



Deleading with healthy lifestyle interventions Lead detox with saunas, lemon, garlic, greens, etc after eradicating potential current lead exposure

By Richard Turnbull

As with most individuals, I have a medical check once a year and during June 2017 I decided to ask my GP to include serum lead which to our surprise came back quite high – 10.4 micrograms per decilitre (ug/dL) or, more than twice the notification-to-government level of 5 ug/dL - as can be seen in Table 1. The NSW Government Department of Health, (Western NSW Local Health District) contacted me by phone informing me of the elevated blood lead level basically letting me know the dangers of lead and that I should have my family also tested. Other than that I had no other correspondence from them except my calling them in Dubbo with questions which they really could not satisfactorily answer. I realized that their knowledge about lead was very limited.

After some research I managed to locate Elizabeth O'Brien at The LEAD Group in Sydney who was most helpful giving me heaps of background information about lead and also Elizabeth suggested I try to find out if I was currently being exposed to lead. I first called The LEAD Group charity on 8th June 2017. This is when I decided to test the surroundings of my house in Orange (Table 2) and my son's house in Wagga Wagga (Table 3) with a LEAD Group Kit. Blood lead tests were also carried out on my wife, my son, my daughter-in-law and grandson. All their blood results came back well below 5 ug/dL. My wife's blood test came back the highest at 2.5 ug/dL. I as well as my GP had no answers as to why my lead levels should be so high. My thought was that it must obviously be in my bones where lead accumulated during my early life and working in lead contaminated areas and now as I am aging there may be a continuous slow leaching into the blood.



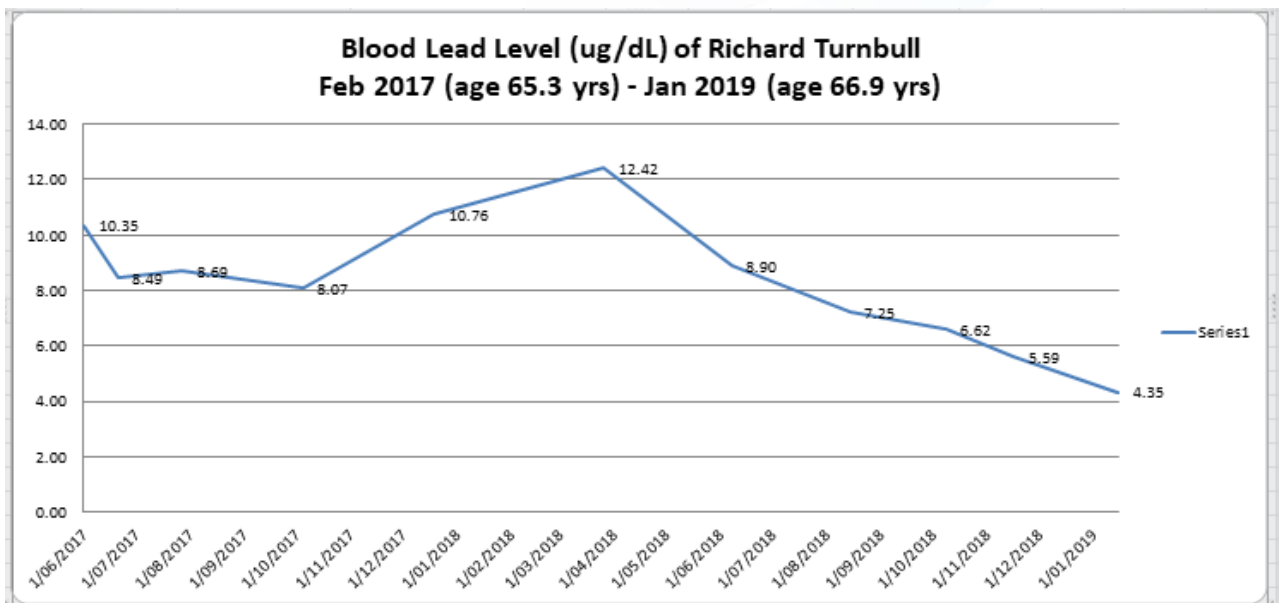
2013 Volcano Art Prize Entry. Title: Lead in Bones in Lead. Lead-Safety Message: As the lead stored in your bones leaches into your blood as you age, so you get closer to the grave. Description: Animal bones found in the bush, safely set in molten lead. Artist: Tony Lennon, Sculptor.
<http://volcanoartprize.com/portfolio-item/lead-in-bones-in-lead/>

I should mention that I have never done any renovation or lead-based hobby however I had as a young boy



placed air-gun lead pellets into my mouth while target-shooting and had swallowed a few over time. This may or may not have contributed to an increase in bone lead levels. I also worked on two various gold mines (above ground) in South Africa from 1982 until April 1985 (3 ½ years).

After discovering an increase in my blood lead levels I became determined to reduce my blood lead levels slowly through natural means as possible so I then decided to follow my own protocol. I certainly was not sure if this was possible nor were those I spoke to. Below is a graph of the data in Table 1, showing how my blood lead levels have changed over time.



Note that labs in Australia usually give the results (and notification range) in two different units. For example, my first result of 0.5 micromoles per litre (umol/L) is equivalent to 10.4 micrograms per decilitre (ug/dL), but most of the literature about lead uses the ug/dL units.

Table 1

DATE	LABORATORY	RESULT	NON-NOTIFIABLE RANGE	Time of day blood was drawn
01/06/2017	Lavery	0.50 umol/L 10.4 ug/dl	<0.24 umol/L <5.0 ug/dL	8:49
20/06/2017	Melbourne Pathology	0.41 umol/L 8.5 ug/dl	<0.24 umol/L <5.0 ug/dL	10:29
27/07/2017	Lavery	0.42 umol/L 8.7 ug/dl	<0.24 umol/L <5.0 ug/dL	9:44



04/10/2017	Lavery	0.39 umol/L 8.2 ug/dL	<0.24 umol/L <5.0 ug/dL	11:38
Holiday in Africa during this period. Returned Mid November 2017				
18/12/2017	Douglass Hanly Moir	0.52 umol/L 10.8 ug/dL	<0.24 umol/L <5.0 ug/dL	07:05
26/03/2018	Lavery	0.60 umol/L 12.5 ug/dl	<0.24 umol/L <5.0 ug/dL	10:50
03/05/2018	Urine challenge test	4x250mg DMSA	Once off.	
Replaced Utility Vehicle battery and cleaned up battery corrosion. Introduced garlic and lemon drink mix. Also commenced with healthy diet of reduced carbohydrates, no sugar or processed foods. Only real foods consumed. Commenced with regular exercise and Sauna.				
07/06/2018	Lavery	0.43 umol/L 8.9 ug/dl	<0.24 umol/L <5.0 ug/dL	12:30
14/08/2018	Lavery	0.35 umol/L 7.3 ug/dl	<0.24 umol/L <5.0 ug/dL	12:30
08/10/2018	Douglass Hanly Moir	0.32 umol/L 6.7 ug/dL	<0.24 umol/L <5.0 ug/dL	08:09
16/11/2018	4Cyte Pathology	0.27 umol/L 5.6 ug/dL	<0.24 umol/L <5.0 ug/dL	10:00
15/01/2019	Lavery	0.21 umol/L 4.3 ug/dl	<0.24 umol/L <5.0 ug/dL	09:23



Table 2 - LEAD Group Kit lead results for Orange residence

Chain of Custody/Sample Collection Log
Lead Analysis Required for All Samples

Blood lead results of anyone who could be impacted by any lead in these samples and has already had a blood lead test: please list their age (yrs, mths), sex and blood lead results (number and unit): **64yrs 4 month male, blood test result 10.4ug/dl 1 June 17. Building was built: in the 1980s. I have a vegetable/herb garden, pets, chickens (for their eggs) that may be exposed to the sources of these samples.**

SAMPLE NO.	SAMPLE TYPE (eg soil, vacuum dust, dust wipe, first flush or flushed drinking water, paint chip, etc)	SAMPLE COLLECTION LOCATION (eg front yard, ceiling, lounge room, baby's room, etc). For all indoor samples, state type of flooring eg carpet, rug, timber, lino, slate, etc. For first flush drinking water, please state TIME since the tap was last used (in hours, days, weeks or months)	DETAILED DESCRIPTION OF SAMPLE SOURCE (eg chalking paint/flaking paint; soil from veggie garden/near step; rainwater from concrete/steel/plastic tank; dust from window sill/floor near door; etc. For Dust Wipes include Dimensions of Wipe Area: length_cm x width_cm.)	RESULT
201706118A	First Flush drinking water.	Kitchen @ 7am. 12 hrs since use.	Kitchen sink – chrome tap.	<0.001mg/L
201706118B	First Flush from Jug Filter drinking Water	Kitchen @ 7am. 12 hrs since use.	Located on the side of kitchen sink.	<0.001mg/L
201706118C	House Vacuum Dust	Carpets & kitchen tiles	Bed Rooms, lounge.	29mg/kg
201706118D	Soil	Vegetable garden	Located at side of house.	10mg/kg
201706118E	Dust wipe	Work Shed	Work bench 30 x 30cm	360ug/m2
201706118F	Raw Buckwheat	Bought at Woolworths	Macro Organic	<0.1mg/kg
201706118G	Dust Wipe	Ute	Dashboard 30 x 30cm	22ug/m2
201706118H	Turmeric	Bought at Woolworths	Kitchen cupboard.	<0.1mg/kg

[NB: After filling in columns 2, 3 & 4 above, please save & then email this Chain of Custody to info@lead.org.au & note that once you receive the emailed results back, you only need to print and sign this Chain of Custody form if you require the results for some legal purpose.] By signing below, I acknowledge that the sampling has not been performed by a licensed professional. This may cause my results to vary. I agree not to hold Sydney Analytical Laboratories or The LEAD Group responsible for any results that may be in error. I agree that my results may be sent to me via email or through the mail.

Signature: _____ Date: _____

Richard Turnbull
PO Box 8288
Orange 2800
bodysyn@optusnet.com.au

Sampled by: _____ Date: _____ Laboratory: Sydney Analytical Laboratories

Sent by: _____ Date: _____ Lab contact: Lance Smith

Date of Samples: 26/06/17
Posted: 26/06/17

Received by: L.Smith Date: 27/6/17 SAL Job Number: SAL26277T



Photo:

My Work Bench top dust measured the most lead around the property, as can be seen by the results in Table 2. I spoke to a Lead Researcher at Macquarie University who reassured me that the amount measured would not raise blood lead levels unless, “one places ones food directly onto the desk top dust and eats it”. I am not sure why lead here tested the highest. I did on two occasions (for about 2 hours on each occasion) weld galvanised piping which may be a reason. The other welding was done on square tubing of iron or steel which I was told does not contain

lead.



Table 3 – LEAD Group Kit lead results for Wagga Wagga residence

Chain of Custody/Sample Collection Log
Lead Analysis Required for All Samples

Blood lead results of anyone who could be impacted by any lead in these samples and has already had a blood lead test: please list their age (yrs, mths), sex and blood lead results (number and unit): **64yrs 5 month male, blood test result 10.4ug/dl 1 June 17. Building was built: in the 1930s. We are planning a vegetable/herb garden, pets, chickens (for their eggs) that may be exposed to the sources of these samples.**

SAMPLE NO.	SAMPLING DATE AND SAMPLE TYPE (eg soil, vacuum dust, dust wipe, first flush or flushed drinking water, paint chip, etc)	SAMPLE COLLECTION LOCATION – Type of building (residential / commercial / industrial); sample site (eg front yard, ceiling, lounge room, baby's room, etc); for first flush drinking water, please state TIME since the tap was last used (in hours, days, weeks or months) If flushed sample, state the number of seconds the tap was run / flushed before collecting the sample	DETAILED DESCRIPTION OF SAMPLE SOURCE (eg chalking paint/flaking paint; soil from veggie garden/near step; rainwater/mains water from [brand of] tap installed [date] with [brand of] pump installed [date] from concrete/steel /plastic tank; dust from window sill/floor near door; etc. For Dust Wipes include Dimensions of Wipe Area: length_cm x width_cm & type of flooring eg carpet, rug, timber, lino, slate, etc)	RESULT
201707001A	First Flush drinking water.	Kitchen @ 7am 8 hrs since use.	Kitchen sink – chrome tap.	<0.001mg/L
201707001B	House vacuum dust	Lounge carpet	Lounge	60mg/kg
201707001C	Air conditioner	Passage	Passage ceiling	67ug/m2
201707001D	Paint	Sunroom	Window	3.5%
201707001E	Soil	Back garden	Right and left side	10mg/kg
201707001F	Soil	Park next to Clinic	30m from side gate.	14mg/kg
201707001G				
201707001H				

[NB: After filling in columns 2, 3 & 4 above, please save & then email this Chain of Custody to info@lead.org.au & note that once you receive the emailed results back, you only need to print and sign this Chain of Custody form if you require the results for some legal purpose.] By signing below, I acknowledge that the sampling has not been performed by a licensed professional. This may cause my results to vary. I agree not to hold Sydney Analytical Laboratories or The LEAD Group responsible for any results that may be in error. I agree that my results may be sent to me via email or through the mail.

Priority please.

Signature _____ Date _____

Name, Email & Address goes here: Richard Turnbull
PO Box 8288
Orange 2800
beck@lead.org.au

Sampled by: _____ Date: _____ Laboratory: Sydney Analytical Laboratories

Sent by: _____ Date: _____ Lab contact: Lance Smith

Received by: L.Smith _____ Date: 28/7/17 _____ SAL Job Number: SAL26423E

Date of Samples: 27 July 17. Posted 27 July 17

As can be seen in Table 1 my lead levels started rising again from December 2017 to March 2018 which made me decide to take the once-off Urine Chelation Challenge test on the 1st May 2018 as reflected in Table 1. That is the only Chelation medication taken and then only for the challenge test, which is designed to determine whether I had sufficient levels of any chelatable toxic metals to do a full chelation treatment regime.

The results of the challenge test can be seen in Table 4.



Table 4 – Urine Chelation Challenge Test Results

Essential Elements, Urine Spot			
Creatinine, Spot Urine	2.7 *L	6.5 - 15.0	mmol/L
Chromium, Urine Spot	<DL (a) *L	0.55 - 4.83	ug/gCR
Cobalt, Urine Spot	0.24	< 5.00	ug/gCR
Copper, Urine Spot	76.91 *H	1.45 - 60.00	ug/gCR
Iron, Urine Spot	53.73 *H	2.20 - 45.00	ug/gCR
Manganese, Urine Spot	6.55 *H	< 4.50	ug/gCR
Molybdenum, Urine Spot	5.92 *L	9.70 - 100.00	ug/gCR
Selenium, Urine Spot	23.29	12.00 - 90.00	ug/gCR
Vanadium, Urine Spot	<DL (a)	< 1.40	ug/gCR
Calcium, Urine Spot	31 *L	55 - 400	mg/gCR
Magnesium, Urine Spot	70	12 - 150	mg/gCR
Zinc, Urine Spot	0.53	0.06 - 0.78	mg/gCR
Germanium, Urine Spot	0.44	0.00 - 1.50	ug/gCR
Lithium, Urine Spot	4.85	< 175.00	ug/gCR
Strontium, Urine Spot	79.91	< 200.00	ug/gCR
Toxic Metals, Urine Spot			
Aluminum, Urine Spot (Al)	7.72	< 40.00	ug/gCR
Antimony, Urine Spot (Sb)	<DL (a)	< 1.00	ug/gCR

* Result outside normal reference range (H) Result is above upper limit of reference rang (L) Result is below lower limit of reference ra

Arsenic, Urine Spot (As)	6.29	< 15.00	ug/gCR
Barium, Urine Spot (Ba)	3.85	< 5.70	ug/gCR
Beryllium, Urine Spot (Be)	<DL (a)	< 1.20	ug/gCR
Bismuth, Urine Spot (Bi)	<DL (a)	< 0.15	ug/gCR
Cadmium, Urine Spot (Cd)	<DL (a)	< 0.80	ug/gCR
Lead, Urine Spot (Pb)	56.12 *H	< 5.00	ug/gCR
Mercury, Urine Spot (Hg)	1.12 *H	< 1.00	ug/gCR
Nickel, Urine spot (Ni)	4.62 *H	< 3.00	ug/gCR
Platinum, Urine Spot (Pt)	0.00	< 0.60	ug/gCR
Silver, Urine Spot (Ag)	<DL (a)	< 1.40	ug/gCR
Thallium, Urine Spot (Tl)	0.63 *H	< 0.60	ug/gCR
Tin, Urine Spot (Sn)	0.57	< 2.00	ug/gCR

It was also during this time that I noticed that my Utility vehicle’s lead acid battery was corroding which is located on the same side as the driver. I then started suspecting that lead particles from the battery flowing from the engine through the air vent into the cabin may have been one reason for increased blood lead levels although battery companies I spoke to said that that was not possible - which I question. Once I cleaned up the battery during May 2018 by painting the surroundings and ensuring that the battery was clean - together with other factors I introduced - may have been one reason for the steady drop in my blood lead levels. During this time I also stopped welding in my Shed and have not done any welding



since then. I spend much time in the Utility vehicle and every 2nd week I travel 800km and either the air-conditioner or the heater is on. I have been doing this for the past 6 years



Photo: Ute's battery on same side as driver. New sealed battery. Note the damage on underside of bonnet from the previous corroded battery.

**Lifestyle change
Interventions that may also
be contributing to a steady
drop in my blood lead levels**

Nutrition:

During December 2017 I stopped consuming all sugars from my diet with the exception of occasional 85% dark chocolate. My general food intake involves real food and no processed foods. I consume high healthy fat such as avocado, olive oil, butter, coconut and meat fat in moderation. Protein is eaten in moderation - up to 1.7g per kg of body weight - and carbohydrates are relatively low: about 120g per day. (I don't suffer from the metabolic syndrome or diabetes otherwise my carbohydrates would be much lower). Sardines are eaten 1 to 2 times a week, I avoid large fish because of the possibility of high mercury content. I eat as many green colour foods as I like with less of the yellow colours and even less of the white colours with the exception of cauliflower, turnips, parsnips and cabbage. The reason is because most white colours such as pasta, rice, white potato etc are high in carbohydrates and I believe that excessive carbohydrate, elevate blood sugar levels to an unacceptable level which may have an inflammatory effect on the body. There is too much constant production of insulin when consuming high levels of carbohydrates.



Graphic: 2018 Volcano Art Prize winner of one of 30 Pictureproducts mugs printed with the entry. Title: Oh Island, in a manner of speaking, in the sun! **Lead-Safety Message:** Vitamin D from the sun helps you live longer despite your past lead exposure. Artists: Noela Whitton (watercolour) & Neill (cartoon of Evan Whitton). <http://volcanoartprize.com/portfolio-item/Oh-Island-in-a-manner-of-speaking-in-the-sun/>

I also take one multi-vitamin, vitamin D and vitamin B per day as supplementation as well as 30g (one scoop) of Professional Whey Powder. The main reason I take the Whey Powder is that it contains Cysteine and Glycine which Glutathione is made up of. Glutathione is a potent antioxidant and assists with metal detoxification. I also consume high amounts of garlic, onions and lemon juice and lemon rind – which contains a lot of detoxifying agents.

Herewith the recipe I use below in order to easily increase these “lead-detox foods”.

- 15 garlic cloves
- 3 whole organic lemons (the peel and pips included)
- 750 ml of filtered water.

Place the lemons, garlic and water into the blender and blend. Bring the liquid to beginning boiling point then allow to cool. Once cool, drain through a sieve, bottle and refrigerate. Take 30 to 40ml once a day for 3 weeks then stop for one week and repeat.



No more than two fruits are eaten daily, or one fruit and a cup of berries as well as various nuts the size of the palm of my hand. The only exception is that I don't eat cashews or peanuts which are higher in carbohydrates and Lectins.

When first diagnosed with elevated lead levels in June 2017 I did try black seed oil and milk thistle tablets until March 2018 however in my case they did not seem to have any positive effect on my lead levels so I stopped taking them.

I do make myself a Fresh green vegetable juice (250 to 300ml) with turmeric and ginger added - 2 to 3 times a week. The vegetables vary depending on what I can get (preferably organically grown). Generally the juice would contain kale, spinach, cucumber, broccoli, celery, coriander, blueberries and one other fruit for taste with or without coconut milk.

Exercise

A moderate intensity, 30 to 45 min weight training session performing 3 sets of 12 to 15 repetitions is done 2 to 3 times a week. The resistance is such that I am starting to strain a little at the 12th repetition, rest periods between sets are 30 seconds and I select 8 exercises to cover all major muscle groups. I also walk at a moderate pace (able to put on a conversation) for 4 to 5 km 3 to 4 times a week. Occasionally over week-ends I may join a group and walk between 15 and 20km.

Sauna

A Sauna for 20 minutes 2 to 3 times a week after a weight training session and drinking 800ml of filtered water whilst in the sauna. I make sure that I sweat well. Generally it is not advisable to sauna after exercise because of fatigue and possible dangers that go with it but my exercises are moderate in intensity without much sweating. Also, after weight training the muscles are well flushed with blood and together with a sauna more toxins may be excreted.

Conclusion, why my blood lead level appears to be gradually dropping

1. The utility vehicle's lead acid battery is no longer corroding and the engine is washed once a week to ensure no metal dust remains.
2. A healthy diet definitely is a positive contributor. Organic where possible.
3. Exercise is very important. It is possible that my bone density has increased thus retaining the lead and not releasing as much lead into the blood stream as before. This is debatable.
4. Regular Saunas are important for sweating toxics out of the body and the immediate showering (luke-warm to cold water) after ensures any toxins in the sweat is not reabsorbed through the wet skin.
5. Regular vacuuming of carpets is I believe another good way to get rid of toxics although The LEAD Group recommends eradicating carpets and only wet-mopping (no sweeping or vacuuming) of hard floors and wet-wiping (no dry "dusting") of hard surfaces in homes and vehicles.



Finally it should be noted that the literature does appear to show that some individuals do find it more difficult to detox metals than others and so a closer look at ones genetic make-up and how certain genes affect the ability to effectively detox metals or chemicals may be worth pursuing in the future. However one cannot ignore the importance of how the environment impacts on genes (Epigenetics) and thus affecting health outcomes and so it is recommended that one follows a healthy lifestyle to assist in changing the way genes express themselves.

I will only be satisfied with my blood lead levels once they reach below 2ug/dL.

Richard Turnbull is an accredited Exercise and Sports Physiologist with Exercise and Sports Science Australia.

Further information on www.bodydynamicshealth.com.au
