



# MILLHOUSE INTEGRATIVE — MEDICAL CENTRE —

PARTNERING IN HEALTH AND HEALING

APRIL 2019

A warm welcome to the Millhouse Community and to other readers. Friday 15<sup>th</sup> will be a day of ignominy in the history of New Zealand. I was finishing the morning surgery when staff informed me about the tragic shooting at hallowed places of worship in Christchurch. Initially I had a moment of disbelief telling myself this couldn't happen in New Zealand, but as the afternoon wore on, the enormity of the tragic events that occurred at the mosques was shown across the television screen.

Ghassan our osteopath lost a special friend, shot dead as he attempted to disarm the assailant, and I am sure there are others of the Millhouse community who have lost friends or family.

I have been deeply touched and overwhelmed by the expression of love that has been shown by so many. Our prayers and love are with you all at this time.

## CHRISTCHURCH ATROCITIES

*Our hearts go out to patients and staff who have suffered loss of family or friend in the atrocities in Christchurch.*

*We stand in solidarity with those who have been attacked and affirm that this horror "will not define us" as a community.*

*Our prayers and love are with you*

[www.millhousemedical.co.nz](http://www.millhousemedical.co.nz)

## MILLHOUSE NEWS

### MEASLES VACCINATION

At the time of writing there have been 10 cases of the highly-contagious measles in Auckland.



If you develop a cough/runny nose and experience sore eyes followed by a rash, which appears within a few days, you may have measles. The infectious measles virus can be transmitted to others from five days before the rash appears until five days after it has gone. So if you suspect you have measles, STAY HOME until you are well.

If you think your family is at risk, young infants can receive protective MMR vaccine from 6 months to boost their immunity.

If you were born before 1969 you probably have immunity against measles. If you have contact with a measles sufferer, a blood test can be done to check your immune status. Don't hesitate to RING the practice nurse if you need advice.

**FREE FLU VACCINATION** commenced April 1 for those at greatest risk of influenza. They include those over 65yr, young children under 4 years with chest conditions who have had a recent admission to hospital, sufferers of chronic illness (heart disease, diabetes, chest conditions & asthma) and women during pregnancy. However, I do recommend avoiding the immunization earlier in pregnancy when crucial foetal development is occurring.

**REMEMBER VITAMIN D SUPPLEMENTATION** which strengthens resistance against winter illness, especially for the more susceptible young and old. When there has been inadequate sun exposure, adults can take up to 5000 units daily, and children 1000 units for every 12 kg, to maintain optimum levels.

Oral Vitamin D drops are now freely available for children so ask your family doctor for a prescription.

**PROACTIVE PATIENT CARE (PPC)** As mentioned previously, from March 31 Counties DHB has discontinued the subsidised PPC programme for those with complex medical conditions. A new financial assistance package which will include free practice nurse consultations for those needing intensive medical general practice care is planned.

**CANCELLATION OF APPOINTMENTS** In February, I informed readers of the increase in cancellation of appointments within 30min of the scheduled time, or appointments missed without giving notice. Limited notice prevents reallocation to others urgently wishing to see their doctor that day. Unless extenuating circumstances exist, we will now charge a full consultation fee if an appointment is not cancelled within TWO HOURS of the appointed consultation time.

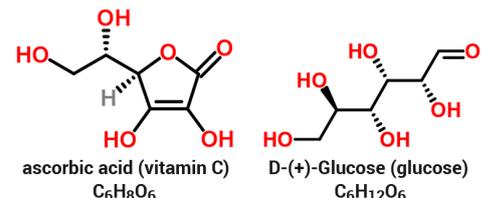
### VITAMIN C also known as L-ASCORBIC ACID

On the 15<sup>th</sup> February 2019 I attended the Vitamin C Symposium in Auckland where New Zealand and International scientists shared the latest vitamin C research – the conference presentations can be now be viewed on line at [www.vitaminc2019.co.nz/programme/speaker-presentations](http://www.vitaminc2019.co.nz/programme/speaker-presentations).

I have always been fascinated by Vitamin C, a small molecule very similar to glucose. Large quantities of Vit C are made in the bodies of most animals, but the exceptions are humans, monkeys, dry-nose primates and guinea pigs. These only obtain ascorbic acid by eating daily fruit and vegetables.

It is commonly accepted that in New Zealand we obtain sufficient Vitamin C from food and that taking additional supplements is a waste of money, as the molecule is rapidly excreted in the urine. However sporadic cases of vitamin C deficiency, also known as scurvy, have been reported in New Zealand. Scurvy is a condition heralded by tiredness, malaise and body aches. As the deficiency disease progresses, bruising and gum disease with loss of teeth occurs, as well as hair and personality changes. Finally, wounds fail to heal, bleeding increases and severe infections develop which may result in death.

Here in the first of two newsletters on vitamin C, I discuss its importance in optimising health, and how during times of extreme physical stress and serious illness, especially when intensive medical care is needed, Vitamin C may be totally absent from the blood and body tissues. This may have devastating consequences for health and survival.





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### Vitamin C Actions

Vitamin C, released in the body after food digestion, is actively absorbed through the intestinal wall into the blood stream from where it is transported and concentrated in the cell. The highest amounts are found in white blood cells, eyes, adrenal gland, pituitary and brain. Each time blood passes through the kidney, Vitamin C is recycled back to the blood till it reaches saturation levels. This occurs at about 100 micromolar (umol), and any excess is excreted in the urine. If the body tissues become depleted through stress and disease processes, the body cells will actively soak up more Vitamin C from the blood circulation.

Vitamin C is a cofactor in 70-90 key enzymes in the body involving myriad biological activities including the growth of blood vessels, energy production, formation of collagen tissue which connects and supports all body tissues, antioxidant action, the regulation of neurotransmitter substances, and stress hormones; it is even involved in the control of genetic code processing. The summary table opposite lists in greater depth Vitamin C's specific actions.

The current recommended daily allowance for Vitamin C is 42mg, which is woefully low and, in my opinion, should be more than 200mg. This level is easily obtained by eating one red capsicum (240mg) or two gold kiwi fruit (90mgx2) with other fruit and vegetables. Oral vitamin C has limited capacity to raise blood and tissue levels (around 200umol/l but a little higher with liposomal vitamin C) but an intravenous (IV) infusion can obtain much higher levels (greater than 1200umol/l).

### Intravenous Vitamin C in Intensive Care

For at least 20 years it has been known that critically-ill patients with endotoxaemia, (caused by severe infection), complications of chronic disease, surgery and trauma have very low and in some cases undetectable levels of Vitamin C in the blood. This is due to the increased metabolic demand of the disease processes. Recent small trials have shown that giving intravenous vitamin C (IVC) to critically-ill intensive care patients produced a significant decrease in multiple organ failure, and lowered mortality, without serious side effects. One [randomised study](#)<sup>1</sup> where half of participants received IVC showed a mortality rate of 14%, compared with the control no-IVC group, in which deaths were 64%.

At the symposium Dr Michael Hooper described research at the Virginia Commonwealth University School of Medicine. Critically-ill sepsis patients receiving intensive care had IVC, with hydrocortisone and thiamine (vitamin B1) added to the infusion. Hydrocortisone, identical to the hormone made in the adrenal gland, was added to magnify vitamin C's cellular actions and protect the critical blood vessels bringing oxygen and vital nutrients to inflamed areas. Thiamine, which is often deficient in the critically-ill, combined with vitamin C and hydrocortisone also accelerates the repair of the dysregulated immune system. In their [retrospective study](#)<sup>2</sup> on 94 critically-ill septic patients, the half receiving the triple IV therapy had a 32% absolute reduction in mortality, and marked improvement in physiologic markers with lower requirement for supportive resuscitation compared with the non IVC group.

### A TRUE STORY

In June 2009, dairy farmer Allan Smith contracted viral swine flu during a Fiji vacation. On immediate return to NZ he was admitted to Tauranga Hospital in critical condition and placed on life support ventilation (ECMO). The next day he was transferred to Auckland Hospital ICU. Despite intensive therapy, his condition deteriorated and on DAY 20 the family were told Allan would die and permission to stop ventilation was sought. The family refused and asked that he receive IVC therapy which was given with great reluctance. Within 48 hours Allan had markedly improved, with lung clearance evident on chest X-ray. On DAY 26 the ECMO was stopped but within a few days his condition deteriorated. The observant family realised the IVC had been terminated and requested it immediately be restarted and once again he continued to improve.

Allan was transferred to Waikato Hospital ICU where staff refused to give IVC. Eminent lawyer Mai Chen asserted 'Mr Smith's rights have been violated' and the IVC therapy with oral vitamin C was recommenced. Allan gradually returned to full health.

ADVICE – Every day eat fruit & vegetables rich in Vitamin C. If you become unwell, supplement with at least 1-2 gm vitamin C taken throughout the day. And if you ever become critically-ill from sepsis, trauma or acute complications from chronic disease or aftermath of surgery, request the medical intensivist to administer IVC. Consider putting this in your [Advance Care Plan](#). THIS ARTICLE IS CONTINUED IN THE [MAY NEWSLETTER](#).

Yours in good health,  
Dr Richard J Coleman

### SUMMARY OF VITAMIN C ACTIONS

- **Synthesis of collagen** – named after the Greek *Kolla* meaning glue, collagen is the main protein of connective tissue that holds the body parts in place – especially fibrous tissue in tendons, muscle, ligaments & heart valves – and is essential for wound healing. Gelatine is made from the processing of collagen tissue and can be taken orally. I suggest 1-3 tsp daily with yogurt.
- **Assists energy production** through biosynthesis of carnitine transporting long chain fatty acids into the cell for energy production. This is probably why tiredness is a key symptom at the onset of scurvy.
- **Water soluble antioxidant** – donating electrons to quench the toxic free radicals, unstable reactive molecules, produced in acute and ongoing infection, and chronic ageing processes where there is inflammation in the body.
- **Regulation of tyrosine & stress hormones** – tyrosine is a foundation amino acid for a number of hormones – thyroid, noradrenaline & vasopressin – critical in stress.
- **Regulates neurotransmitters** – increased serotonin & dopamine which assist sleep & improve mood.
- **Regulates stem cells** – the primitive cells which can develop into any adult cell types – Vitamin C appears to have a protective role in the development of leukaemia
- **Regulates gene expression** in particular the proteins produced within the cell.
- **Decreases the Hypoxic Inducible Factors** that stimulates cancer growth

1. *J Res Pharm Pract.* 2016 Apr-Jun; 5(2): 94–100.

2. *Chest* 2017; 151(6):1229-1238