

The Autism Epidemic & The Pill

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- www.harmfromhormones.co.uk
- Pub Med grant ec [AU]

Increases in incidence

- California 1987 - 1998
- *Autism Spectrum Disorder* 300%
- Cerebral palsy
- Epilepsy 3%
- Mental Retardation

“The Autism Epidemic”

Autism Spectrum Disorder (ASD)

Neurodevelopmental

Environmental toxins

Toxic metals

Oxidative stress

Maternal Pill (*Progesterone*) Use

Increase in ASD & toxic exposures

- DeSoto and Hitlan 2010 17 studies (4-5 each)
- Pockets of higher prevalence of ASD
- Increased rates of ASD associated with sources of contaminants
- ASD - Higher levels of neurotoxins
- ASD - Decreased detoxifying ability

ASD

Sajdel-Sulkowska 2011

Brain region-specific changes
in **oxidative stress** markers
3-NT(3-nitrotyrosine) and neurotrophin-3
Areas associated
Speech processing
Coordination - sensory & motor
Behaviour - emotional & social

Post-mortem 3-NT levels pmol/g

Controls	1.6 to 12.0
Autistic cases	1.7 to 281.2
orbitofrontal cortex	214.5
Wernicke's area	171.7
cerebellar vermis	81.2
cerebellar hemisphere	37.2

61 autistic children

Dr John McLaren-Howard

**Deficiencies - Zn Mg Cr Se Mn Cu Mb
B vits EFAs**

WBC DNA adducts

16	Malondialdehyde (from lipid peroxidation)	26%
12	Cadmium	20%
9	Nickel	15%
3	Mercury	5%
1	Lead	1.6%

Fall in Children's Zinc 1979 -1989

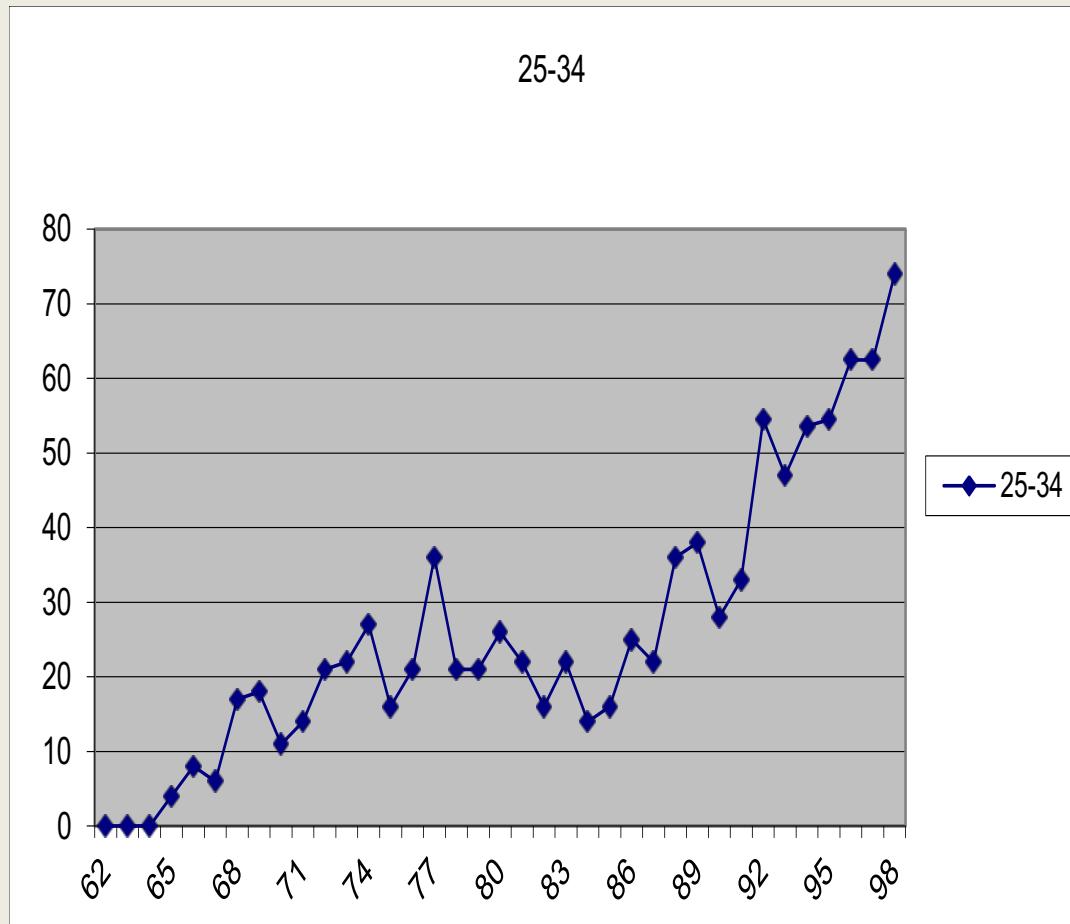
- 1979 150 Healthy Sweat Zinc 719 - 704 ug/l
- 1989 26 Controls 520 ↓
- 26 *Dyslexia* 358 ↓↓
- John McLaren-Howard
- 1971 10% of single women had used OCs
- *1981 95% used OCs before a First Pregnancy*
Effect children 1980s 1990s & onwards

Longer use of OCs before Pregnancies

• 1989 UK study	<i>Breast cancer by age 36</i>	
• OCs for ≥ 4 years	%	%
• Starting age	Br Ca	No
• Up to 18	80	71
• 19-21	71	61
• 22-24	57	48
• 25+	50	30

Figure: **% increases 1962 - 1998** in annual *Breast Cancer* registration rates in **England & Wales** with more hormone use

- Age group **25 -34**



Why ↑ Autism 1987 - 1998?

↑ Progesterone use

Genotoxic

- Cancers Developmental disorders
- Current and Longer use
- *Before a First Full Term Pregnancy*
- *In Pregnancy* - fertility treatments
- miscarriage prevention premature labour
- ↑ Breast Cervix Ovary Lung Cancers

The “PILL”

- *Progesterone* - like actions
- Cream jabs implants depots IUDs
- RCGP –world’s largest Pill study
- *Mortality in young women* ↑ 300%

Enzymes altered by Progesterone ↑

- **Oxygen metabolism**
- **MAO Mono amine oxidase** depression ↑
- **COMT Catechol- O- methyltransferase** pain ↓
- **Alkaline Phosphatase** osteoporosis ↓
- **SOD Super oxide dismutase** Zn Cu Mn ↓
- **GPx Glutathione peroxidase** Se ↓
 - oxidative and antioxidative capacity modulated by sexual steroid hormones
 - mediated through antioxidant metabolizing enzymes

Dr John McLaren-Howard

Women

Nickel

Lindane -estrogen

27 Age & Sex matched

Malondialdehyde

Nickel

	<u>DNA adducts</u>	WBC
	OCs/HRT	Never?
	356	182
Nickel	12.5%	7.1%
Lindane -estrogen	8.7%	5%

	Cancer Cases	Controls
Malondialdehyde	18.5%	3.7%
Nickel	18.5%	0%

Genotoxic damage

- ***Progesterins*** - acting like xs **Progesterone**
- Animals - **Chromosomal aberrations** Sister chromatid exchanges
Vitamin C prevents
- In vitro - **Free oxygen radicals** Siddique 2005
- In women - **Mitochondrial dysfunction** Ni/Lindane
TL gene ATP →ADP blocks x2 + P McLaren-Howard 2006
- **ASD** ***Mitochondrial gene dysfunction***
mDNA over-replication & deletions Giulivi 2010

The AUTISM Epidemic & the Pill

- ↑ Genotoxic hormonal contraceptives
 - ↑ Maternal ↑ ASD mitochondrial dysfunctions
 - ↑ Maternal ↑ ASD DNA toxic adducts
- Children always inherit maternal mDNA
- ASD ↑ susceptibility to damage ↓ detox
- Replete deficiencies and remove toxins
- Non-hormonal contraception