

WA Polio Clinic Newsletter



Polio Clinic WA Inc.

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December 2022

Vol 2: No 4

World Polio Day - 24 October 2022

Tessa is the guest speaker for Northbridge Rotary Club Meeting commemorating World Polio Day



11 out of 20 at the Rotarian Dinner for Polio who remembered to wear red for End-Polio.

Coming Events

Christmas Party
Sorry
Cancelled

Due to rising WA
Covid numbers!!
More inside see page 2

Office CLOSED 16 Dec - 6 Feb 2023

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The end of the year is here.

We had the AGM in October. Our Board remains the same and our finances show we have paid our way with about \$4,500 more in the bank than we had at the end of the financial year in 2021. So we have enough to pay the lease, office costs and maintain our supply of supplements to fill orders when they come in.

ROTARY SUPPORT

Thanks to one of our members, Northbridge Rotary has donated to cover postal costs for 4 newsletter editions.

CHRISTMAS PARTY CANCELLED!

I did say Covid permitting, and unfortunately with Covid numbers rising and expected to peak in early December, the Board has decided it is better to protect our members by cancelling the Christmas Party for this year. Hopefully we won't have these problems next year.

SUPPLEMENT SUPPLY

Supplies of all our **usual supplements are back in.** We have most common vitamins and minerals available as well, not just those listed in this column here. They can be picked up or mailed out. This makes it easy for country members and those who have difficulty getting out and about or finding good quality supplements. We will be closed for our Christmas break so order before 16 Dec.

TIMES

Please **phone or email on the day**, to make sure the office is open before coming in. **Usual times are Tues - Thurs 10.30 am - 5 pm.** Other commitments can crop up.

OFFICE CHRISTMAS CLOSURE

We will be closing on Friday 16 December. Our Volunteer Team who come in on Tuesday and Thursday mornings will be off until Tuesday 17 January 2023 and I won't be back here until Monday 6 February 2023.

I will try to check for phone messages and emails every few days in case anyone really needs something. If you are desperate, try the after hours phone number (my home).

Wishing you all a Blessed Christmas and a very Happy New Year. Let's hope it is better than the last 2 years!

Next newsletter out in March 2023.

Tessa Jupp RN OAM

We do still need your donations!

Membership fee is \$5 to enrol as a member.

Any payments made after March we will count for the **2022/2023 financial year.**

We do need people to keep purchasing the good quality nutritional supplements from us, that I have identified will give you the results we need. That helps us pay our monthly lease here too.

You can arrange to collect your supplies from here or **I can post out to you.**

Ring me on (08) 9284 9201 or via email.

New Bank details for internet banking or call in at a **Bankwest branch** - (please add invoice number and name - or post a cheque to the mailing address.)

BANKWEST - Polio Clinic WA
BSB 306 050
a/c 0702 158.

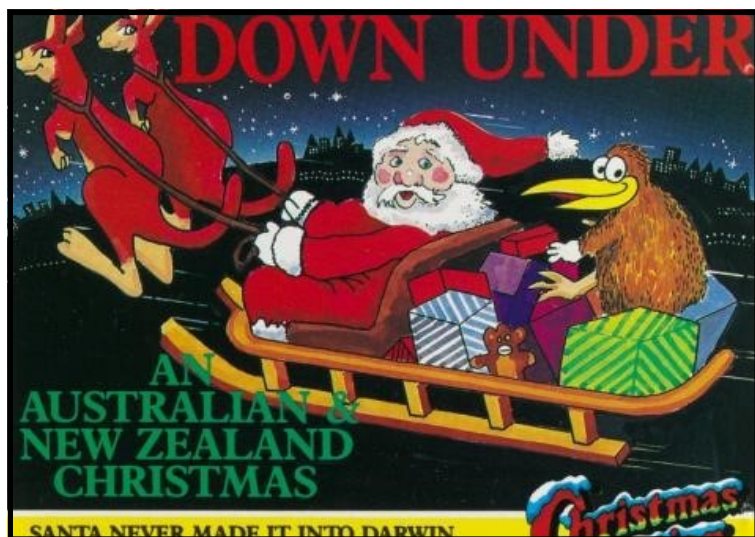
SUPPLEMENT SUPPLIES

We have a wide range of good quality nutritional supplements that are beneficial for polios still available thru our Polio Clinic. See list below for some you may find difficult to source. The carnitine, magnesium and manganese we have, work much more effectively than any you can buy in shops. For pick up or post out **ring Tessa.**

ALA - Lipoic Acid 400mg	(60)	\$35
N-Acetyl Cysteine 590mg	(60)	\$31
Quercetin 250mg	(60)	\$75
Carnitine 200G		\$200
Carnitine 100G		\$110
Carnitine 50G		\$62
Magnesium Chelate 300G		\$55
Magnesium Chelate 100G		\$25
Magnesium Citrate 100G		\$25
Magnesium (250 caps x 500mg)		\$40
Magnesium (75 caps x 500mg)		\$15
Manganese powder 200G		\$90
Manganese powder 100G		\$50
Manganese (250 tabs x 200mg)		\$40
Borax 100G		\$12
Gelatine 1kg		\$30
Glutamine 100G		\$25
Taurine 100G		\$30
Iodine Tincture 50ml (paint)		\$16
Lugols Iodine 100ml (drops)		\$35
Vit A (120 x 10,000iu)		\$20
Vit D3 (400 tabs x 1000iu)		\$30
Vit D3 (200 tabs x 1000iu)		\$15
Vit K2 (90 tabs x 180mcg)		\$38
Molybdenum 250mcg (60)		\$28

Postage & Handling (small parcel)	\$12.00
(medium parcel)	\$17.50
Express Post (small parcel)	\$15.00

For other supplements available or postage costs -
ring or email Tessa (08) 9284 9201



Laughter is the best Medicine! "Does Australia have Christmas?"

Hi Coz. In answer to your question - No. We used to. But since "**climate change**" became such an issue we no longer get anything like snow here in December. So it makes this country unsuitable for reindeers.



Santa has tried to surf his way here. But he is exhausted by the time he arrives.



No sooner do they arrive, than they start feeling the heat and need to leave again.

We have been trying out alternative means of transport.



We have attempted to send Santa via a commercial airline, but he is caught every time at Customs, who want to check his luggage, and by the time they are finished, Christmas is over!



And it's not just Santa that is a problem. Climate change means less Christmas trees.



In the good old Aussie spirit, we tried to be innovative, using all the green we could find.



So wishing you and all your families around the world a great Christmas. And don't over-indulge, to keep your greenhouse emissions low, for the sake of us poor Australians.

Polio Stories Page - "Caught Polio seeing the Queen in 1954!"

A couple of stories from the Queen's visit to WA in 1954.

from Shirley Freshwater:

"I was one of those kids who went to see the Queen at Northam Oval in March 1954."

And that is where I caught polio.

We lived in Dangin, a small one-shop town in the wheatbelt near Quairading. I was nearly 6. It was my first year at school and we were all so excited to be going to see the Queen.

I remember clutching a small Australian flag in my hand to wave as the Queen drove past and there were lots and lots of people. Later I remember having a terrible sore throat and a really terrible headache. Mum thought I had the flu and tried to give me lemon drink but I was too sick. Mum took me to the toilet but my legs kept giving way and collapsing. I had to be carried back to bed.

I was taken to Quairading Base Hospital where I spent 2-3 months. I know I had my 6th birthday there in May. There was an aboriginal toddler in the same room with polio too but he died and I had the room to myself until I went home.

My legs were paralysed. The nurses tried to get me to walk during the day but I couldn't. Then one night I woke up in the middle of the night needing to go to the toilet. Half asleep, I got up and walked to the toilet. The nurses were so pleased I got lots of hugs in the Nurses Station. I never got any physio, only massage.

While I was in hospital Dad got a job at the local Co-Op in Cunderdin so I went home to a new town, new house and new pets. I never went in any sports at school because I couldn't run. I always hid behind another team, moving from one to another so I didn't have to participate.

In my teenage years I remember crying with back pain and getting awful cramps and chilblains. Someone told me to take Fluid of Magnesia and not long after they went away.

Now I get muscle aches and the back pain is worse. I have kyphosis and lordosis. My stomach muscles are weak and I can't breath when I try to swim in deep water. Humidity makes me short of breath too. I have had problems with anaesthetics.

I get so tired by lunchtime that I have to have a rest. My carnitine levels came in at 33 and I find that when I take carnitine I am not so tired. I am trying magnesium now as well.



And from a teacher - Briony Waterhouse:

Teaching in Goomalling in 1954, we brought the whole school to Northam Oval to see the Queen. The children from different schools were not allowed to mix because of the polio epidemic so we were spaced out on the oval with big gaps between each school. Later a young girl at our school was diagnosed with polio. The school was fumigated. We had to spend the day teaching the kids out in the school sheds.

I raced down to the TAB to get the previous week's wall posters which had details of all the races on them, to use the backs as school boards to teach with, as all our usual school equipment was quarantined inside the classrooms. Being strong card not thin paper, they were quite robust and saved the day.

My teaching career had begun in 1950 at the age of 17, as a school monitor attached to the Golden Age Post Polio Centre for Children in Oxford St, Leederville. In those days, we had to complete a year as a monitor (teacher's assistant) before we were allowed to train as teachers. We were paid by the Education Dept but to my dismay my first pay went astray. It was sent to the Golden Mile in Kalgoorlie!

The Golden Age Centre had only just been opened and Mrs Rumney, the teacher, was a warm bubbly, happy-natured person. There was a ward of bedridden children and a class room full of others, many of whom lived at home but came in each day for treatment and got their schooling here also. Poor Mrs Rumney, I was totally untrained and probably needed as much of her guidance as did the children! Classes were continually disrupted as children moved in and out for physio and other treatments. Lessons had to be tailored to each child as some had had no regular schooling for years due to polio.

For the first 6 months I had the children in beds and Mrs Rumney those in the classroom, then we swapped over. There were special desks for the beds that could be used flat or tilted up like an easel. We had mobile blackboards and we also went from child to child so that we could help each of them with their individualised lessons.

Polio Stories Page - Peter Broun - the Paul Berry "look-a-like"!

"Hey Paul!" I hear called to me and spin around. But it is not me they are calling out to. It is my husband - and he is Peter - not Paul. Not Paul Berry that is. I found that my husband, Peter Broun, was often mistaken for Paul Berry. Apparently they looked amazingly similar."

So said "Pauline" Broun to me, when I visited her recently. I too had mistaken Peter for Paul, the first time I had met him, lined up at the Subiaco Traffic Branch, many years ago.

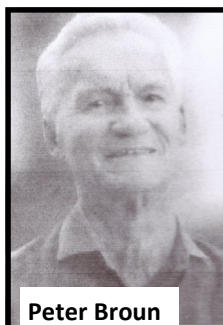
Both Peter and Paul had polio as young adults, but in different WA polio epidemics. Paul Berry was in 1956, our last Polio Epidemic. Peter Broun had polio in 1948, our first major polio epidemic in WA. And both Peter and Paul had their arms paralysed by polio, not legs!

Peter was a country boy. Born in Bunbury in 1928, his father a bank manager, was transferred to the Wickpin branch of the Australasia Bank when Peter was only 3 months old. So Peter went to school in Wickpin, loving the relaxed country life, climbing trees and collecting birds' eggs with friends, joining the local Cub Scout group and earning his badges. In 1938, now with 3 more siblings, the family was moved to Beverley, to the Beverley bank branch.

When he needed to go High School, the closest was at Northam. Peter had to catch 2 trains to get to Northam and there he was found board with a private family and 17 other country boys. Peter said that there was never enough food as it was the time of World War 2, food was rationed and he had only thruppence a week to buy fruit etc. Together with his school friends, he made a canoe and paddles from scrap iron, and they had great fun canoeing on the Avon River in Northam.

After finishing his Junior in 1943, as a 15-year-old, his father took him to apply for a job at the Commonwealth Bank in Perth. Despite being very good at maths, he failed his medical on height. He was only 5 foot two and three-quarter inches tall! He needed to be five foot three. So his father took him to re-apply at the Bank of New South Wales instead, and there he was accepted. He did grow another 4 inches in the next few years!

His first posting was to Mukinbudin to a 2-man branch before transfer to Toodyay, then Narrogin. It was there he had problems writing with his right hand in Oct 1948 and the doctor diagnosed polio when he couldn't shake hands. So ambulance to IDB Shenton Park and 2 weeks in an iron lung. He spent a further 14 months there having OT to regain partial use of his left arm. His right arm, neck and shoulders remained paralysed.



Peter Broun



Pauline & Peter Broun
92nd birthday 2020



Paul Berry

For hydrotherapy, willing Bayswater Sea Scout boys transported polio patients from Pelican Point by boat to the Hot Pool at Dalkeith, as there was no road access for the ambulances.



Unloading at the Hot Pool



Peter

- all in the Hot Pool

He had his 21st birthday at IDB and as his legs were good, he and his polio friends had plenty of time to play tricks on the nurses. Home by Christmas 1949, in Beverley, having now learnt to write left-handed, he persuaded the local NSW Bank to let him work there half-days. By Feb 1951 he was being offered full-time employment at the Perth Office. Soon finding suitable lodgings, he settled into the Ledger Dept where Pauline worked. They became good friends, marrying in 1958. Peter bid for an ideal block of land he had found in the bushland at Doubleview, and there they built their new home. Two children quickly followed. It was a big block at the top of the hill and Peter worked very hard over the years to create a lovely garden of fruit trees, roses and lawns for the children to play on. He loved carpentry and despite his paralysis, managed to make a number of items of furniture for their home. He kept tanks of tropical fish, grew orchids and bonsai plants.

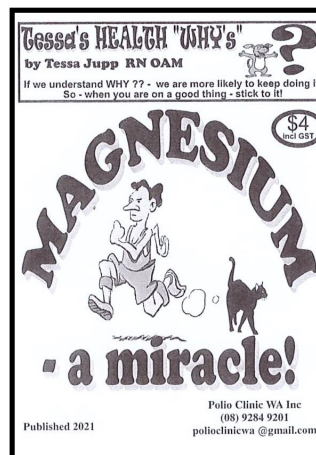
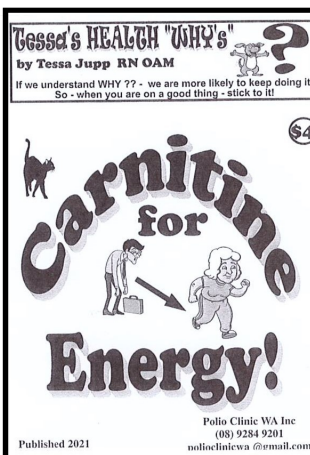
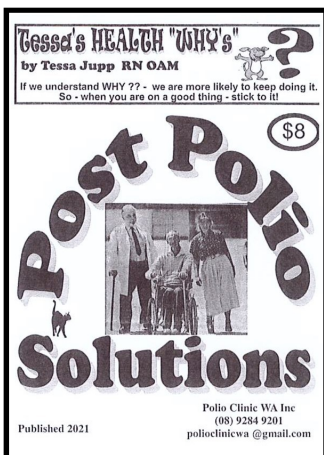
Retiring in 1985, Peter and Pauline were able to enjoy holidaying in Australia and overseas while still fit and well, with many happy memories. Still fit and well, they slowed down over the years, retaining a close and loving relationship with their family. Soon after Peter's 92nd birthday in 2020, his family were shocked when he suffered a sudden unexpected heart attack. Peter had coped so well, despite the challenges of his polio.

Tessa's Booklets available for Purchase

Ring Polio Office
to order copies of
these booklets.

Can be **posted** out
or **picked up** from
the Office.

They are not
available online but
can be ordered by
emailing us.



Post-Polio Solutions

formerly called PPS - Post Polio Solutions

40 page booklet covering many aspects of the **Late Effects of Polio** and how best to deal with them. Includes **Medical Alerts** as well as advice for **Exercise, Medication** side-effects, how to deal with **Pain, Fatigue, Falls, Increasing Weakness, Sleeping Problems, Breathing and Swallowing Problems, Feet, Cold Intolerance** and **Kids of Polios** developing problems too. Also covers **Surgery Cautions.**

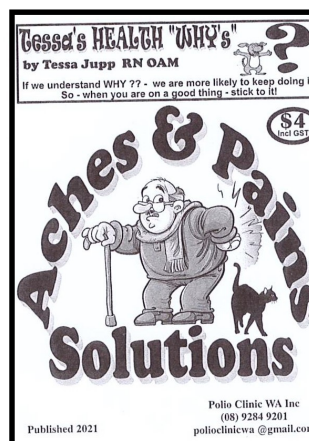
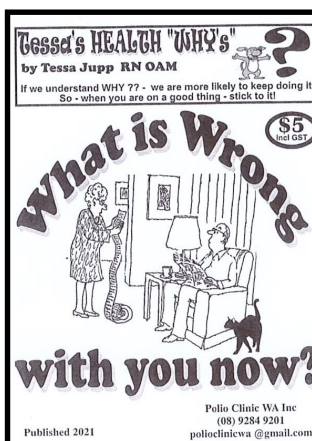
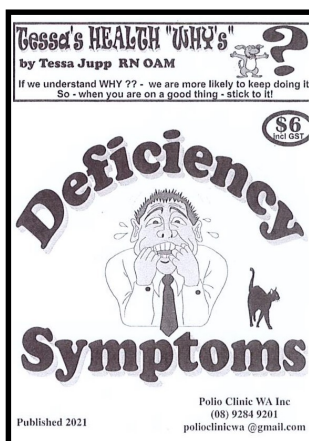
Carnitine for Energy

20-page booklet covering our initial **Carnitine** research undertaken by **Dr Niblett** and **Tessa Jupp RN OAM** with polio survivors **blood tests done at PMH.** Includes 4-page insert from the presentation by Tessa at the **2016 International Polio Conference in Sydney** on 20 years of polio patient research & blood tests, on how carnitine can improve fatigue and weakness.

Magnesium - a miracle!

previously Miraculous Magnesium

16-page booklet covering why we need magnesium for nerves, muscles (cramps & aches), PMT, heart, **Asthma, Diabetes**, Brain function, aging, **stress, anxiety**, depression, **Osteoporosis, ADD**, Chronic Fatigue, Fibromyalgia, **Restless Leg Syndrome, sleep** and much more. WA soils are low on magnesium so important we all get extra magnesium.



Deficiency Symptoms

previously "Signs & Symptoms - be your own Detective"

This popular 24-page booklet gives **deficiency symptom profiles** for many vitamins and minerals as well as what our eyes, hair, feet, face hands and nails are telling us we need to take more. A **Solutions Ready-Reckoner** and a page with how, when and why we may need to take extra nutrients also included along with **"scoop on poop"** and easy tests for thyroid and reflux.

What is Wrong with you now

formerly called What Ails Me?

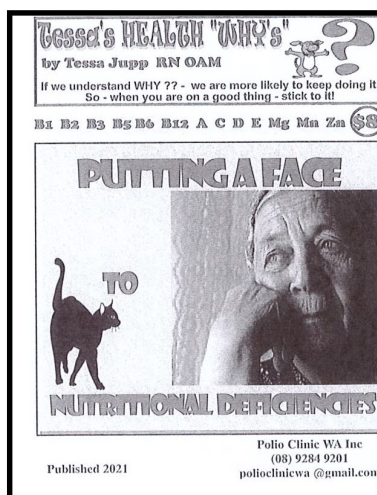
20-page booklet that includes lots of annoying little problems we have in **alphabetical list form** with **possible solutions** to try.

At the back of this booklet there are also pages on interesting more **unusual facts** about why and what else we might need these **vitamins, minerals and amino acids** to do for us, so that our bodies may work better in general.

Aches & Pains Solutions

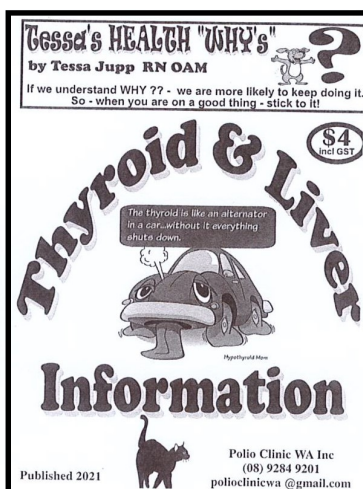
previously Listen to Your Body

16-page booklet with more detailed single page information on particular solutions, like jelly or **gelatine** for arthritis, **boron** for bones, **red meat** for energy, **magnesium** for muscles, **manganese** for tendons, **taurine** for liver, **molybdenum** for Candida. Also a detox mouthwash and using our smell and taste to work out if we need more or not to have it.



Putting a Face to Nutritional Deficiencies

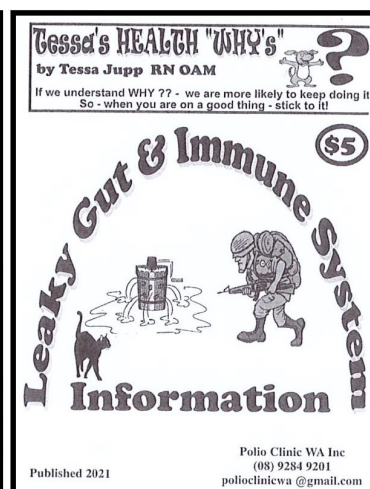
This 16-page booklet is all in colour so costs more. It needs to be, so that we can all recognise what parts of our body look like when it all goes wrong. So this is a **visual on body nutritional deficiencies** that old doctors used to know what to look for and **how to fix**. If they are not going to do this anymore, we need to know what we are looking at and what we need to fix it, particularly as we get older & more goes wrong.



Thyroid & Liver Information

formerly Thyroid & Liver Made Easy

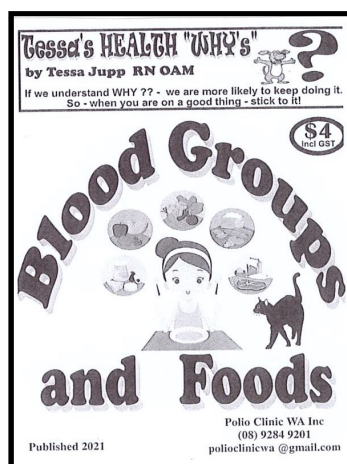
16-page booklet that explains a bit about your blood tests and the problems that occur when these organs are not working properly. As well as explaining how these 2 essential organs function, there are hints on **how to remedy this dysfunction**. Also 2 pages on the **Many Faces of Fatigue** and how to alleviate common tiredness issues we may encounter.



Leaky Gut & Immune System Information

previously Leaky Gut & Immune System Made Easy

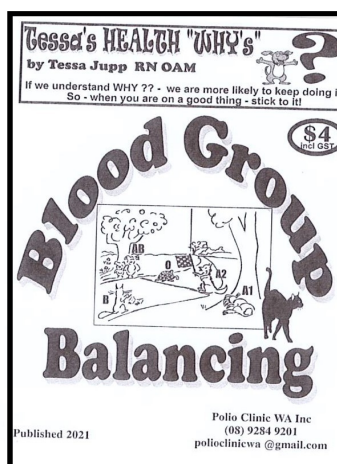
20-page booklet explaining **how the gut works** and what can go wrong. Also the relationship with **stress, the immune system**, allergic reactions, the foods we eat and how it is digested. This includes **reflux, indigestion, constipation** and **how to fix** these problems.



Blood Groups and Foods

formerly Is Your Blood Group Written on Your Face?

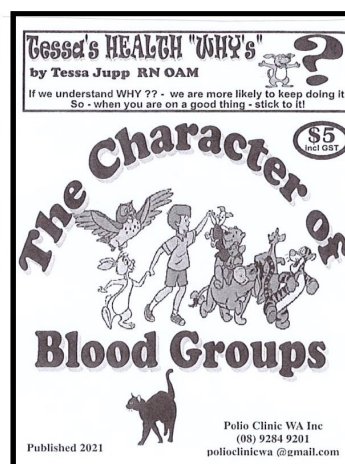
16-page **first** booklet on our **WA blood group research** started 1992. We looked at research on the distribution of blood groups around the world, availability of given foods and the **climatic conditions** required for their growth. We looked at **face shape**, ancestral origins and **traditional cooking** methods. We surveyed and tested people living in WA over 20 years.



Blood Group Balancing

previously Balance by Blood Groups

16-page **second** blood group booklet looks at the percentage of each ABO blood groups in many countries. A brief look at some of Peter D'Adamo's work and our **WA findings**. Also the significance of **acid alkaline** balance in foods and in the different blood groups. As well, how this related to **digestion**, also to the bearing on different types of **cancer** and the prevalence of other diseases in particular blood types. Can changing our acidity help fight cancer? And **can our blood type change????**



The Character of Blood Groups

formerly How Blood Groups Affect our Daily Living

In the last of this series, we looked at how our environment and foods help determine the **characteristics** portrayed by each blood group. Eating the wrong foods can change **personalities** and nutritional deficiencies can create changes. Our food choices also shift us right or left-brained and dictate the way **we behave** in given situations.

"Long Covid" - What to do?

by Tessa Jupp RN OAM

Now that we have lots of our WA population having had the dreaded Covid, we need to be considering what to do if Covid is still affecting us further down the track. Unlike the Late Effects of Polio, which can start happening 10-20 or more years after having polio, Long Covid is surfacing soon after the initial infection. For some, they continue with problems; others recover only for months later, an odd set of problems to crop up and persist.

A report, published in the Journal of the Royal Society of Medicine from the University of Birmingham, "sheds light on the **10 most commonly reported symptoms**. These are: fatigue, shortness of breath, **muscle pain**, cough, headache, **joint pain**, **chest pain**, change in sense of **smell and/or taste**, and diarrhoea. Other common symptoms include cognitive impairment, **memory loss**, **anxiety** and **sleep disorders**. This review also suggests that people who had **5 or more symptoms of Covid** in the first week of infection are significantly **more likely to develop Long Covid**."

A Public Health study in London showed that 1 in 20 adults in England have had Long Covid at some point. The study showed that women, **older people**, people who smoke, are overweight or obese, or who live in deprived areas, appear to have a **higher risk of developing Long Covid**.

We know that the Covid virus uses an entry point on epithelial (lining) tissue to enter the cell to replicate in similar fashion to the polio virus on motor nerves in the spinal column. The big problem is that practically everywhere in the body has lining tissue covering it, so there is the potential for lots of residual late effects to occur. Not only this, some people are reporting Long Covid from the Vaxx too.

We need to boost our defences on lining tissue!

POTENTIAL FOR LONG COVID

Ongoing symptoms for a month or more is referred to as Long Covid. Those affected can experience **fatigue, brain fog, shortness of breath**, loss of taste and smell, **difficulty sleeping, anxiety** and/or depression. For some, these symptoms can last for many months or even years, making it impossible to return to their pre-Covid life.

In a Harvard University study **published September 2022, people suffering psychological stress** in the lead-up to their Covid infection, had a greater chance of experiencing Long Covid. Covid has far-reaching effects across multiple body systems, with greatest affect on the **lungs, heart and brain**, increasing the **risk of heart failure, blood clotting and stroke**.

LESS KNOWN EFFECTS of COVID

1. Skin lesions - Covid can affect the skin in a variety of ways. Some people have a widespread discoloured **rash**, while others might present with **hives** (raised areas of itchy skin). **"COVID toes"**, ie red, swollen or blistering toes,



can even be seen in adolescents or young adults with **mild or no symptoms**.

Most Covid skin lesions tend to go away after a few days, or weeks, without the need for any specialised treatment. **If the skin is very itchy or painful try dusting with "corn or maize" cornflour or see GP.**

2. "COVID nails" - tend to appear in the days or weeks following COVID infection, as the nails take 6 months to grow out. They might be painful initially. The nails may have **lines, white spots** or a **red moon**.

3. Hair loss may occur 1 month or more after the acute infection. One study reported this in **48% of participants**. This is most prevalent in those with severe COVID and women.

4. Hearing loss - Covid has been found to affect the cells in the inner ear, with **hearing loss or tinnitus** occurring that **may become permanent** in some.

5. Heart Problems - although not widely known, cardiologists here in Perth and elsewhere are seeing many more people who have now **developed heart complications since having Covid** and also after having the Covid Vaxx. Problems occurring are: heart muscle inflammation, **chest pain, shortness of breath, irregular pulse, atrial fibrillation**.

RECOVERY HELP after COVID

Following any serious viral illness, an increased **risk of heart attack, heart failure, stroke, blood clots** and death **may persist for months**. These risks may exist even when the acute phase of the illness is mild. Illness uses up a lot of the body's nutrients and these **need to be restored as quickly as possible**.

So we will need to take **more Vitamins C, D3, E, K2, magnesium, zinc and selenium**. Others needed for lining tissue are **Vitamins A, B1, B3 and gelatine**.

For Recovery Take: (cut back when recovering)

Zinc gluconate 30mg - 3 twice a day or 6 hourly

D3 1000iu - 10 tabs twice a day or 6 hourly

Vit C - twice a day up to bowel tolerance

Magnesium chelate - twice a day to bowel tolerance

Ring Tessa for more advice if needed

Why we need more Zinc

by Tessa Jupp RN OAM

Zinc is like the ballpoint at the tip of a pen if you are trying to write a letter. It's not something you really see or think about, but without it, the ink doesn't flow and no words are visible.



I touched on why zinc is so important for us in the last newsletter. I have now found more on the microscopic cilia and where they are in more of our body organs. As well, you can see from this diagram to the right, that the **risk of death from Covid** correlates with the common risks of **not having enough zinc**. Not only that, we are more likely to have a bad dose of Covid if we are sick with it, or have a more severe reaction to the Covid Vax, if zinc is low.

Unfortunately research shows that 85% of Australian women and 50% of men are not getting enough zinc in their diet. This is due to over-processing of food, poor soil zinc levels as well as an overload of toxins and heavy metals in our food, and low gut acid which **block zinc absorption in the gut**.

Other factors such as **increased exercise, eating disorders, old age, chronic diarrhoea and other gut problems**, alcohol and **coffee** consumption as well as **vegan diets**, increase the need for Zinc.

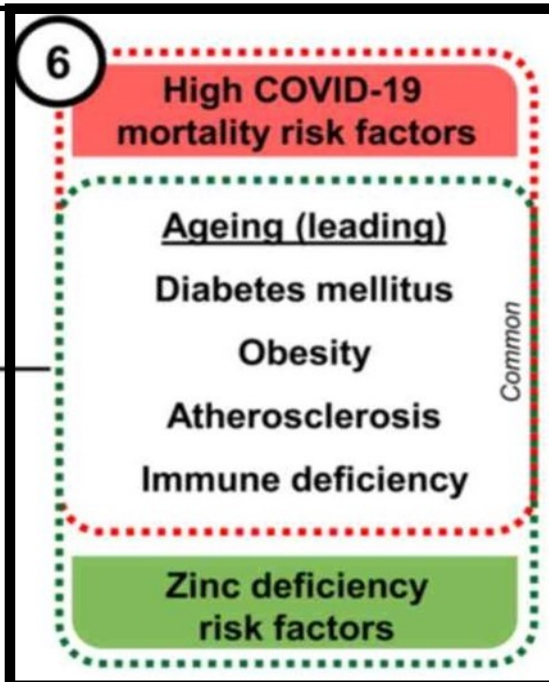
Zinc deficiency is also common with people who are using medications such as high blood pressure meds, contraceptive pill and medications that reduce the amount of stomach acid produced.

Diseases such as rheumatoid arthritis, diabetes, atherosclerosis and obesity, impaired cognitive function as well as age-related macular degeneration (AMD), **may be due to zinc deficiency** worsening chronic inflammation and triggering oxidative stress.

Oxidation is the **same process that turns apple flesh brown and rusts metal** — it breaks things down. High levels of oxidative stress affect every organ and organ system in our body. Research suggests oxidative stress is directly linked to conditions like Alzheimer's disease, cancer, colitis, dementia, gastric cancer, gastritis and **inflammatory bowel disease**.

If you are deficient in zinc, your body may be less able to repair genetic damage caused by oxidative stress. But if your **diet is rich in zinc** and other antioxidants, such as **vitamins A, C and E**, your body will be able to **fight back against germs and stress**.

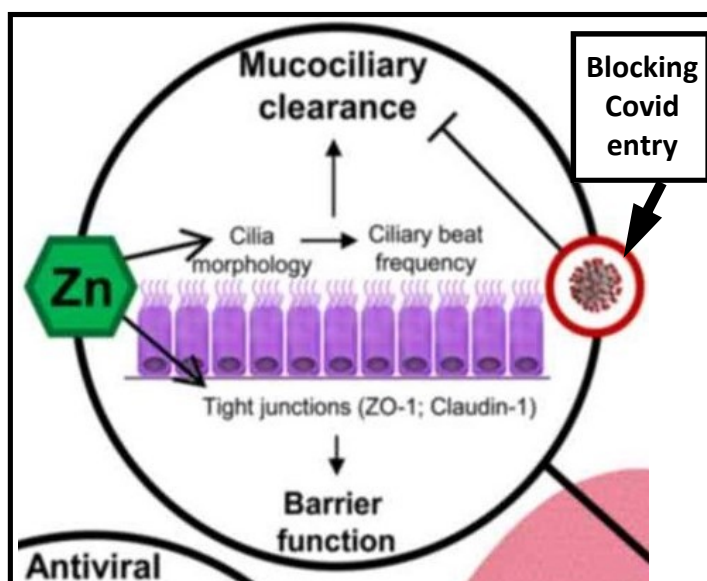
Zinc is an essential mineral found throughout our body's organs, tissues and fluids. We **need to top-up zinc daily** as zinc is **not stored** in the body. It doesn't build up as zinc excess is excreted daily. A few days without it in food or a supplement, runs us low again.



Zinc supports critical processes within your body such as **blood clotting**, cell division, immune function, thyroid health, **smell, taste, vision** and wound healing. Every body lining has zinc as part of its structure. Zinc is the **Riot Police for our bodies**, putting up the barriers, dispersing the crowd, sending invaders away. It **protects with fine waving cilli**, usually within a slippery mucous surround on the outside of the cell. The cilli are like **anchored seaweed** floating with the tide water, trapping undesirables, washing them away.

Zinc also tightens the cell walls up against each other, like Policemen standing side-by-side to stop a Riot.

This how Zinc protects and repairs from Covid.



This is why it is so important to have good levels of ZINC now. As well as all the other things we need Zinc for in the body!

Zinc needed for the Gut!

by Tessa Jupp RN OAM

Tummy Aches and Gas - or Worse:

“**Leaky gut**” is where the cells that form the lining of the gut become separated, allowing large particles and germs (including Covid) in the small intestines to flow where they shouldn't – ie straight into the blood.

Normally, the cells of the intestines are held together by what are called “**tight gap junctions**”. These are flexible structures that open and close to allow small particles to be absorbed. When everything is moving smoothly, only tiny well-digested nutrients can pass through.

Tight gap junctions are highly reliant on Zinc. Without zinc, they become permeable and “leaky”. In fact, every cell in the digestive tract requires a lot of zinc for its structure and function.

Bloating, Abdo & Chest Discomfort:

When we don't have enough stomach acid to digest protein, we **lose** our **appetite** for red meat as the body is saying “*Don't eat it - we can't deal with it now.*”

Lemon Juice with Meals

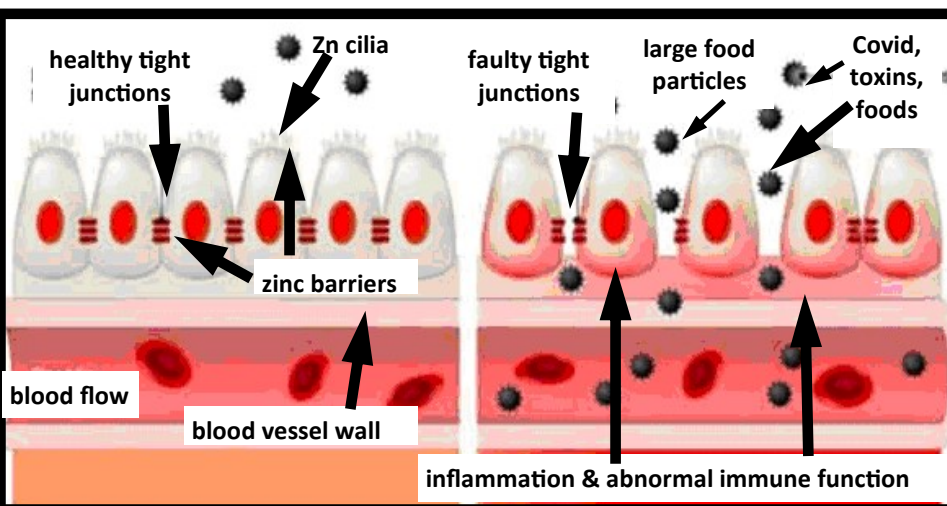
The answer is to put acid in at the right time, ie with the food to help break it down. So a teaspoonful of **undiluted lemon juice** or some **apple cider vinegar with our meal**, helps us get the B1, B6 and zinc from our meats. Then we can make more stomach acid to digest the food. But it may take 6 months or so. Just **sprinkle lemon juice over it like we do with fish**. If still have discomfort later, **drink ½ teasp of carb soda in ½ cup of fruit juice to make it fizz up. Works!**

Food particles that haven't been properly broken down reach the small intestine and feed the “bad” bacteria there, **emitting toxic gas**. This gas causes bloating and discomfort as it stretches the intestinal wall.

Chronic Diarrhoea:

Zinc is required for the foundational structure of **microvilli** – the tiny cells of the small intestine that absorb nutrients. In a severe zinc deficiency, these microvilli change shape and are unable to absorb nutrients properly.

These unabsorbed food particles travel further to the large intestine where they cause diarrhoea. This diagram shows the villi with the **zinc cilia** waving at the top in the mucosal lining that protects the cells of the gut from the acid and swishes away the undesirables, barring entry.



Signs of a zinc deficiency include multiple digestive complaints: like burping, reflux, indigestion and heartburn.

Digestive acids in the stomach and small intestine also require zinc for their creation and secretion. Normally, **stomach acid** digests food particles, particularly proteins. The main nutrients the body needs to make stomach acid are Vitamins **B1 and B6**, and **also zinc**. Low levels of zinc slow down this process, leading to sluggish digestion, an imbalance in pH acidity and possible reflux ie regurgitation of food or of the gasses produced (burping).

It is **not too much but too little stomach acid** that **leads to indigestion or reflux (GERD)** as it is now commonly called. The stomach has an action like a washing machine. We need soap to wash the clothes. If there is not enough, the lid stays open, waiting for the soap. Similarly, the sphincter (opening) at the top of the stomach, doesn't close, waiting for more stomach acid to act on breaking down the food inside.

Other Nutritional Digestive Aids

Iron increases the number of beneficial gut bacteria. We can get **iron in red meat and beetroot**.

Vitamin D3 supplements have an anti-inflammatory effect on the gut lining and boost good gut bacteria.

Magnesium relaxes the muscles of the bowel, having a “*move along the bus*” action, alleviating **constipation**. Too much results in “*pushing off the bus*” too quickly, so take to bowel tolerance.

Vitamin C is a potent **anti-oxidant** that helps to protect cells in the gut lining from damage caused by inflammation. It is needed to make **collagen** too.

Gelatine also has **collagen** to strengthen the gut lining, improving absorption and overall gut function.

Glutamine supplement will repair the gut lining and dampen inflammation. **Try any or all of these.**

Health Benefits of Beetroot by Tessa Jupp RN OAM

As you can see from the picture opposite, beetroots are full of B vitamins and many minerals, always depending of course, if the minerals are actually in the soil that they are grown in! We know that WA soils are depleted in many minerals and there are pockets of minerals just here and there - like the quest to find gold in WA!

So, how do beetroots help us?

As we have seen, **inflammation** is one of the **problems caused by Covid**. Inflammation also causes many other health problems.

1. Anti-inflammatory properties

Ongoing inflammation in the body is linked to **many diseases**, including **Type 2 diabetes**, high **blood pressure**, **heart disease**, **asthma** and **obesity**. Beets have

a number of anti-inflammatory benefits, thanks to their high content of **betalains**. Beetroot juice reduces inflammation across your whole body. Betalain capsules with beetroot extract help relieve joint pain due to **osteoarthritis**.

2. Beetroot can reduce High Blood Pressure

Beetroot contains nitrates, which boost our levels of **nitric oxide**. This tells our blood vessels to expand, increasing blood flow, lowering blood pressure.

3. Beetroot helps Heart Failure and Heart Disease

Again **more nitrates** give increased power in our muscles - including our heart and peripheral arteries.

4. Beetroot helps us Exercise for longer

The stamina-boosting properties of drinking beetroot juice can actually help exercise for up to 16% longer.

5. Beetroot maintains a Healthy Liver

Beets contain pectin, a fibre that helps eliminate toxins. Adding them to your diet, has been found to increase the amount of certain **detoxifying liver enzymes**. These protect and allow it to work more efficiently.

6. Beetroots can Aid Digestion

Being rich in **fibre** they can improve digestion and **diverticulitis**. They have **easily absorbable iron**.

7. Beetroots help Control Blood Sugar Levels

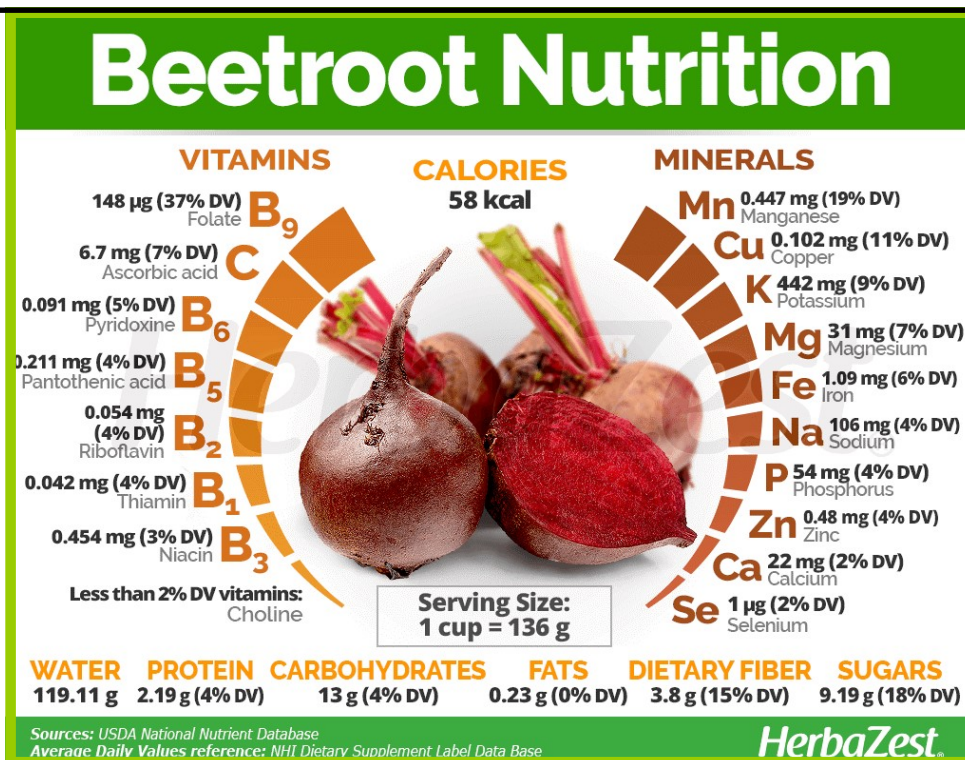
The fibre in beetroots can reduce **hyperglycemia**.

8. Beetroots reduce Bad Cholesterol Levels

Decrease total cholesterol and increase HDL.

9. Beetroots help with Weight Control

Being high in fibre and low in calories, beets can leave you feeling fuller from eating less than other foods.



WAYS TO INCLUDE BEETROOT IN DIET

Good used fresh (raw or cooked) - or from the tin.

In Green Salads
Add to Potato Salad
Add to Coleslaw
In Hamburgers, Rissoles
Baked Beetroot
Jellied Beetroot
Grated as a garnish
With Mashed Potatoes
In Smoothies, Dips
Beetroot Soup and add to Vegetable Soups
In Sandwiches as part of salad filling
In cakes and biscuits, slices, pancakes, savouries



Chocolate Beetroot cakes

1 cup mashed beetroot (canned or freshly boiled)
4oz (125g) butter or coconut oil
1 cup sugar or coconut sugar
1-2 eggs

Mix then sift in
2 cups SR flour or SR spelt
3 tablsps cocoa powder
1 teasps mixed spices
1 teasps ginger
1 teasps cinnamon
1 cup dried fruit (eg dates)

Stir dry ingredients into moist mix and add milk or water to a runny, not stiff consistency

Put into greased patty pans or larger cake tin
Cook at 380C till bounces back when pressed
Cool 15 mins before removing from cake tin



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