® is a good choice as it contains a high level of all the recommended eye vitamins and also has omega 3 (which is not contained in other eye supplements such as *Macushield*® or *Vitalux plus*®. *Lutein Omega 3*® is also a lot less expensive than other brands.

Overload of fat soluble vitamins

There are two general classes of vitamins, water soluble and fat soluble. Water soluble vitamins include the B vitamins and vitamin C. They dissolve in water and are not stored by the body. Excess amounts are excreted in urine which means that you cannot overdose on them. They must be replaced every day in our diet to provide a continuous supply. Fat soluble vitamins include vitamin A, D, E and K. Fat-soluble vitamins are found mainly in fatty foods such as animal fats including butter and lard, vegetable oils, dairy foods, liver and oily fish. Unlike water soluble vitamins, they are not excreted when our body takes in too much, instead they can build up in fat tissues and various organs in the body such as the liver. Therefore, overdose is possible. Overdose of fat soluble vitamins is very unlikely with food alone; however some multivitamins have high levels of fat soluble vitamins. Therefore, if taking a number of vitamin supplements, always check you are not doubling up on fat soluble vitamins. A common example of inadvertent overdose of vitamin A and D is taking cod liver oil with a multivitamin. This is because cod liver oil has high levels of vitamin A and D. Instead, of taking cod liver oil with a multivitamin, you can simply take a fish oil supplement which has the benefits of omega 3 but has no vitamin A or D. Vitamin A is needed for the wellbeing of our eyes, bones and reproductive organs. Signs of vitamin A toxicity include dry, itchy skin, headache, nausea, and loss of appetite. Overdose is dangerous in pregnant women as it can damage the foetus. Vitamin D helps the hardening of bones and teeth and increases the absorption of calcium. Overdose can cause nausea, weight loss and irritability.

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It can also damage the unborn foetus. There is however little evidence of toxicity with too much vitamin E and K.

Iron

Vitamin C helps the absorption of iron so if you must take an iron supplement for anaemia, it is a good idea to take a vitamin C supplement or a fruit high in vitamin C at the same time. Ferrograd C® is an iron supplement which contains a slow releasing iron and vitamin C. The fact it is slow releasing leads to lower incidence of side effects such as nausea and constipation. Antacids such as Rennies® and Gaviscon® can reduce the absorption of iron by up to 30 to 40%. Tea and Coffee also reduce the absorption of iron as tannins in tea and coffee bind to iron reducing its absorption. Therefore, iron supplements should be taken at a different time to antacids and tea/coffee. Iron can reduce the absorption of some prescription medication. For example it reduces the absorption of biphosphanates used for osteoporosis (eg. Fosamax®), and some commonly used antibiotics including fluorquinolones (eg. Ciprofloxacin) and tetracyclines (eg. Minocycline, Doxycycline). In fact, iron can reduce the absorption of tetracycline antibiotics by 50 to 90%. Tetracyclines are mainly used for treatment of chest infections (especially with bronchitis), acne and malaria prevention. Iron should be taken at least 3 hours apart from these medicines.

Zinc

It is contained in foods such as chicken, meat and fish. It is a major component of over three hundred enzymes and plays a vital role in carbohydrate metabolism, protein synthesis, wound healing, the immune system, digestion, sugar level control, and the senses of taste and smell

For comprehensive and free health advice and information call in to Whelehans or log on to www.whelehans.ie or dial 04493 34591. Find us on Facebook.

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