

Avoid Toxins

HEALTHY & HAPPY CHILDREN



By Dr. Leila Masson, M.D., MPH, FRACP, FACNEM, DTMH

Toxins: Why, what, how?

- **Why** are they bad: effect on health and development
- **Where** are they: which ones are dangerous
- **How** to avoid them: household tour



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We live in a toxic world

- Air – outdoors and indoors
- Water
- Food
- Chemicals in household

Think those chemicals have been tested?



Number of industrial chemicals used in household items:

84,000

Number that have been tested by the FDA:

200

Number regulated by the FDA:

5

Last time federal chemical safety law was updated:

1976



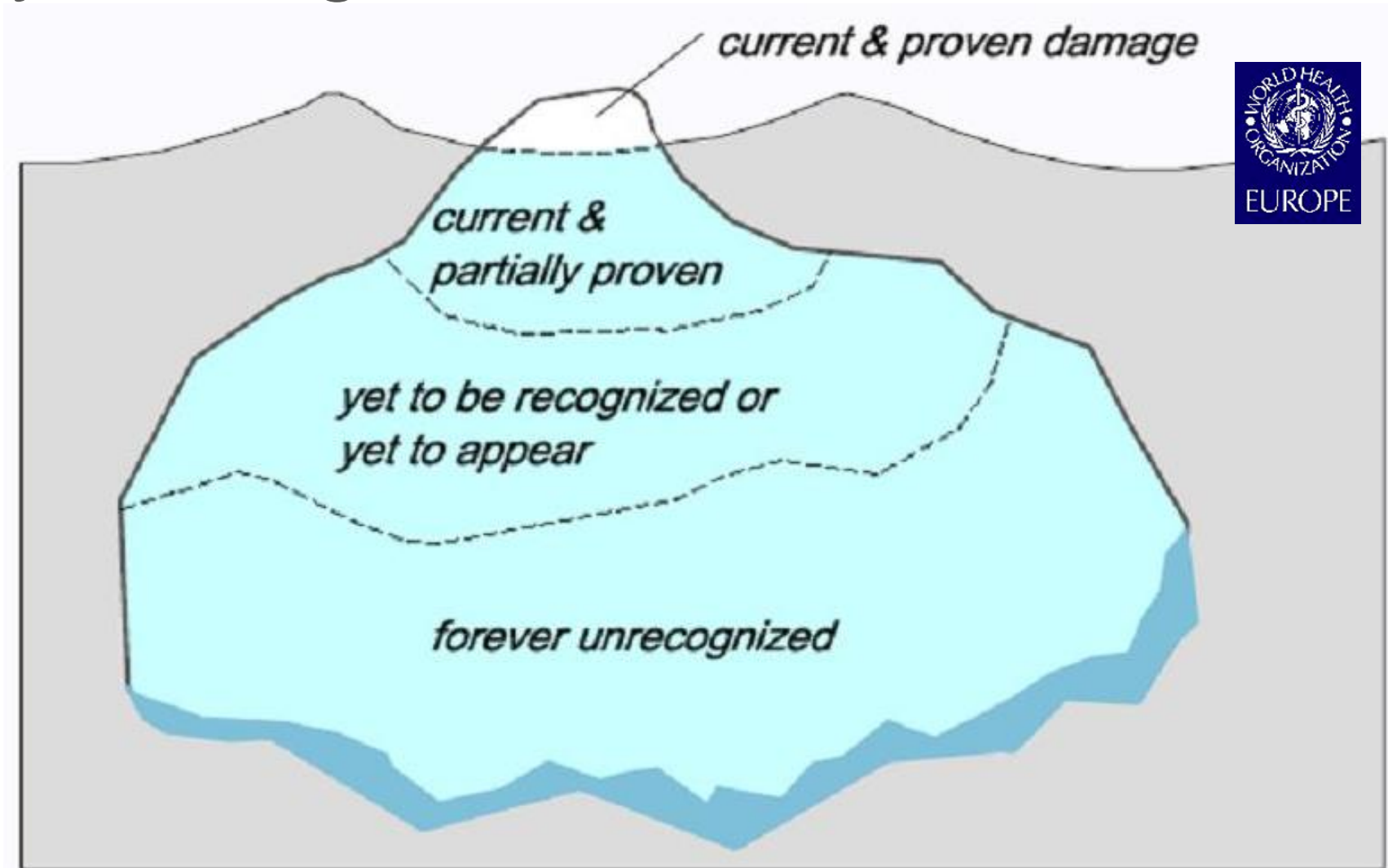
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Tip of the toxicity iceberg

- 12: Chemicals known to be toxic to human neurodevelopment
- 214: Known to be neurotoxic in adults
- 1000: Chemicals known to be toxic in animal experiments
- 84,000: Chemicals used in household items
- 7 new chemicals approved daily



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Grandjean, Landrigan Lancet 2014

Why are environmental toxins particularly bad for children?

- Children are more susceptible to the toxic effects
 - Immature detoxification organs
 - Greater exposures per body weight, children drink more water, eat more food, and breathe more air than do adults.
 - Hand to mouth behaviour and playing close to the ground
 - Rapid growth and development of organs and brain
- Hormone disruptors



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Toxic effect lasts a lifetime:
Developmental origins of adult disease



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Air Pollution

- 93% of the world's children under the age of 15 years breathe dangerously polluted air
- Indoor often worse than outdoor air
 - Smoke, fire place, VOC, carpets, mould, garage
- Particulate matter PM 2.5/10
- ozone, nitrogen dioxide, and sulphur dioxide
- mixed traffic-related air pollution
- increases risk of
 - lower respiratory infections
 - asthma
 - airway dysfunction and inflammation
 - non-optimal brain development
 - chronic disease later in life



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Environmental toxins

- Chemicals
- Pesticides
- EMF



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Meet the neurotoxins



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Pesticides

- Increase risk of problems with development, learning, reflexes, coordination
- ADHD, Autism
- Biggest effect in utero – before birth



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How do Organophosphate pesticides harm the brain?

- Disrupt neurotransmitter acetylcholine: critical for brain development; short-term memory; attention
- Disrupt DNA replication: stop growth of brain cells: axons and dendrites
- Children are more vulnerable as they have lower levels of the enzyme acetylcholinesterase which breaks down the toxins



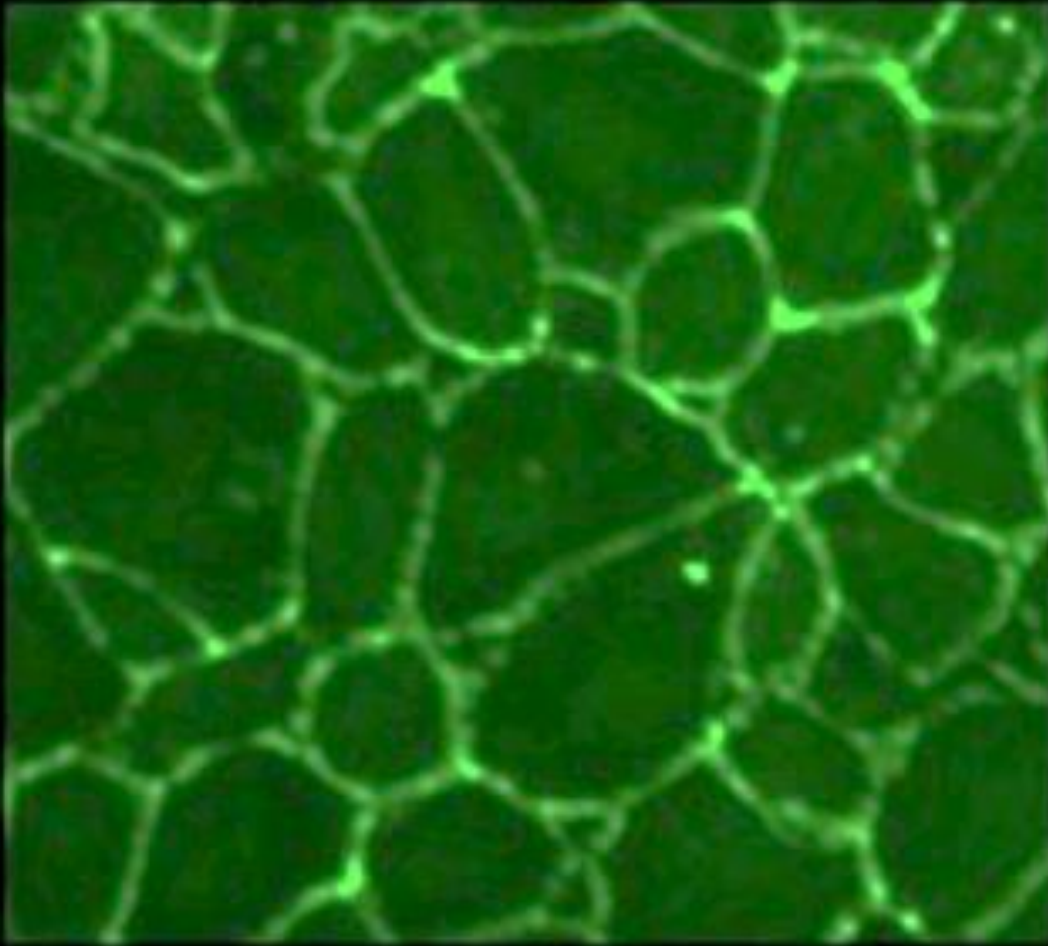
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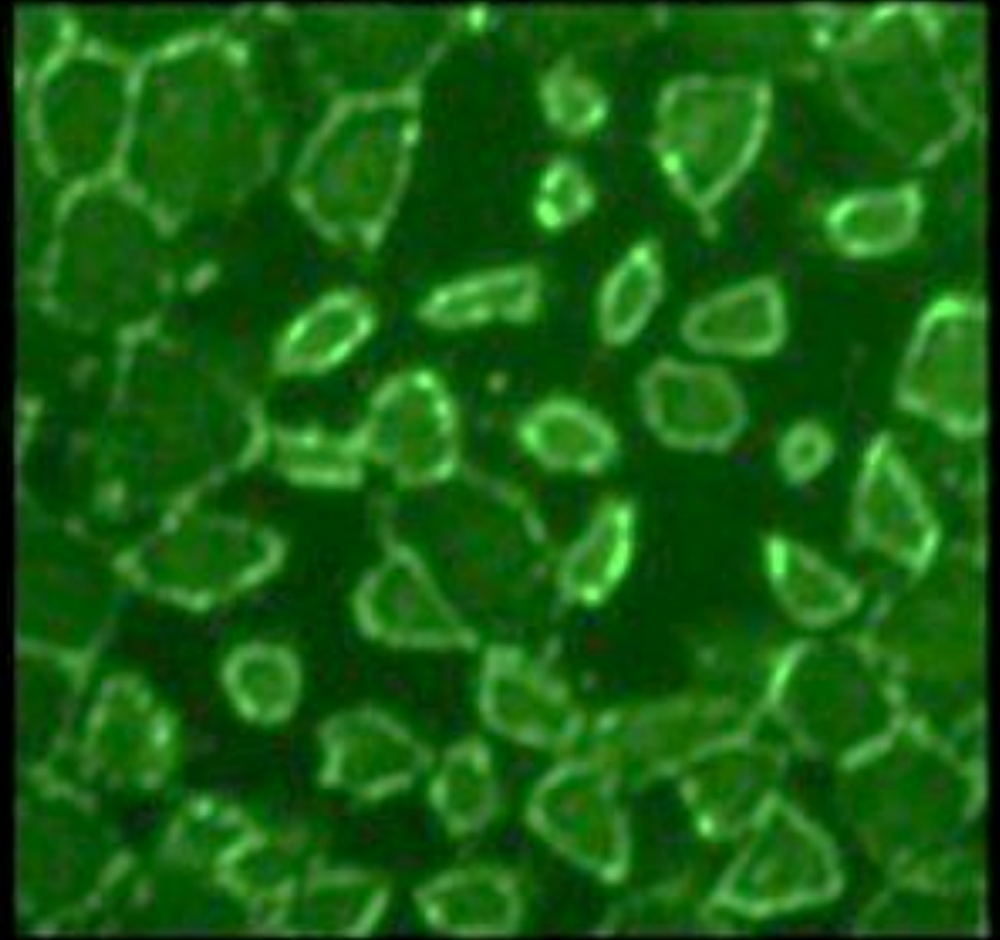
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Tight junctions in intestine destroyed

CONTROL



GLYPHOSATE



Lead

- In paint from before 1975
- Cheap toys
- Water
- Mining
- Affects concentration, learning, memory
- Hyperactivity, aggression
- No safe level



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Comparing The Symptoms of Mercury Poisoning to ADHD

Poor Concentration
Can't Focus Attention When Asked
Doesn't Listen Well
Has Speech problems
Shows Comprehension Problems
Can't Articulate Knowledge Well
Has Hard Time Memorizing

Is Socially Withdrawn
Is Easily Irritable
Shows Aggressive Behavior
Has Frequent Nightmares
Has Problems Sleeping
Has Mood Swings

**MERCURY
POISONING**

Poor Concentration
Can't Focus Attention When Asked
Doesn't Listen Well
Has Speech problems
Shows Comprehension Problems
Can't Articulate Knowledge Well
Has Hard Time Memorizing

Fidgety, and Squirming while seated
Shifts Focus Frequently
Often Talks Excessively
Disorganized Work Habits

ADHD

Healthy-Family.org

Less mercury

More mercury



Mussels

0.03



Squid

0.04



Cod

0.09



Salmon

0.06



Atlantic mackerel

0.05



Lobster

0.15



Haddock

0.16



Skipjack tuna

0.19



Swordfish

0.89



Bluefin tuna

0.63



Spanish mackerel

0.44

The amount of mercury (mg) in one kg of meat



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Salmon used to be healthy

- 90% of the world's salmon is now farmed
- Significantly higher levels of 13 toxins in farmed salmon:
 - PCBs, dioxins and pesticides, anti- sea lice chemicals
- Artificial pink colouring



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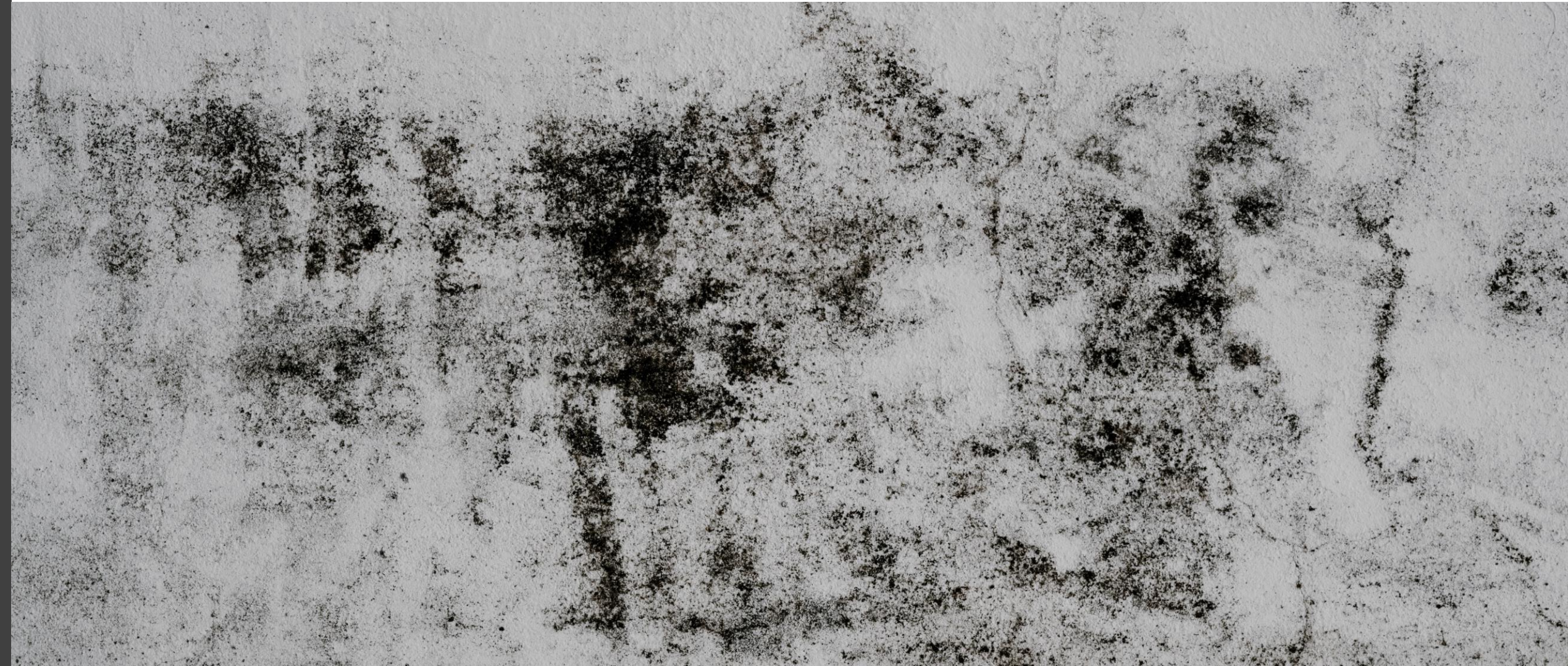
Are we overreacting?

Example BPA



Are we overreacting?

Example MOULD



Are we overreacting?

Example ELECTROMAGNETIC RADIATION



Reduce exposure to harmful EMF



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26 Seconds.

is all it takes
for the chemicals in your
personal care products to
enter your bloodstream.

What's in your products?



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Toxins in your baby products



- **PEG 150 DISTERATE**
- Source: Plant-based & petrochemical
- Found in: Shampoo
- Function: Cleansing Agent
- Health concerns: Potential contamination with carcinogens.

PROPYLENE GLYCOL

Source: Petrochemical
Found in: Moisturiser
Function: Emollient, skin conditioner
Health concerns: Skin irritation and sensitisation.

OPTICAL BRIGHTENERS

Source: Petrochemical
Found in: Laundry Detergents
Function: Make clothes appear whiter & brighter
Health concerns: Skin irritant

COCOAMIDOPROPYL BETAINE (CAP B)

Source: Plant – based & petrochemical
Found in: Body & Hand Wash, Shampoo, Bubble Bath
Function: Cleansing Agent and creates bubbles
Health concerns: Skin irritant

SODIUM LAURYL/LAURETH SULPHATE (SLS/SLES)

Source: Plant-based & petrochemical
Found in: Body & Hand Wash, Shampoo
Function: Cleansing Agent
Health concerns: Potential contamination with carcinogens. Can irritate eyes, lungs and skin.

Precautionary principle



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Clean 15 and Dirty Dozen

ewg.org

- Thick peels protect
- Things to always buy organic:
 - Berries (get them frozen)
 - Apples
 - Fuzzy summer fruit: peaches, apricots



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EWG'S 2020 DIRTY 12™



- | | | |
|-----------------|-------------|--------------|
| 1. Strawberries | 5. Apples | 9. Pears |
| 2. Spinach | 6. Grapes | 10. Tomatoes |
| 3. Kale | 7. Peaches | 11. Celery |
| 4. Nectarines | 8. Cherries | 12. Potatoes |



EWG'S 2020 CLEAN 15™



- | | | |
|---------------|------------------------|--------------------|
| 1. Avocados | 6. Sweet Peas (Frozen) | 11. Broccoli |
| 2. Sweet Corn | 7. Eggplant | 12. Mushrooms |
| 3. Pineapple | 8. Asparagus | 13. Cabbage |
| 4. Onions | 9. Cauliflower | 14. Honeydew Melon |
| 5. Papaya | 10. Cantaloupe | 15. Kiwi |



Simple things to reduce air pollution

- Open your windows every day
- Don't smoke
- No fire place
- No air fresheners, no insect sprays
- Let your car cool down outside
- Room air purifier



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Simple things you can do to reduce toxins

- Take off shoes in the house
- Healthy bed and bedding
- Non toxic cleaning products and detergents
- Non toxic personal care products
- Replace plastic with stainless steel, wood, or glass
- Quality toys rather than quantity



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Healthy alternatives are widely available

Good news!



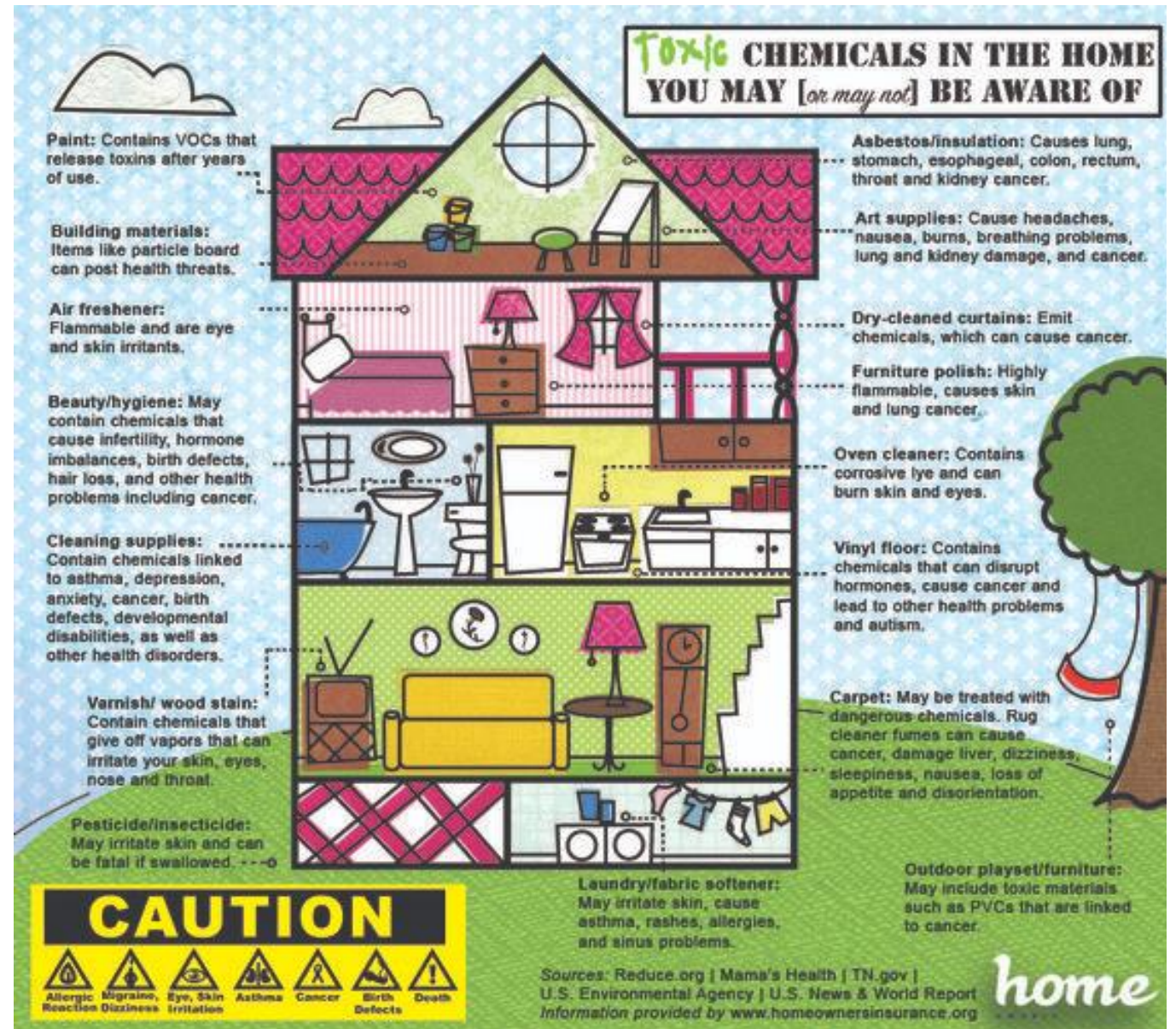
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Household tour

- Kitchen: cleaning products, water, food, insect sprays, VOC, detergent
- Bathroom: personal care products
- Bedroom: mattress, bedding, clothes – flame retardants, chemicals
- Living room: furniture with flame retardants, VOC paints
- Garden: pesticides, contaminated soil



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Plants absorb toxicity

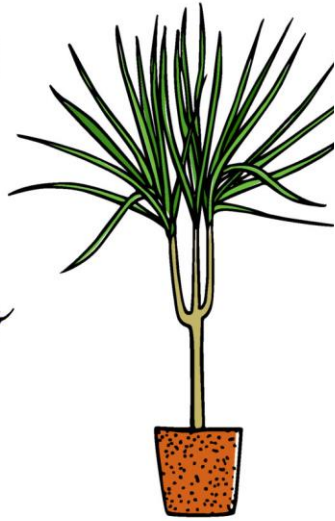
Best Air-Cleaning Houseplants



Rubber Plant



English Ivy



Dracena



Snake Plant



Bamboo



Peace Lily



Boston Fern



Aloe Vera



Spider Plant



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Remember

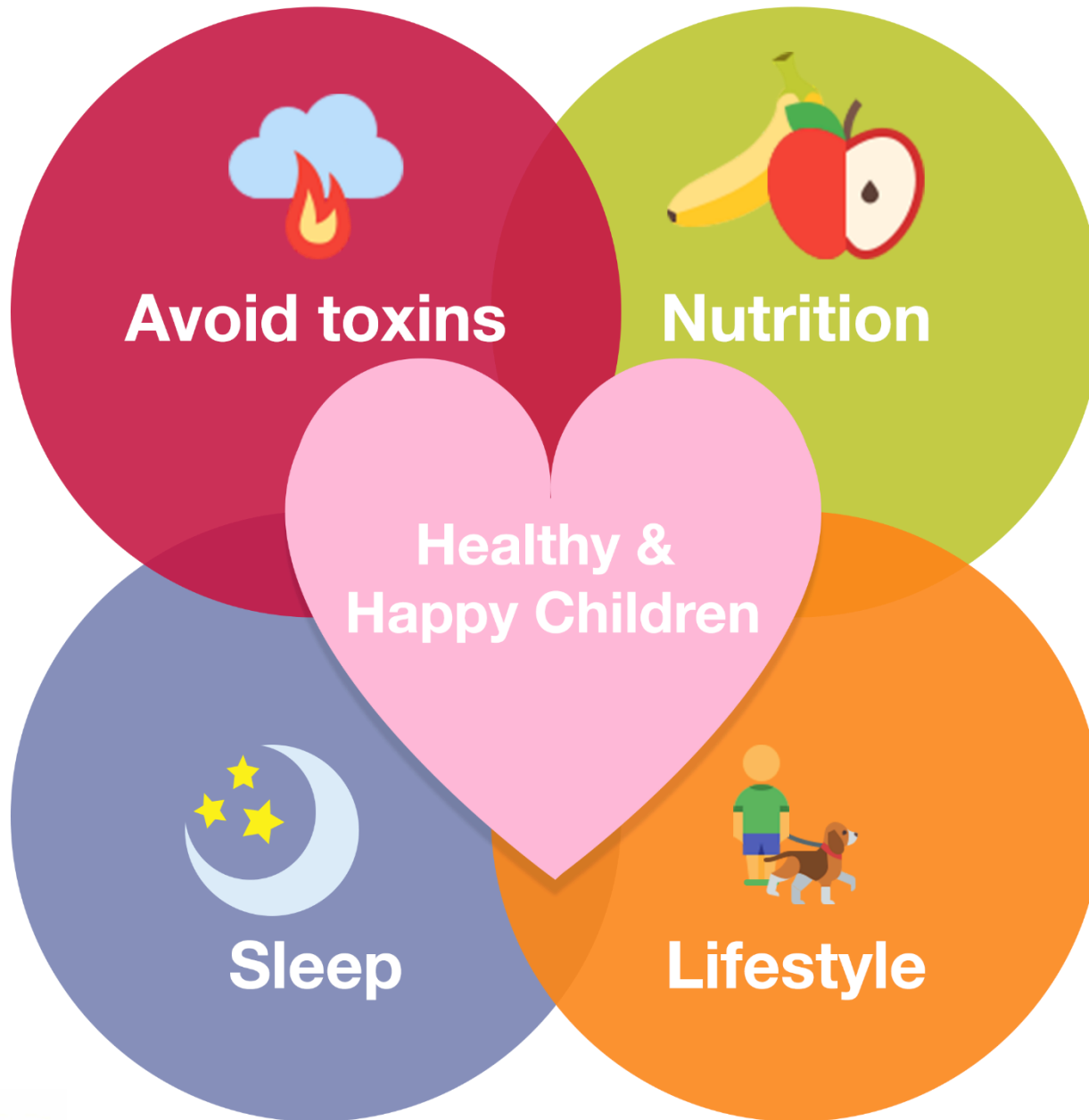
- Use non toxic cleaning products, detergents, body care products
- Open windows
- Take shoes off inside
- Avoid pesticides
- Use plants around the house
- Healthy bedding



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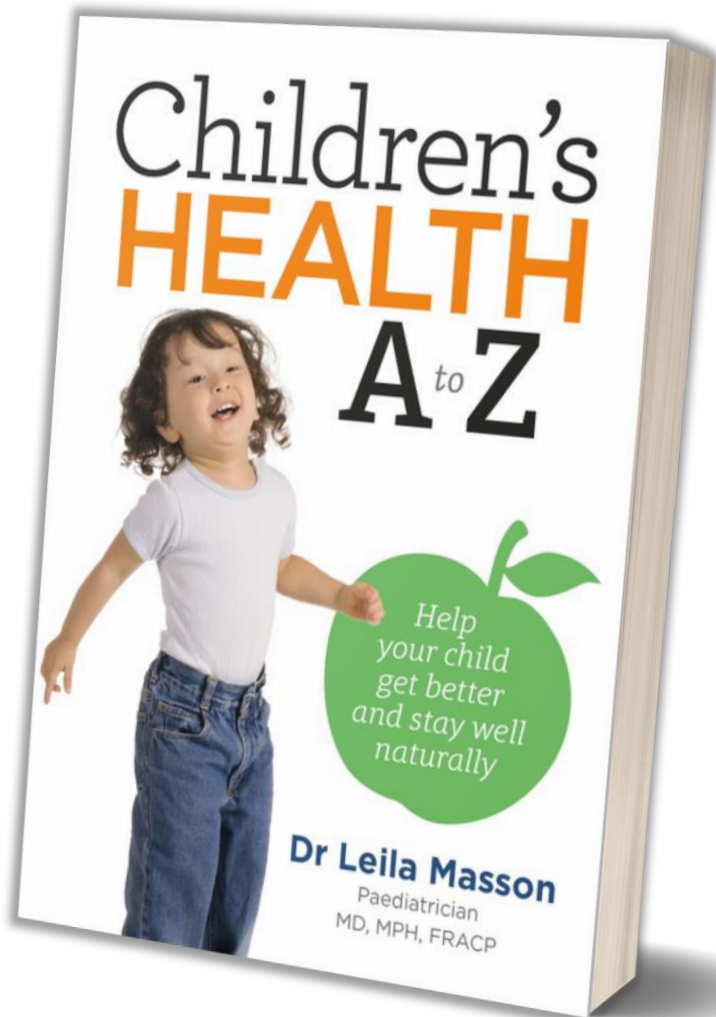
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My book

Children's Health A to Z



“A fantastic resource to have on hand. Great easy to understand advice and recommendations. A must-have!”



“Great book it is our bible in our house. If something is wrong with our children this is our first point of reference. Very easy to use and understand . Great present for a new parent.”



“This book is my go to every time our 3 children fall ill, its full of helpful remedies which really work and it is so easy to use and follow.”



“Incredible book -my go to for any childhood illness. Fantastic, knowledgeable advice. Easy to understand and follow. Highly recommend.”

Available at: Amazon, Fishpond and Bateman publishing



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