



# Safe ICT NZ

Safe Information and Communications Technology for New Zealand

Newsletter March 2024

## Top Reading

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**Tech and You, our last event presentation, is available as a pdf Booklet on our website**

<https://www.safeictnz.org/tech-and-you-slide-presentation-5>

If you missed the event, or if you want to look up some of the references mentioned, we have put our presentation on our website as a downloadable booklet.

We are happy to present on our material to groups, such as antenatal groups. It doesn't have to be a large number. Get in touch via our email to have us present, or to borrow our Google slide set for you to share with others: [info@safeictnz.org](mailto:info@safeictnz.org).

Safe ICT NZ's next event: 2 talks

## 1. Environmental blindspots—Our tech Habits and the Environment

## 2. Protecting Mitochondria

**Environmental Blindspots—**

Every day, people are making lots of important choices and sacrifices trying to do their bit to keep the eco-systems safe, however we see some things that people aren't so smart about. Find out how:

- 'The cloud' really begins with coal
- The data economy outstrips the airline industry in energy use
- Our cell phone calls negatively impact other species
- Our infrastructure for cell phones affects migrating birds.

Our tech choices have surprising impacts, most of us don't really know about. Just as indiscriminate use of chemicals have ecological impacts, our tech habits do too. But, as we have become more aware, most of us are making considered choices, and there have been societal shifts in the choices we make, let's bring our tech into the mix.

**Protecting Mitochondria**

Mitochondria are cell parts. Most people know they are somehow responsible for our energy and that is about it.

Conway Judge will take us through what mitochondria are, why they are special and important, and how damage to our cell organs (organelles) can cripple cells, tissues, organs and whole body systems if neglected. This includes damage from exposure to artificial frequencies from cell phones and wireless devices.

**Diary Saturday April 6<sup>th</sup> right now!**

Talks: April 6<sup>th</sup> 4-6 pm. In the heart of Johnsonville at 1/33 Johnsonville road, at The Collective Hub. \$10 koha. Please help to promote this event and personally invite a friend or two.

We would love it if you all would take on making the event a success.

Mitochondrial dysfunction is at the heart of virtually all chronic diseases. Learn how to support your cells. Saturday April 6 4–6pm

# Killing our memory

## Huge implications from the blood brain barrier being breached by our mobile devices

### Blood toxic to brain

Here's a surprise to most of us — the blood is toxic to the brain. Specifically, the proteins in the plasma of the blood (albumin) are toxic to brain cells.

It is kind of weird that one part of us is toxic to another. However, we have known since at least the middle ages (when it was recorded in a book on the anatomy of the brain by Ridley in 1695) that the circulating blood is kept away from the brain and spine. This is important—even in the embryo of all mammals, octopii and even insects.

There are several levels of protection between the blood and spinal cord known as the blood-brain barrier (or BBB). Let's look at the parts:

### BBB parts:

The Blood-brain barrier (BBB) is also called the central nervous system barrier but what a mouthful that is! It has:

#### 1. Tight cells

The capillaries of the BBB are lined with very tightly packed cells, whereas in the rest of the body there are spaces between the lining cells.

#### 2. Sheathing

The capillaries are sheathed by bushy star-shaped cells (astrocyte glial cells) in the brain, retina, and spinal cord. The feet of these astrocytes almost entirely wrap the capillaries. The astrocytes secrete factors that maintain the tight junctions between the blood vessels' lining cells. This helps to keep out microbes: bacteria, viruses, fungi, tape-worm eggs, Giardia and other parasites.

#### 3. Water balance maintenance

The skull needs a tight ship. 80% of the brain is water and any volume change is serious because there is not much room in the skull. We need enough water for neurons to work but not enough to put pressure on the brain. The astrocytes interact with the capillary-lining cells to maintain the water balance in the brain, spine and eyes. They send the message "You are thirsty," as needed.

#### 4. Rust (oxidation) protection

The Astrocytes defend the brain from oxygen damage by producing antioxidant proteins. The Oxidative stress from imbalance of 'reactive oxygen species' is closely linked with 'losing your marbles', or neurodegenerative diseases. <https://onlinelibrary.wiley.com/doi/epdf/10.1111/j.1471-4159.2006.03907.x>

#### 5. Charging capacity

To enable neurons to fire up, we need the right amount of charged particles of sodium, potassium, calcium and chloride (ions) actively passing in and out of our neurons like a current. These ions are shepherded in and out of the brain by the BBB in a similar manner to the way we open windows of a house to let in the right amount of breeze.

#### 6. Immune cells

If all else fails the BBB has its own way of creating immune cells.

### All these essential BBB protective functions can be bypassed within 2 minutes by our mobile phones

Since the mid-seventies, when (the late) Prof Ross Adey started looking at why people get headaches from microwaves,

we have known that radio frequency radiation opens the blood-brain barrier in rats and, we infer, also in humans.

Adey also found that microwave exposure changes brain capacity, causing changes to the brain's blood flow and altering EEG readings. [https://www.buergerwelle.de/assets/files/brain\\_interaction.htm](https://www.buergerwelle.de/assets/files/brain_interaction.htm) cultureKey=&q=pdf/brain\_interaction.htm

He wasn't allowed funding to continue this work, because of the cold war and fears of what the Russian military might do with the information.

### Cordless and cell phone frequencies kill brain cells

More recently, Swedish researchers such as Jacob Eberhart and Leif Salford have confirmed that the opening of the blood brain barrier causes neuron damage (in rats). Their work was done using the GSM-system phone frequencies (used in NZ and Europe). Their studies were on 900MHz and 1800MHz (earlier cordless phones, 3rd<sup>d</sup> and 4th generation mobile technology).

When the blood brain barrier is breached in rats (and believe me there are lots of shared biological similarities between our brains and theirs) albumin gets into the brain. In those parts where it is breached, an area often 6x the size of the capillary is poisoned and neuron cells atrophy like over-microwaved food. They show up in pathology as dark neurons, i.e. dead cells shrunken and punctured with holes.

### The brain doesn't repair these neurons

The rats were exposed to 2hrs of mobile phone radiation and it resulted in 2% neurological damage. Even after waiting 50 days, the damage was still there.

Salford used rats that would equate to teenage rats with still developing brains.

The Swedish team has worked with a series of more than 1600 rats to prove that albumin leaks into the brain

**Very low-powered exposures, from 1000th of a watt (1 milliwatt) to 1/10 of that, open a biological window.**

This harm from the opening of the blood brain barrier occurs, importantly, at very low exposures. Weirdly, higher exposures do not open the BBB—not that other harms aren't done by higher exposures.

The harm occurs at range from 1 to one tenth, of a milliwatt (which is a thousandth of a watt).

This low level occurs:

1. Between 150–200 metres from a cell tower
2. 1.85 metres away from someone on a call, ie a passive exposure.
3. On a cellphone call, this low amount would occur right in the centre of the brain, in the cortex, the hippocampus, and the basal ganglia. This is where episodic memory occurs: where, what and when. Also this area is responsible for movement and learning.

For reference our NZ safety standards allow 2 watts to be absorbed by your brain from a phone close to your head.

Neurosurgeon Leif Salford, who started upon this work hoping for a solution to brain tumors, worries that today's teenagers constantly on their phones could be vulnerable to getting early onset Alzheimers.

The blinded pathology showed some damage in all areas of the brain, but especially the centre and the small area where the brain 'tastes' the blood. The studies have been replicated.

[gov/pmc/articles/PMC1241519/pdf/ehp0111-000881.pdf](https://pubmed.ncbi.nlm.nih.gov/pmc/articles/PMC1241519/pdf/ehp0111-000881.pdf)

Salford also studied rats' functional abilities and found that their remembrance of objects was severely

impaired. It is true that rats have smaller brains than us but as per the title of the book on this field of work "More probable than unlikely", it is likely that humans are also cognitively impaired. In the rat's brain, the longer the exposure, the more the effects accumulate!

[https://www.academia.edu/25380216/Cognitive\\_impairment\\_in\\_rats\\_after\\_long\\_term\\_exposure\\_to\\_GSM\\_900\\_mobile\\_phone\\_radiation](https://www.academia.edu/25380216/Cognitive_impairment_in_rats_after_long_term_exposure_to_GSM_900_mobile_phone_radiation)

Low levels of radiation from mobile phones at 1000<sup>th</sup> of a watt absorption and under, open the blood brain barrier (BBB). This allows entry of neurotoxic albumin into the brain—in rats.

Neurological disease has increased hugely in recent years throughout the developed world, (For example a 663% increase in neurological deaths for females in the US from 1989 to 2010). There have been substantial increases in two specific neurological conditions, motor neuron disease, and early-onset dementias.

Many believe that the Gompertzian theory on longevity is operating, namely

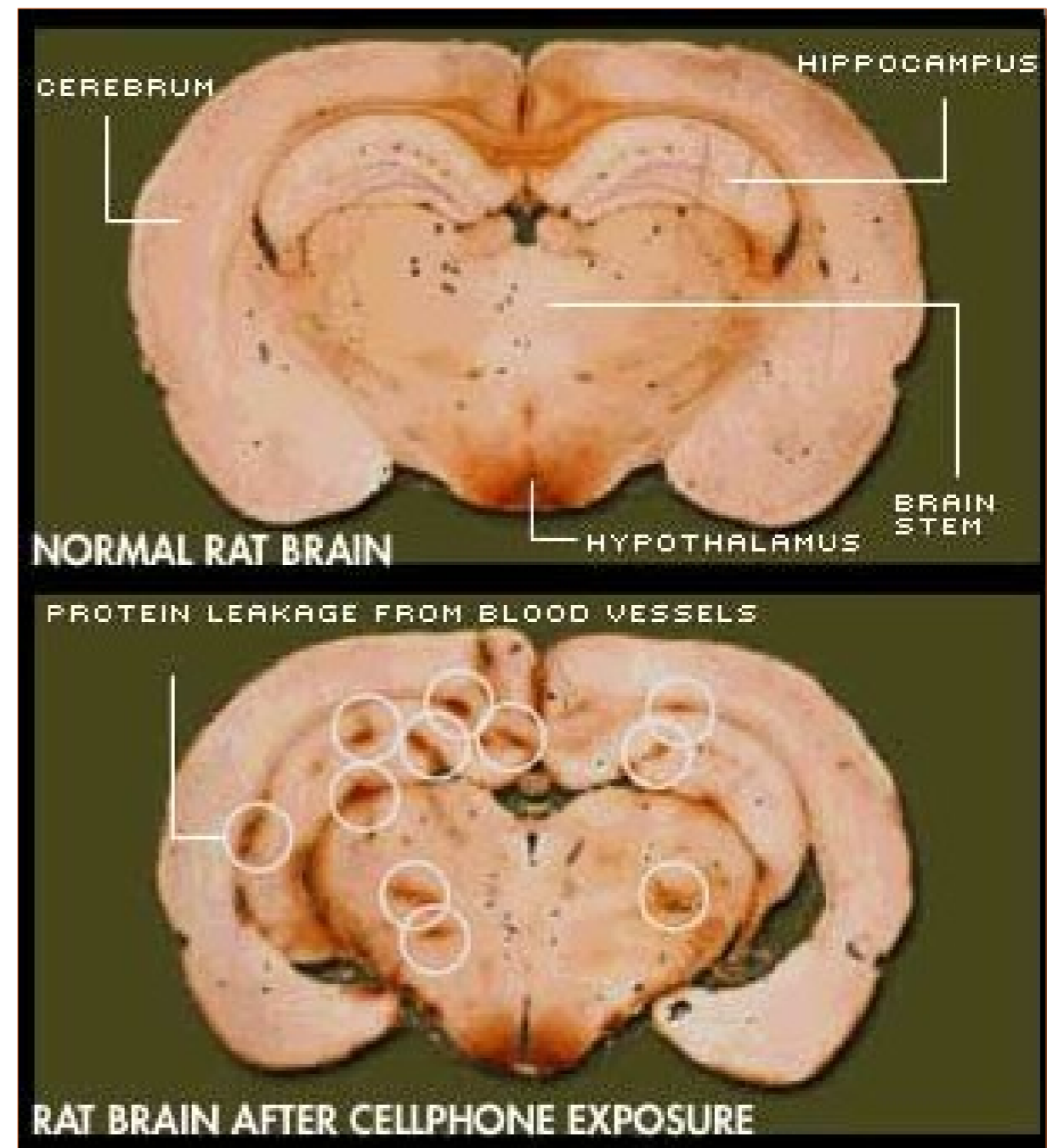


Image: [https://www.robindestoits.org/Salford-et-al-2003-Degats-aux-cellules-nerveuses-de-cerveaux-de-mammiferes-apres-exposition-a-des-micro-ondes-de\\_a446.html](https://www.robindestoits.org/Salford-et-al-2003-Degats-aux-cellules-nerveuses-de-cerveaux-de-mammiferes-apres-exposition-a-des-micro-ondes-de_a446.html)

people are now living longer to develop diseases that they would not have lived long enough to have acquired in previous times. While this process might partially account for some of the rises, the disproportionate rises in the incidence over a relatively short time suggest environmental factors probably

play a larger part, since aging as the reason, would be consistent across countries. Sadly it is estimated that more than 5,000 people in New Zealand have younger onset dementia. I recently caught up with a woman, only 52 years old with early onset dementia. She told me the birds in my pond were beautiful.

I panicked, and raced to look for birds caught in the wire protecting the fish from cats, or drowned. Then I realised that it was her words that were the things drowned. She managed to express with less confusion to me how sad she felt about how her husband had sold her car so she couldn't drive anymore.

Dementia is heartbreaking at any age, but those with younger onset dementia often still have substantial financial burdens and children still needing support, which is true in this case also.

<https://surgicalneurologyint.com/surgicalint-articles/neurological-deaths-of-american-adults-55-74-and-the-over-75s-by-sex-compared-with-20-western-countries-1989-2010-cause-for-concern/>

## Safe ICT NZ news

### Membership renewal reminder

Membership expires on the 31<sup>st</sup> of March. If you are reading this and are not a member consider joining, and helping us spread the word/and helping us to ensure safe information and communications tech for NZ.

### Good news

Thanks to the work of a lovely member, we have received a sizable donation that will enable us to continue to host our website, and cover our ongoing costs.

We have been invited to submit a story on how to create low radiation spaces. Often magazines will not accept our material because they have agreements signed off with advertisers. Unless you have experienced this, you will probably not be aware of how difficult it is to get articles printed.

We will let you know more when this is completed so that you can support the magazine in turn for their support.

See you at our 2 talk event on the 6<sup>th</sup> of April.

## Done is better than perfect

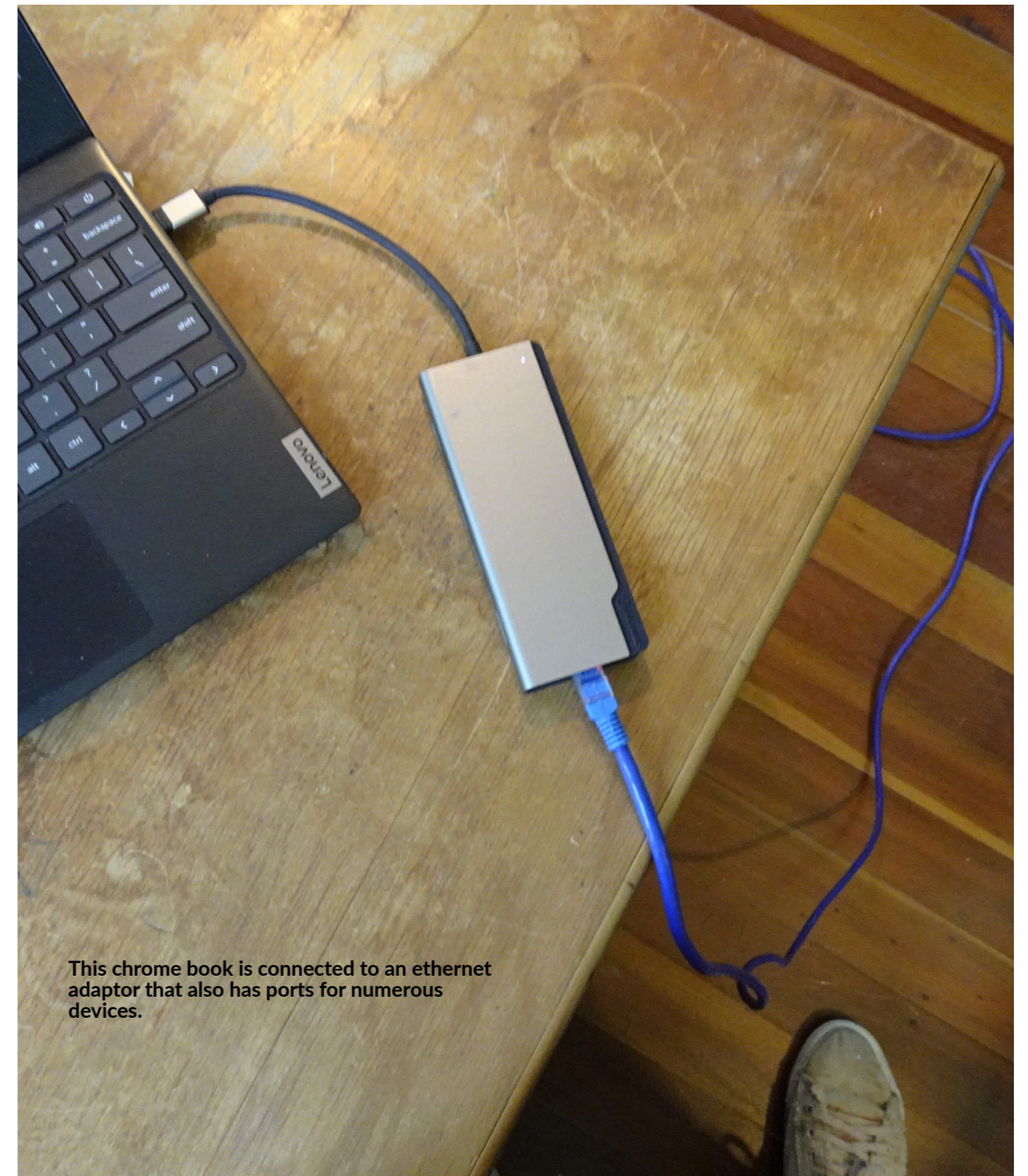
Many of us are putting off making our devices wired through fear of it being complicated, expensive, time consuming, fear of getting into the spider-webby bits under the house and what ever else we might find there, or because we are renting and we think we have to make adjustments the landlord wouldn't like, also of getting the wrong equipment. Time ticks on.

Okay, how about just grabbing your device and heading to a tech store like Jaycar and get them to give you an ethernet cable, practically anything on the market will do, and an ethernet adaptor that allows you to plug the cable into it and the output into your device?

Then go to the settings and turn off the Wi-Fi and Bluetooth and ring your connectivity supplier and tell them to turn off the Wi-Fi on the router. Done and dusted :). You are now sitting at your desk using your device without the time lag of wireless.

Alternatively look at our page on the Safe ICT NZ website for more detail on our to do this yourself [safeictnz.org/connecting-ethernet-cables](https://safeictnz.org/connecting-ethernet-cables). On the router there is the url address and password you need to get into your own account, then you find Wi-Fi and select sliders/buttons and apply these settings.

Yes the cords can be run under the floor or in the roof, you can use clips and conduit guard when you get the time, meanwhile you are not assaulting your body with artificial frequencies 2.5 or 5 billion times per second.



This chrome book is connected to an ethernet adaptor that also has ports for numerous devices.

Go grab your device, take it to a tech store and buy an ethernet cable and an adaptor for it.