

**Hyperactivity, Trace Elements and
Homeopathy**



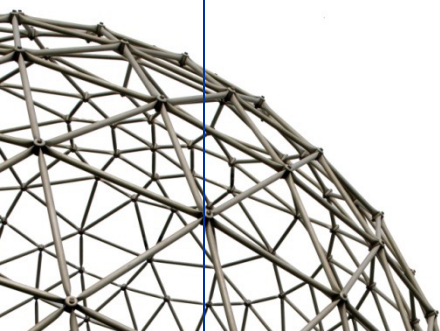
Hyperactivity, Trace Elements and Homeopathy

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Overview



- Early days of Hyperactivity (NIW)
- Hyperactivity and Homeopathy (EO)
- Trace Elements and Homeopathy and others (EO-NIW)
- Remedies in Argentina (EO, SM, NIW)
- Future Thoughts (NIW)

Hyperactivity



- Hyperactivity - a range of behavioural difficulties that have a negative impact on learning, memory, movement, language, emotional responses, and sleep patterns
- no single test for diagnosing hyperactivity
 - children tend to be over-active, unable to concentrate, prone to making sudden and often inappropriate decisions

What Causes Hyperactivity? UNIVERSITY OF SURREY

- we don't know the precise cause of ADHD
- there is evidence for a strong genetic influence
- differences in the brain activity of ADHD children compared to those of non-ADHD children, particularly in areas that regulate attention, concentration and impulse inhibition

(Simon H and Stern TA (2002) What causes attention-deficit hyperactivity disorder? Review available online on <http://Hyperactivity and artificial food colours>)

Feingold



- food could have an effect on children's behavior became popularized in the 1970s by allergist Benjamin Feingold, MD,
- Feingold diet - advocated a diet free of more than 300 food additives to treat hyperactivity
- Feingold BF (1977) Behavioral disturbances linked to the ingestion of food additives. **Delaware Medical Journal; 49(2):89-94, 1977**

Susan's Child

“As Susan served breakfast for Jimmy, her six-year-old son with attention deficit disorder (ADD/ADHD), little did she know that the tasty foods he was gobbling up — a blueberry muffin, a bowl of Fruit Loops, and a glass of Sunny D Citrus Punch — would worsen his ADHD symptoms, making him more **inattentive and fidgety**”



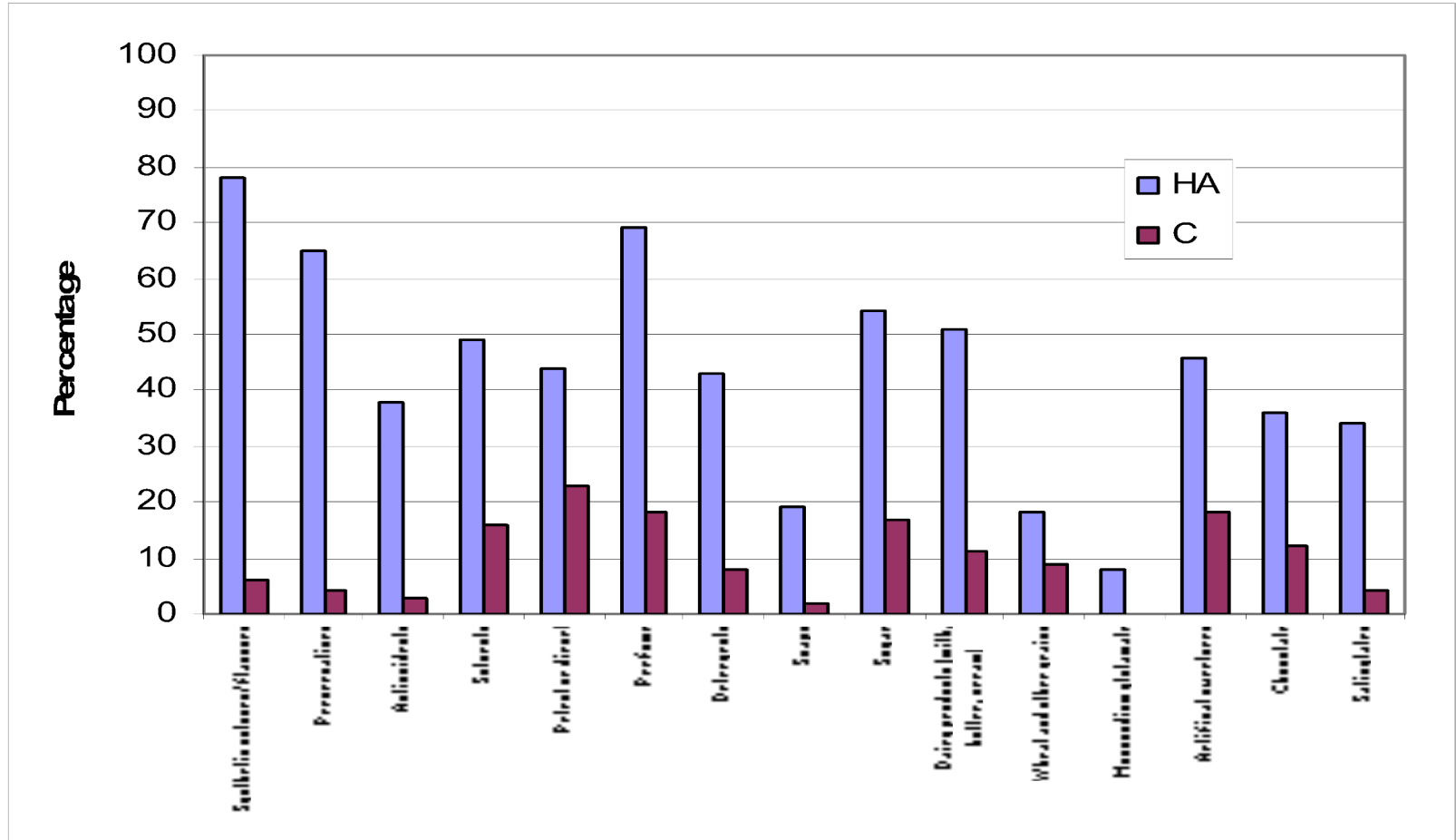
WARD (1997)



Ward, Neil I. Journal of Nutritional and Environmental Medicine, 7 (4), 333-342 (1997)

- questionnaire evaluation of 486 hyperactive children (HA) (82% boys, aged 7-13 years and 18% girls, aged 8-13 years)
- showed more than 60% of cases reported a positive behavioural response (i.e. increased problems) in relation to consuming or being exposed to synthetic colourings and flavourings, food and beverage preservatives, cow's milk and associated products, chemical detergents and perfume

WARD – UK HACSG



WARD (1997)



Trace element measurements

- showed **low zinc and iron** status is associated with hyperactive children when compared with control children for blood serum, urine and washed scalp hair ($HA < C$)
- many cases, hyperactive children also had very highly significant **raised levels of aluminium, cadmium and/or lead** ($HA > C$), particularly in urine and washed scalp hair samples

WARD (1997a)



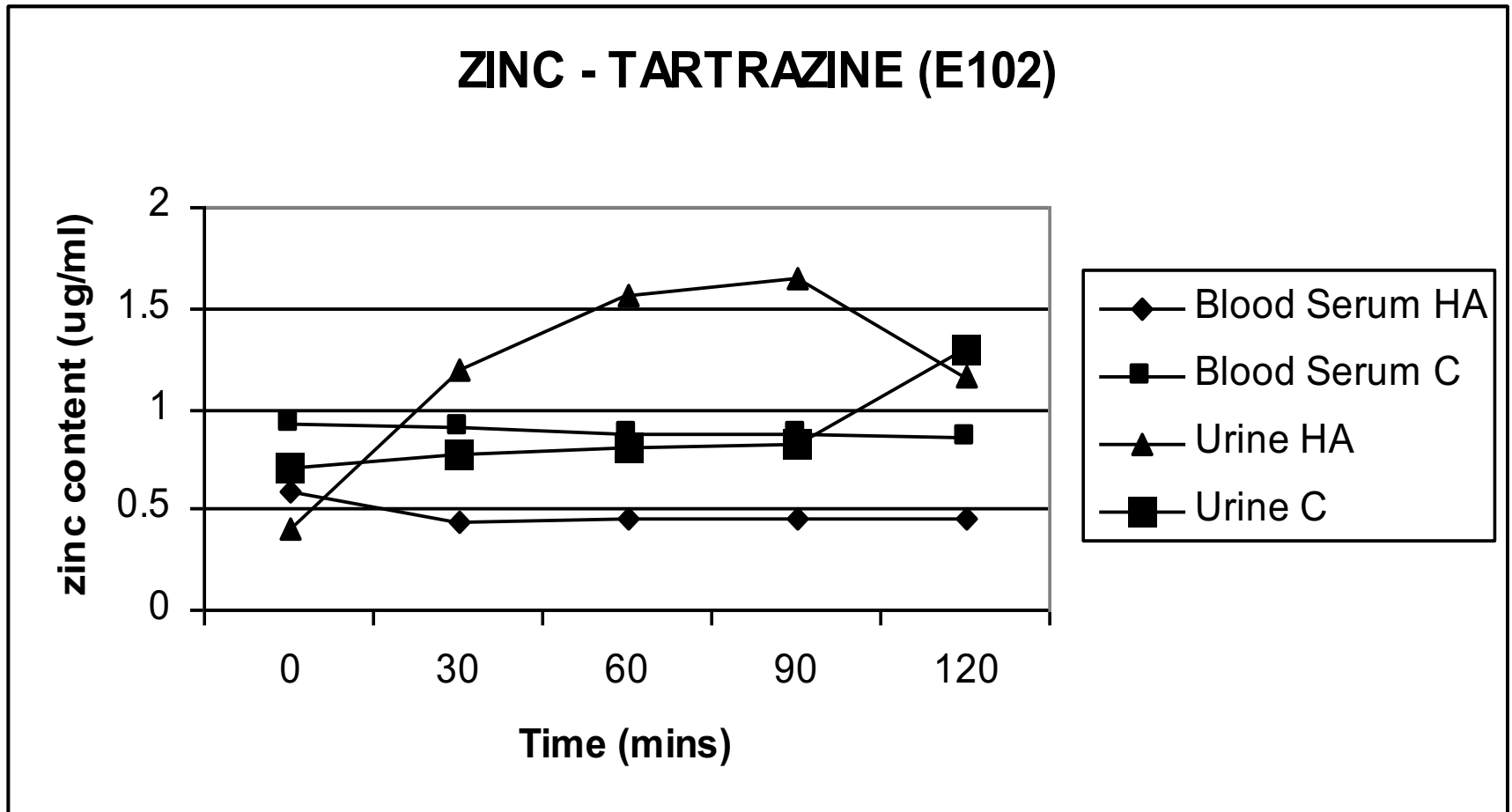
Hyperactive children with a known behavioural response

- consumption of a beverage containing tartrazine, E102 (n = 23), sunset yellow, E110 (n = 12) and amaranth, E123 (n = 12) were given a dose of chemical food colour (50 mg)
- zinc levels (blood serum and urine) and behavioural activity were monitored for 120 min
- sex- and age-matched control group was also studied.

only hyperactive children showed a significant reduction in blood serum zinc levels and an increase in urinary zinc output following the consumption of E102 and E110

Amaranth had no effect on their zinc status over the study time period

WARD (1997a) data



Elizabeth Oliver



- Introduction
- Background
- Special Interests – Homeopathy.....
- Trace Elements and Water Analysis (1992 onwards.....)

Early Studies on Welsh Water

1993 Llandudno Junction



- Water sample
- Showed very high levels of lead
value: 6.7 ppb Pb
Normal range: 0.1 to 2.5 ppb Pb
- Welsh Water contacted you, they had taken a sample, similar Pb value
- ‘suspect that the trace of lead ..from soldered joints in the water pipes...concentration will depend on how long water standing in the pipe’

Llanrwst 1993

Water and Hair Analysis

Elemental Content of Potable Water

Sample code: SJ

Llanrwst Wales

TAP Water supply

Element	Elemental Concentration		
	Reference Value	Reference Range*	Your Value
MAJOR : µg/mL			
Calcium Ca	31	19 – 42	32.7
Iron Fe	0.040	0.015 – 0.085	0.063
Magnesium Mg	2.8	1.7 – 6.4	2.49
Potassium K	6.5	4.0 – 9.2	6.68
Sodium Na	21.0	8.4 – 44.0	24.72
ESSENTIAL: µg/L			
Arsenic As	0.40	0.25 – 0.75	0.24
Chromium Cr	0.70	0.40 – 1.50	0.56
Cobalt Co	0.08	0.05 – 0.50	0.14
Copper Cu	4.0	0.5 – 10.5	3.2
Iodine I	4	2 – 8	3.6
Manganese Mn	0.4	0.1 – 0.8	0.64
Molybdenum Mo	0.5	0.1 – 2.0	0.22
Nickel Ni	1.5	0.4 – 3.5	1.8
Selenium Se	1.5	0.5 – 2.5	0.9
Tin Sn	0.5	0.3 – 1.5	1.1
Vanadium V	1.0	0.1 – 2.5	1.3
Zinc Zn	15.0	1.5 – 20.5	14.6
NON-ESSENTIAL /TOXIC: µg/L			
Aluminium Al	2	0.5 – 100.0	2.7
Bromine Br	50	20 – 450	72
Cadmium Cd	0.08	0.05 – 0.4	0.06
Mercury Hg	0.3	0.2 – 0.8	< 0.2
Lead Pb	1.0	0.4 – 2.5	3.5
Rubidium Rb	5	1 – 20	7.2

**Slightly high
Lead in
water..so do
hair analysis**

* 95% confidence interval of 'normal' potable water samples

Llanrwst 1993

Hair Analysis

Date:



OLIVER – TRACE ELEMENT HAIR REPORT
: Code: SJ 93

SJ Llanrwst Wales

Major Elements	Elemental Concentration (µg/g or mg/kg or ppm)		
	Reference Range	Reference Value*	Your Sample
Calcium	500 - 1500	800	674
Iron	15 - 30	20	16
Magnesium	30 - 100	40	38
Potassium	50 - 200	80	107
Sodium	50 - 450	100	114
Essential Trace			
Arsenic	0.08 – 5.00	0.80	0.09
Chromium	0.5 – 1.5	1.0	1.2
Cobalt	0.05 – 1.00	0.20	0.14
Copper	10 - 40	15	8.4
Iodine	0.05 – 0.50	0.20	0.24
Manganese	0.8 – 2.5	1.5	1.2
Molybdenum	0.05 – 1.00	0.20	0.17
Nickel	0.1 – 2.0	1.0	0.44
Selenium	0.5 – 4.0	2.0	0.71
Vanadium	0.05 – 1.00	0.20	0.08
Zinc	120 - 200	170	93
Non Essential Trace			
Aluminium	1.5 – 12.0	< 2.0	1.8
Cadmium	0.10 – 1.50	< 0.15	0.08
Lead	0.5 – 8.0	< 3.0	4.4
Mercury	0.1 – 5.0	< 0.2	< 0.1
Rubidium	0.1 – 1.0	< 0.5	0.27

* Reference values are dependent on several factors including age, sex and geographical location.

High Pb in water
High Pb in Hair
May cause low Zn,
Se and Cu

1993 to 2013.....



Many water studies involving raised levels
of: lead

copper

mercury.....

(‘radioactivity’)

Hair and nail samples showed link with
water problems

Solutions.....

Water Filters

Elemental Content of Potable Water

Sample code: Mrs G W

Colwyn Bay Wales

TAP Water supply

Element		Elemental Concentration		
		Reference Value	Reference Range*	Your Value
MAJOR : µg/mL				Tap Filtered
Calcium	Ca	31	19 – 42	37.2 2.1
Iron	Fe	0.040	0.015 – 0.085	0.112 0.01
Magnesium	Mg	2.8	1.7 – 6.4	3.8 0.03
Potassium	K	6.5	4.0 – 9.2	8.3 0.2
Sodium	Na	21.0	8.4 – 44.0	17.2 1.2
ESSENTIAL: µg/L				
Arsenic	As	0.40	0.25 – 0.75	0.12 <0.1
Chromium	Cr	0.70	0.40 – 1.50	1.12 <0.1
Cobalt	Co	0.08	0.05 – 0.50	0.17 <0.01
Copper	Cu	4.0	0.5 – 10.5	24.8 0.5
Iodine	I	4	2 – 8	1.12 <0.1
Manganese	Mn	0.4	0.1 – 0.8	2.18 <0.04
Molybdenum	Mo	0.5	0.1 – 2.0	0.32 <0.01
Nickel	Ni	1.5	0.4 – 3.5	1.12 0.04
Selenium	Se	1.5	0.5 – 2.5	0.34 <0.01
Tin	Sn	0.5	0.3 – 1.5	0.38 <0.01
Vanadium	V	1.0	0.1 – 2.5	1.92 0.06
Zinc	Zn	15.0	1.5 – 20.5	23.8 1.2
NON-ESSENTIAL /TOXIC: µg/L				
Aluminium	Al	2	0.5 – 100.0	4.55 0.3
Bromine	Br	50	20 – 450	27.3 1.2
Cadmium	Cd	0.08	0.05 – 0.4	0.06 <0.01
Mercury	Hg	0.3	0.2 – 0.8	<0.05 <0.01
Lead	Pb	1.0	0.4 – 2.5	2.55 0.02
Rubidium	Rb	5	1 – 20	3.23 0.05

**Tap: high Fe,
Cu, Mn, V, Zn
and Pb**

**Filter:
removes all**

* 95% confidence interval of 'normal' potable water samples

References



Kim Evans 'Cleaning Up! The Ultimate Body Cleanse' (www.cleaningupcleanse.com)

Stephen Davies and Alan Stewart;
'Nutritional Medicine' Pan Publishers,
1987

South America Studies



- protect Neil!
- Water, hair samples from Argentina
 - high arsenic
 - high fluoride, lead, uranium.....
- Remedies for 'Water for Life' schools and communities

Serena Macbeth



- Introduction
- Background
- Special Interests
- Remedies for Argentina water

Remedies for Argentina



Rio Negro

General Roca (agrochemicals, lead and aluminium in 'treated' water, low arsenic)

Los Menucos (high arsenic and fluoride; limited food/provided by government)

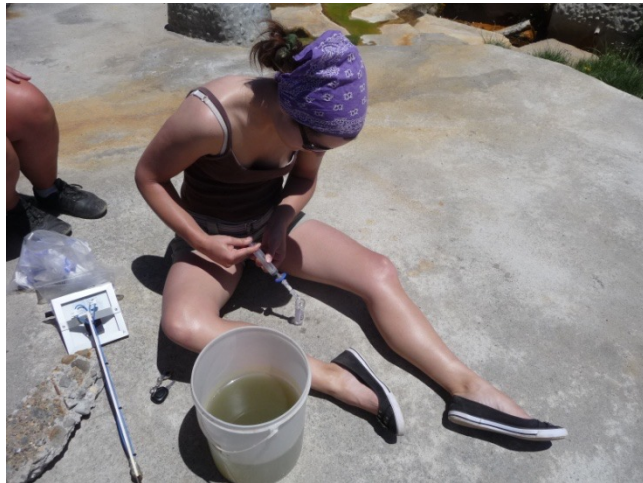
Neuquen

Copahue/Caviahue (volcanic, geothermal, high arsenic, vanadium, uranium...)

Rio Negro



Neuquen



Remedies for Argentina



La Pampa

Eduardo Castex (volcanic ash wells; high arsenic, F, vanadium, uranium...)

Santa Fe

San Cristobel (well/mixed sewage; high As, V, F, Cr.....)

Eduardo Castex



Remedies in Rio Negro



Escuela del Sur Hair Samples (WASHED):

Total Elemental Concentrations (mg/kg)									
Elements	Escuela del Sur 1	Escuela del Sur 2	Escuela del Sur 3	Escuela del Sur 4	Escuela del Sur 5	Escuela del Sur 6	Escuela del Sur 7	Escuela del Sur 8	Escuela del Sur 9
Iron	0.08	0.06	0.13	1.90	0.12	0.14	65.13	0.12	0.05
Lithium	5.1	73.9	6.8	14.8	6.8	7.3	5.9	11.5	73.48
Cesium	265.1	135.4	18.7	246.7	18.6	33.7	70.9	10.4	274.1
Barium	10.3	70.2	11.3	20.4	7.5	9.9	655.7	59.7	6.6
Strontium	576.6	369.5	469.3	530.1	298.3	272.4	491.1	436.2	585.7
Lead	0.05	0.24	0.17	0.13	0.09	0.20	4.15	0.05	0.03
Mercury	0.39	0.11	0.17	1.49	0.56	0.31	0.13	0.12	0.17
Manganese	0.55	2.69	1.32	0.79	0.32	0.25	0.67	0.38	0.53
Cadmium	32.3	43.1	146.9	17.1	47.5	9.9	4.4	4.6	5.4
Chromium	0.04	0.09	0.03	0.04	0.04	0.03	0.81	0.04	0.02
Cobalt	0.98	2.95	0.91	2.04	1.51	0.52	0.34	0.39	0.82
Copper	16.7	47.6	18.8	26.6	8.8	61.4	12.5	5.6	15.0
Zinc	136.0	151.8	233.8	130.9	158.7	87.7	267.4	95.9	131.5
Vanadium	0.08	0.64	0.06	0.02	0.05	0.03	4.73	0.06	0.04
Nickel	0.13	0.20	0.14	0.06	0.14	0.12	6.40	0.06	0.07
Chromium	0.09	3.90	0.06	0.11	0.09	0.13	238.8	0.04	0.52
Molybdenum	1.87	5.54	1.20	1.54	2.14	0.75	0.78	2.54	4.28
Selenium	0.03	0.19	0.03	0.22	0.04	0.03	3.57	0.04	0.05
Antimony	9.14	9.68	12.38	6.45	0.24	1.46	9.81	1.21	7.61
Lead	1.07	7.71	21.25	12.62	0.26	0.63	5.84	1.36	2.30
Mercury	0.09	0.04	0.29	0.02	0.05	0.04	0.37	0.04	0.05

Remedies for Rio Negro



- 4 schools and associated parents
- 3 General Roca, 1 Los Menucos
- Pre-remedies: hair/nail showed poor essential trace elements, some high As, F
- Diet and 'beverage' consumption problems
- Remedies applied via school classes

Post Remedies Rio Negro (1)



General Roca:

No change in Diet/Beverage Consumption

- n = 48 children, 22 adults
- Children 65% improvement
Adults 74 % improvement
- ?? ability to identify changes in health
- Nail analysis shows improved essential trace elements (adults decreased Cd)

Post Remedies Rio Negro (2)



Los Menucos:

No change in Diet/Beverage Consumption

- n = 21 children, 16 adults
- Children 77% improvement
Adults 52 % improvement
- ?? Diet status, other water sources
- Nail analysis shows reduction in As, V and Al levels: increased Cu, Zn, Se and Cr

Overview of Post Remedies in 3 Provinces



Location	General Roca	Los Menucos	Caviahue/ Copahue	Eduardo Castex
Children (n)	(48) 65%	(21) 77%	(12) 63%	(128) 65%
Adults (n)	(22) 74%	(16) 52%	(74) 78%	(23) 61%
Comments	No major Health problems	As, F problems Learning Difficulties	F problems Spa treatments	As problems farmers; teeth and stress/depression

Bottled Water

Elemental Content of Potable Water

Sample code: XXX Sparkling Spring Water

		Elemental Concentration	
Element		Your Value	Reference Range*
MAJOR : $\mu\text{g/mL}$			
Calcium	Ca	42.8	19 – 42
Iron	Fe	0.063	0.015 – 0.085
Magnesium	Mg	7.2	1.7 – 6.4
Potassium	K	2.3	4.0 – 9.2
Sodium	Na	42.5	8.4 – 44.0
ESSENTIAL: $\mu\text{g/L}$			
Arsenic	As	0.28	0.25 – 0.75
Chromium	Cr	1.22	0.40 – 1.50
Cobalt	Co	0.17	0.05 – 0.50
Copper	Cu	3.45	0.5 – 10.5
Iodine	I	2.1	2 - 8
Manganese	Mn	0.44	0.1 – 0.8
Molybdenum	Mo	0.23	0.1 – 2.0
Nickel	Ni	1.65	0.4 – 3.5
Selenium	Se	0.65	0.5 – 2.5
Tin	Sn	0.32	0.3 – 1.5
Vanadium	V	2.23	0.1 – 2.5
Zinc	Zn	21.2	1.5 – 20.5
NON-ESSENTIAL /TOXIC: $\mu\text{g/L}$			
Aluminium	Al	2.28	0.5 – 100.0
Bromine	Br	29.3	20 - 450
Cadmium	Cd	0.05	0.05 – 0.4
Mercury	Hg	0.11	0.2 – 0.8
Lead	Pb	3.22	0.4 – 2.5
Rubidium	Rb	8.38	1 - 20

* 95% confidence interval of 'normal' potable water samples

