

# Education News



ISSUE 5 | FROM THE NUTRIGOLD NUTRITIONAL UPDATE SERVICE

## HEALTHY JOINTS

### PROTECTING YOUR JOINTS AGAINST INJURY, ARTHRITIS AND DEGENERATION

Do you run, jog or play regular sports?

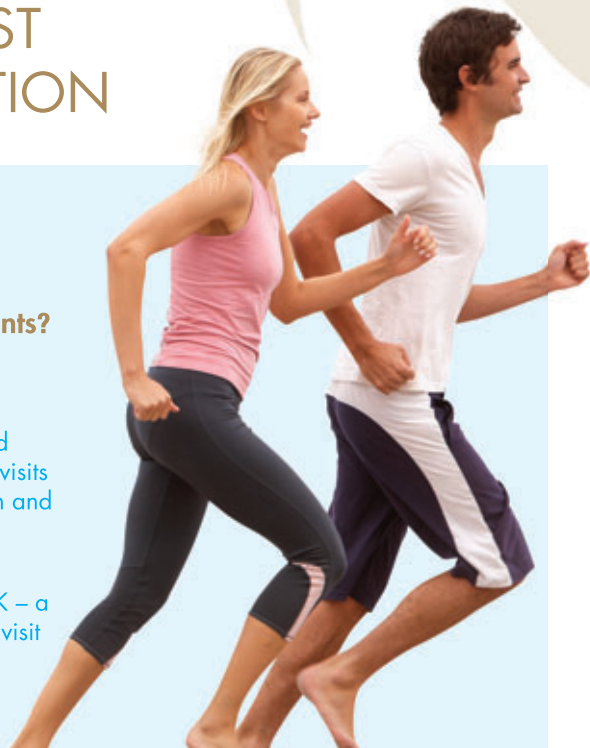
Or spend hours at the computer?

Do you suffer from inflammation, pain or stiffness in any of your joints?

Are you concerned about osteoarthritis or rheumatoid arthritis?

We all need to be taking good care of our joints. Our hips, knees, wrists, neck and other joints all have important roles to play in our day to day lives, and yet 1 in 4 visits to the doctor concern a joint related problem – from sports injuries, repetitive strain and frozen shoulder to rheumatoid and osteoarthritis.

We know that many of us are now seeking alternatives to anti-inflammatories, as glucosamine accounts for one third of all recorded food supplements sold in the UK – a fact on its own that highlights how common joint problems are. And 30,000 of us visit an osteopath every day. But how many of us are aware that diet can play a major role in the symptoms of structural and joint conditions including arthritis?



## WHAT ARE JOINTS?

**Joints are mostly located where two bones meet in the body, and enable us to move and also to stay in alignment. There are various different types of joints in our bodies, each providing a different range of movement: so for example, your knees only need to bend in one general direction (although there is a little rotation at play), but your shoulders and hips contain ball and socket joints which provide much greater scope for rotation.**

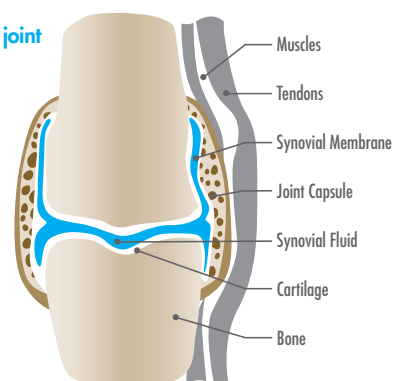
Muscles attach to the outer lining of the bone via tendons to help move the joints, and ligaments attach the bones to each other to provide stability. Cartilage is a tough, gristle-like substance that covers and protects the bone, and thick synovial fluid is often present to “oil” the joints and absorb shock.

These are all made of varying types of connective tissue, which essentially means that they are fluid, dynamic, living tissue that requires continuous bathing in

nutrient-rich fluids that will also help to carry waste and debris away. So we need to ensure that we are well nourished and hydrated to provide this support. Cartilage is slightly different in that it is lacking in blood vessels, which means it absorbs these nutrient rich fluids much more slowly. That is why cartilage injuries always take so much longer to heal.

Another form of connective tissue, known as fascia, surrounds and infuses our muscles, bones and other tissues like a nurturing, elastic, supportive, shock absorbing web. Fascia also likes to be well hydrated to hold its integrity and do its job properly.

A typical joint structure:



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# WHAT CAUSES JOINT PROBLEMS?

## MISALIGNMENT OF BONES AND JOINT STRAIN CAN BE DUE TO:

- sudden careless movement or injury (such as a twisted ankle)
- repeated constrained movement (as in repetitive strain injury or tennis elbow)
- an unequal pull of fascia or muscles.

This unequal pull may be quite a way from the painful area, so that muscle or fascial tightness in one area of the body can cause problems in a seemingly unconnected part of the body.

Wherever there is tightness, we can look for a lack of magnesium in that area. Calcium dominant muscles will stay in the contracted position and will find it difficult to relax without sufficient magnesium. In fact, tissue cells generally will be more contracted where calcium is dominant. This will accompany a state of dehydration and pH imbalance in the area, and there may be a variety of contributing factors here, including environmental stress and nutritional deficiency.

The trauma of a sudden injury can also create a calcium-dominant, contracted picture, as the body seeks to hold and protect the area in pain. We can stay frozen in this pattern many years after



we have forgotten about the injury, and so maintain a weakness in this area as fluids are less able to get through the constricted tissue to nourish and cleanse it.

The calcium and sodium dominant tissue here will be more acidic, more prone to inflammation and less quick to heal.

There are some similarities here with an arthritic picture. There are 2 main types of arthritis:

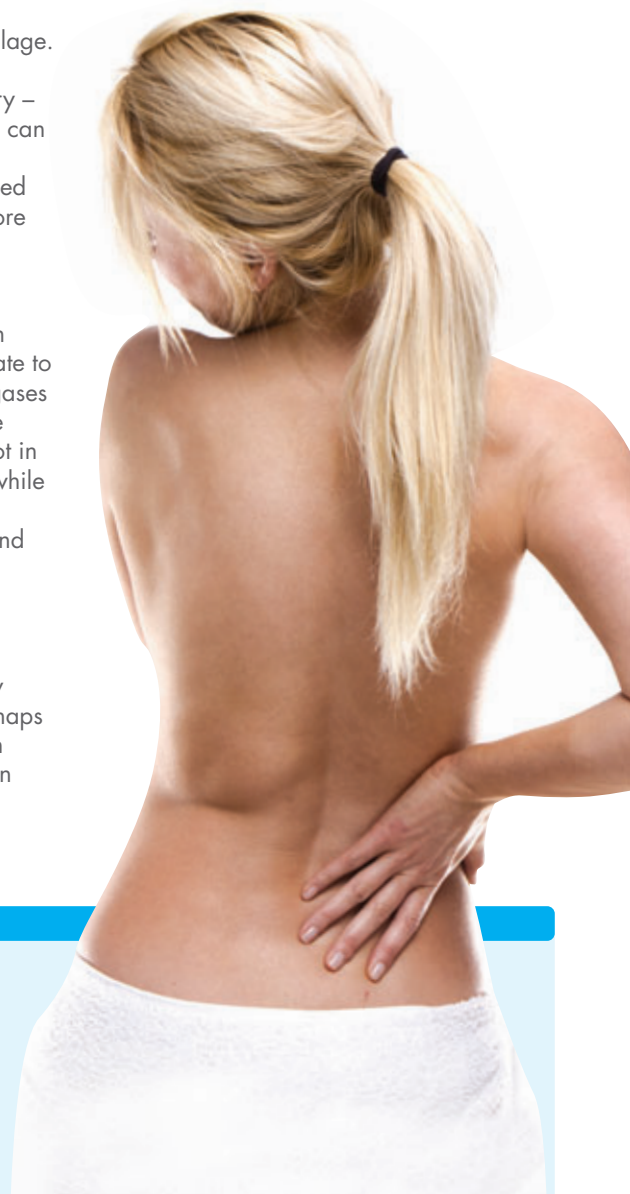
**Rheumatoid arthritis** is an inflammatory condition of the joints, where the inflamed tissue will also be sodium and calcium dominant. Sometimes arthritic nodules (due to calcification) are even laid down in the affected area. In addition there is a well documented thyroid link<sup>3</sup>. The digestive tract can also be affected, and digestive secretions dry up. So there may be a malabsorption problem in addition to other factors to consider.

**Osteoarthritis** is a degenerative condition affecting the bone and cartilage. This can be caused by poor nutrition, malabsorption, wear and tear or injury – or a combination of the above. Strain can also be put on the joints if there is misalignment in the bones, as described above, and this can eventually put more stress on the bone and cartilage and cause degeneration.

**Clicky joints** are not necessarily a sign of joint problems, although it may relate to hypermobility<sup>4</sup>. The sound is usually gases escaping from the synovial fluid in the capsule when it is stretched, and is not in itself a cause for concern. However, while there is no proven link between, for example, frequent knuckle cracking and arthritis, putting such repeated stress on your joint could potentially cause damage<sup>5</sup>

In its infinite wisdom, the body will try to limit arthritis to the extremities, perhaps the fingers or toes; but as the situation becomes more chronic the arthritis can become more widespread, or as in the case of ankylosing spondylitis, deepen to the pelvis and spine.

“Osteoarthritis is a degenerative condition affecting the bone and cartilage. This can be caused by poor nutrition, malabsorption, wear and tear or injury...”



## SUGGESTED READING:

When considering how best to nutritionally support joint health, one should consider the issues of essential fatty acids, Vitamin D and overall Bone Health. Further recommended reading would include:

**Education Newsletter:** Issue 3 – Supplement Quality, Issue 4 – Preventing Osteoporosis / Strengthening Bone Density, Issue 5 – Vitamin D, More than a ray of Sunshine... plus the latest Newsletter from Dr Plaskett on Krill Oil.

All these newsletters and much more can be viewed at [www.nutrigoldtechnical.com](http://www.nutrigoldtechnical.com)

# A NUTRITIONAL APPROACH TO JOINT SUPPORT

## WHAT CAN WE DO TO HELP?



### INJURY

Injury prevention would involve ensuring our joints and connective tissue in general are mobile, well nourished and hydrated. Dehydration and tightness can make injuries and strain more likely to occur. If the injury is already there, then the approach of keeping hydrated and easing any patterns of contraction will support the body's own efforts to heal and cleanse the area. In both cases this would involve a varying amount of nutritional support together with work to resolve or avoid potential issues of calcium misplacement due to constriction and acidity.



### ARTHRITIC CONDITIONS

The nutritional approach here will have similarities, but would also need to focus on endocrine support. The degree of acidity and calcium misplacement will generally be more pronounced and so may need more attention.

### CALCIUM MISPLACEMENT

From a holistic point of view, the body is "dumping" waste materials, particularly calcium and sodium, into the joints as it has been unable to keep them in their proper place or eliminate them from the body. This may be due to liver overload, constriction or acidity.

Calcium prefers to be in the blood or the bones to carry our vital duties there, ranging from keeping our bones strong to regulating heartbeat. However, where there is a pH imbalance in the tissues and around the joints, calcium will tend to stay in the affected areas to help buffer acidity. Sodium will get locked in alongside calcium, rather than keep flowing around the body as it prefers to help keep us hydrated. Calcium dropping out of solution can contribute to calcified deposits, and the sodium will contribute to inflammation.

The integrity of the various types of connective tissue that make up the joint will be impaired, and there will be a reduced flow of the nutrient and hormone rich fluids that could help repair any damage and carry away any toxicity. This state of stagnation, which can occur to varying degrees at different times, will be accompanied by a loss of magnesium and potassium, as well as a drop in zinc, manganese and chromium levels, and usually a drop in blood sugar. Magnesium and potassium are both essential for keeping calcium and sodium moving, and therefore also to keep fluids flowing around the body. As a direct result of lowered magnesium and thickened fluids, the elimination of uric acid will be impaired and also be "dumped" into the joints and the skin.

### THE IMPORTANCE OF MAGNESIUM

So magnesium is being lost just when we need it most, as it is magnesium that helps to prevent calcium misplacement in the first place. Magnesium helps alleviate tightness in the muscles and tissue as described above, as well as to keep us hydrated and help alkalise – all of which contributes to keeping calcium in the right place. Magnesium is also involved in energy production and detoxification pathways.

As with many minerals, magnesium is lacking in the soil, and so also in the food that we eat, so it is difficult to achieve therapeutic levels with diet alone. So we often need to gradually build up magnesium levels in supplement form – but make sure the supplement you are using is a well absorbed form. Magnesium citrate is the form that the body seems to utilise best. Unfortunately many companies use the cheaper forms, such as oxides and carbonates, which are not so well absorbed and can in fact reduce our ability to absorb nutrients by affecting conditions in the gut.<sup>6</sup>

"Magnesium helps alleviate tightness in the muscles and tissue, as well as supporting a well hydrated alkalised body"

## THYROID AND GENERAL ENDOCRINE SUPPORT

As we know, thyroid is implicated with rheumatoid arthritis, and this would in part explain the common additional symptoms of low energy, anaemia and depression. The parathyroid glands, situated at the sides of the thyroid, are also involved in calcium placement.

The endocrine system in general will be depleted of various crucial nutrients and co-factors, including an appropriate range and ratio of fats. It will therefore need support from the adrenals upwards. Vitamins C and B5 are useful for adrenal support, and EFAs are needed to produce prostaglandins.<sup>7</sup> The level to which the endocrine system will need support will vary from person to person.

## INFLAMMATION

Whether the joint problems we are addressing are due to injury or to a condition such as those described above, there will be a certain amount of inflammation. Essential fatty acids (omega 3 and 6 oils) are not only important for making and repairing connective tissue such as that found in joints, they also have a role in inflammation.

Although we are often told flaxseed oil contains the "perfect" ratio of omega 6 to 3 for humans, we must take into account that it is a parent form, and therefore difficult for an acidic body to break down and utilise. In addition, the typical British diet already contains too



much omega 6, providing us with more resources to make inflammatory prostaglandins, and a decreased ability to make the prostaglandins that will reduce inflammation. We may therefore need to redress the balance with supplemental omega 3 oils in a broken down form, such as fish oil and krill oil.

Once we have our oils in place, **aloe vera** can be a useful addition to a programme. The anti-inflammatory and tissue healing properties of aloe are discussed in "Aloe Vera – the health benefits"<sup>8</sup> available at [www.nutrigold.co.uk](http://www.nutrigold.co.uk)

"Zinc is also a natural anti-inflammatory, and is especially rich in pumpkin seeds, shellfish and meat"

**Zinc** is also a natural anti-inflammatory<sup>9</sup>, and is especially rich in pumpkin seeds, shellfish and meat, and also found generally in nuts, seeds, beans and wholegrains.

On the other hand, it would be advisable to avoid members of the **nightshade** family, i.e. potatoes, tomatoes, peppers and aubergines. This is due to the solanine content, a toxin that has been linked to joint pain and inflammation.<sup>10</sup>

## SULPHATES, GLUCOSAMINE AND SILICA

Sulphur has long been known to be beneficial for joints, whether taken in its homeopathic form or combined with something else as a sulphate. Magnesium sulphate (Epsom salts) has long been used to ease sore joints and muscles, and MSM (an organosulphur compound) is becoming increasingly popular in joint support, and has been used for some time with horses, especially working or race horses with back problems.



A well functioning body will produce sulphates through breaking down the sulphur amino acids methionine and cysteine, found in, for example, onions, garlic, meat, raw eggs, lentils and oats. A more acidic body may benefit from additional sulphates.

Glucosamine sulphate is well documented as an aid to joint problems, and many would argue that both the sulphate and the glucosamine are helpful. Glucosamine is required for the production of the glucosaminoglycans (GAGs) in cartilage which, if well hydrated, contribute to its resilience



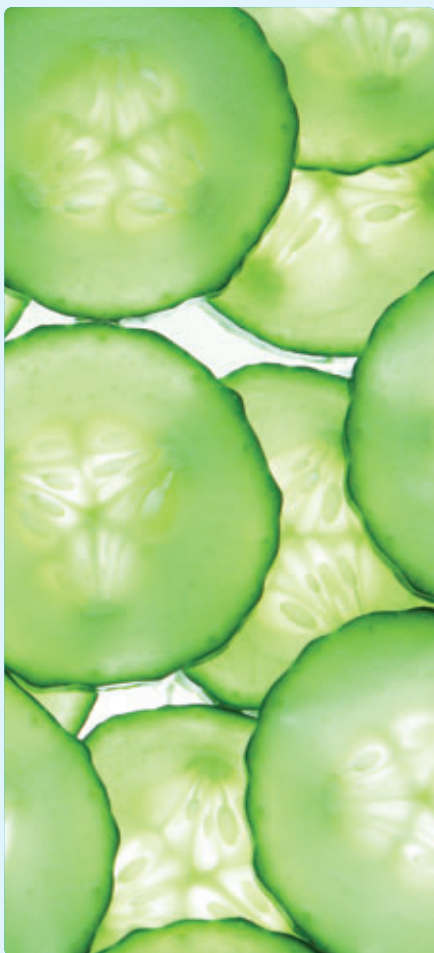
and shock absorbing properties and also help to prevent enzyme damage. Sulphate itself has been shown to make GAGs more hydrophilic (water-loving), therefore potentially better hydrated and so better able to do its job.

Chondroitin sulphate is one of the main GAGs in articulating joints, but it has been shown that we can't always absorb chondroitin sulphate in the gut<sup>11</sup>.

Sulphate also has an important role in Phase II detoxification in the liver<sup>12</sup>. When the liver is effectively able to process toxins and waste, and send them on pathways out of the body (preferably into the bile for excretion via the intestines), there will be less of a need to "dump" them in places like the joints.

Although less studied, glucosamine hydrochloride is also becoming popular as a supplement, as it still contains the glucosamine but can be made without the use of shellfish, which would be preferable to vegetarians and those with a shellfish allergy.

Silica, rich in nettles, horsetail, rice, avocado, leafy greens and cucumbers, is also important for the structural health of cartilage, tendons and ligaments, as well as for bone density.



## LIVER SUPPORT

The liver is the central hub of our detoxification and elimination processes, and with many joint problems the liver is already struggling. Any nutritional programme that succeeds in freeing up "dumped" waste materials and encouraging more fluidity in the body will increase the toxic load that the liver has to deal with. So whether your joint problems are due to injury or to a particular condition, your liver may well benefit from additional support. I have seen people with quite severe arthritic conditions make excellent progress which ends abruptly as the liver appears to become overwhelmed and send its overflow straight back to the joints again.

Chinese Five Elements theory takes an interesting view of arthritis as being an imbalance of the Wood element (which relates to the liver) and the Water element. The image is of a dry, gnarled, brittle tree, in comparison to a flexible, healthy tree with its sap flowing and branches easily bending in the wind. There are parallels here with our understanding that the body needs to be well hydrated – which doesn't just involve drinking more water, but making sure that fluids are flowing around the body, getting to where they need to go.

For **liver support**, you could first look at removing as much toxicity from the diet and environment as possible. So you might want to consider removing processed foods with additives and preservatives, diet products containing aspartame, damaged fats (so most margarines and cooking oils – anything rich in unsaturated fats should not be heated), table salt, fizzy drinks, and smoked foods. Gluten-rich grains, particularly wheat, can often add to stress in the body, particularly where there are absorption problems. Stimulants such as caffeine, sugar and alcohol can deplete magnesium and potassium levels, and put unnecessary strain on the adrenals. I would also recommend looking at the quality of drinking water.

To actively support the liver, I would use naturopathic techniques, such as castor oil packing or coffee enemas, *depending on what is appropriate for the individual*. I would recommend you seek advice around this from a good Natural Nutritionist or Naturopath.

## DIETARY SUGGESTIONS

Each of us will benefit from a slightly different programme according to our individual make-up. Good nutrition is not just about getting all the right nutrients on our plate, but also ensuring that we are absorbing, transporting and utilising the nutrients within those foods. You may well benefit from a programme tailored for you by a nutritional therapist.

Bearing this in mind, here are some general guidelines you may find useful and some practical ideas for how to incorporate dietary changes easily and enjoyably.

Generally the diet needs to be **nourishing, hydrating** – with plenty of soups, stews, perhaps salads in summer and gentle fluids – and also gently **alkalising**, with a gradual increase in the ratio of vegetables to more acidic foods such as meat and fish.



### INCLUDE:

- A good variety of vegetables and salads, of varying colours but highlighting greens. Choose organic or biodynamic where possible, and make sure they make up at least two thirds of your main meals. Also get into the habit of regular vegetable juicing.
- Plenty of nuts and seeds.
- At least 2 vegetarian days a week, and at least 1 vegetarian meal a day – ensure you have complete proteins by combining legumes with grains, seeds or nuts.

### AVOID/REDUCE:

- Dairy, damaged fats, smoked foods, table salt, sugar, aspartame
- Fizzy drinks, caffeine, alcohol
- Nightshade family: tomatoes, potatoes, peppers (except black pepper), aubergines
- Fruit is also quite acidic, and so may need to be reduced

You may also benefit from avoiding wheat, or perhaps gluten (wheat, rye and barley, plus many oats are contaminated with gluten). In any case, grains, pulses, nuts and seeds should be rinsed well and soaked overnight in water. This will reduce phytates and deactivate any enzyme inhibitors, so you can make the most of the nutrients they contain.

# MENU SUGGESTIONS

You will each have your own likes, dislikes and requirements, which will change seasonally and as you change.  
You may find the following useful as part of a nourishing, hydrating, alkalising diet:

## BREAKFAST:



Superseed smoothie – with nut milk, pumpkin seeds, sunflower seeds, sesame seeds, plus avocado or banana to thicken and raw honey if you need to sweeten it. You could also add our new Alka-greens formula to this smoothie.

Quinoa or rice porridge with ground nuts and seeds

Soft poached egg on a bed of rocket and baby spinach with a lemon and flax oil dressing

Gluten-free muesli (soaked overnight in water) with homemade almond milk

## LUNCH/DINNER:



Try to have your main meal earlier in the day and a smaller, lighter meal for dinner.

Quinoa with a mixed vegetable stir fry: carrots, broccoli, spring greens and onions stir fried in coconut oil with garlic and ginger.

Lentil and vegetable soup

Green salad with warm lentils and tahini sauce

Broccoli and almond soup

Fresh, wild, oily fish and salad

Mixed bean stew with roasted sweet potato and wilted watercress

## TO DRINK:



Water – gradually increase to 1.5-2 litres daily, best at room temperature and between meals, and never more than 1 litre in the space of an hour, so don't gulp it down.

Herbal teas - nettle tea is rich in silica, chamomile tea is soothing to the liver

A glass of fresh vegetable juice – invest in a good masticating juicer if you can

## SUPPLEMENTS:

This will vary from person to person, but you may want to highlight essential fatty acids, especially omega 3 in a broken down form, such as you would get in a good fish or krill

oil supplement, as well as magnesium citrate. For those wanting more than general support, you might want to consider glucosamine sulphate or MSM and other supporting nutrients.

You may want to consider introducing a supergreens alkalising formula and possibly the addition of some Vitamin D



**Should you need a more detailed approach, or should you have any questions or concerns that are not addressed in this article, you are always welcome to contact our nutritional advice team on 01395 227850 (9.00am – 5.00pm Monday – Friday).**

Alternatively if you would like a more personalised approach, addressing dietary recommendations, lifestyle changes etc., we would suggest you consider consulting a qualified nutrition adviser or therapist, which you can do by either asking us for details of your local

practitioners, or contacting The Federation of Nutritional Therapists on 0870 312 0042 or by emailing them at [admin@fntp.org.uk](mailto:admin@fntp.org.uk)

For more information visit the website at: [www.fntp.org.uk](http://www.fntp.org.uk)

**Kirsten Chick is a qualified and practising Natural Nutritionist and member of the Federation of Nutritional Therapists. To find out more please visit [www.connectwithnutrition.co.uk](http://www.connectwithnutrition.co.uk).**

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<sup>3</sup> Staykova, N. D. Rheumatoid arthritis and thyroid abnormalities, Folia Med (Plovdiv). 2007;49(3-4):5-12.

<sup>4</sup> Adib N et al, Joint hypermobility syndrome in children. A not so benign multisystem disorder? Rheumatology 2005;44:744-750  
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<sup>6</sup> Chick, K. Simply Magnesium, Nutrigold 2009 <http://www.nutrigoldeducation.co.uk/blog/diet/simply-magnesium/>  
<sup>7</sup> Magnesium, zinc and vitamins B3, B6, C and E are also required to help produce prostaglandins.

<sup>8</sup> Plaskett, L G, Aloe Vera – the health benefits, Nutrigold <http://www.nutrigoldtechnical.co.uk/uploads/111.pdf>  
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This newsletter was co-written with and for Nutrigold Ltd by Kirsten Chick, a well respected qualified Natural Nutritionist who is a member of the Federation of Nutritional Therapists. To find out more please visit [www.connectwithnutrition.co.uk](http://www.connectwithnutrition.co.uk).