

The Effect of Endocrine Disrupting Chemicals



Healthy
Hormones

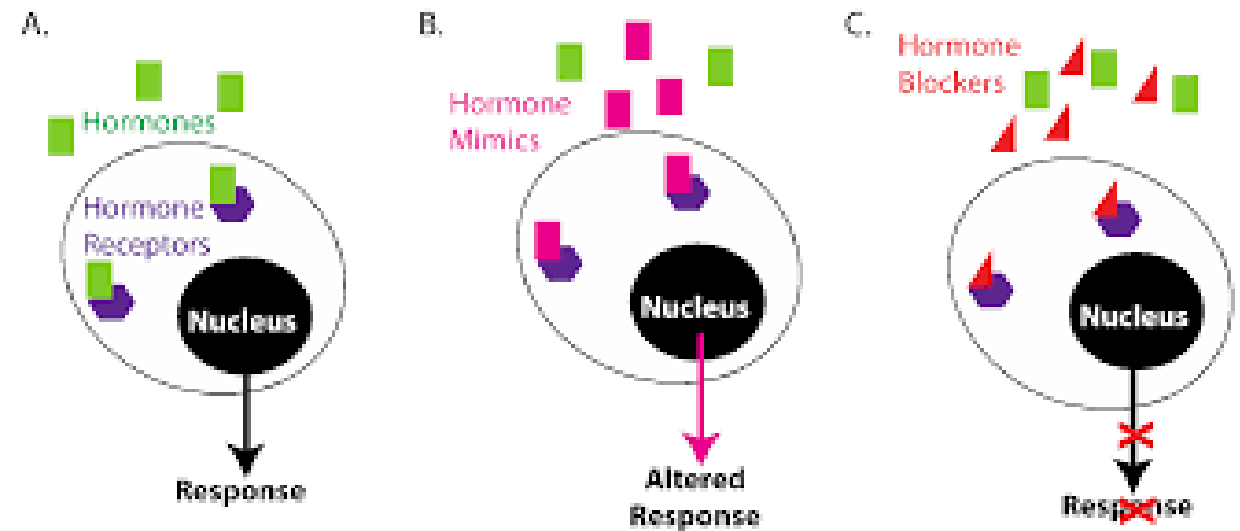
Disrupting Hormones

- Based on what you might read, you may think this a huge concern for an individual client
- The truth is that most people with hormone problems do not have them because of chemicals in the environment



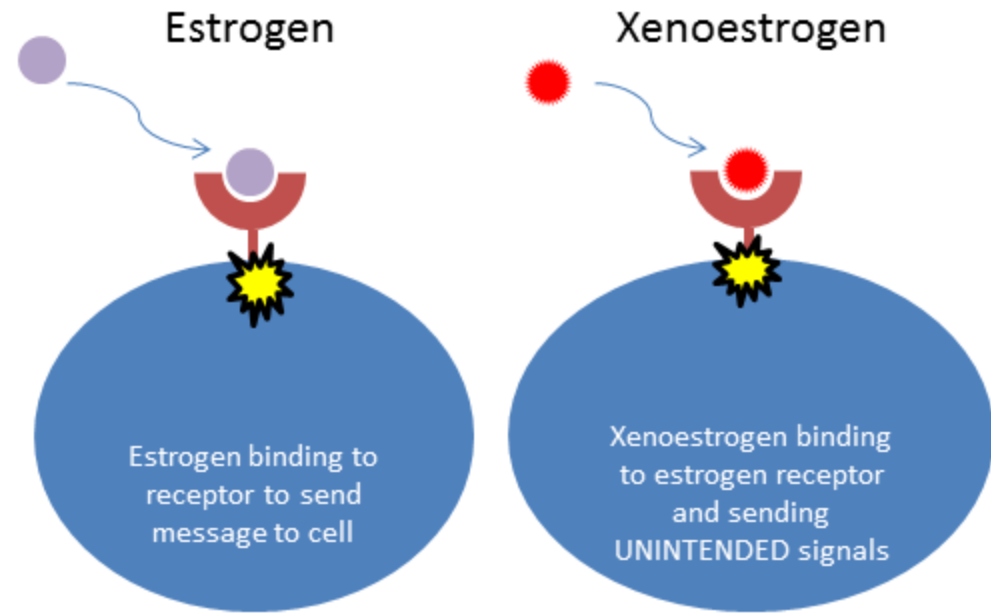
What Are Endocrine Disruptors?

- There are many chemicals in our food, environment and household items that are known as endocrine disruptors
- Essentially they are chemicals that mimic or partially mimic hormones such as estrogen, androgens, thyroid hormones
- Some also block hormone function



What They Can Do

- The chemicals can give a signal that is stronger than the real hormones but in most cases the exposure is too small
- They can bind to a receptor cell for a hormone and prevent the real hormone from binding
- They can also block how the hormone or the receptor function



The Issue

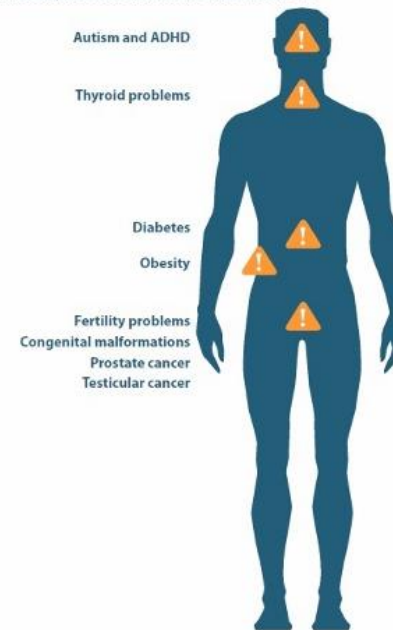
- There are 800-1000 endocrine disrupting chemicals in the market place
- The amount of exposure is low
- The question is whether there is a cumulative effect over time
- Removing as many of the chemicals from the clients environment is helpful



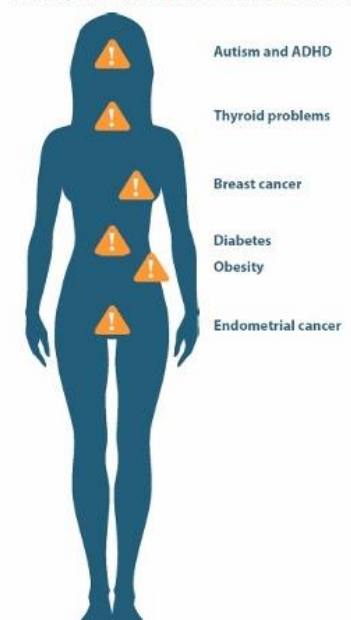
EDC's

- Endocrine Disrupting Chemicals
- Gonads, thyroid, adrenals, pancreas, pituitary
- Body fat, muscle, heart, liver, intestines and kidneys also have secondary endocrine functions and produce hormones

The Endocrine System:
Health problems for men related to EDCs?



The Endocrine System:
Health problems for women related to EDCs?



Pesticides

- There are a number of organophosphate pesticides and dioxin that act as hormone disruptors
- Again, exposure is small but they affect a number of hormones (not just xenoestrogens)
- The question is whether there is a cumulative effect
- They are affecting the environment



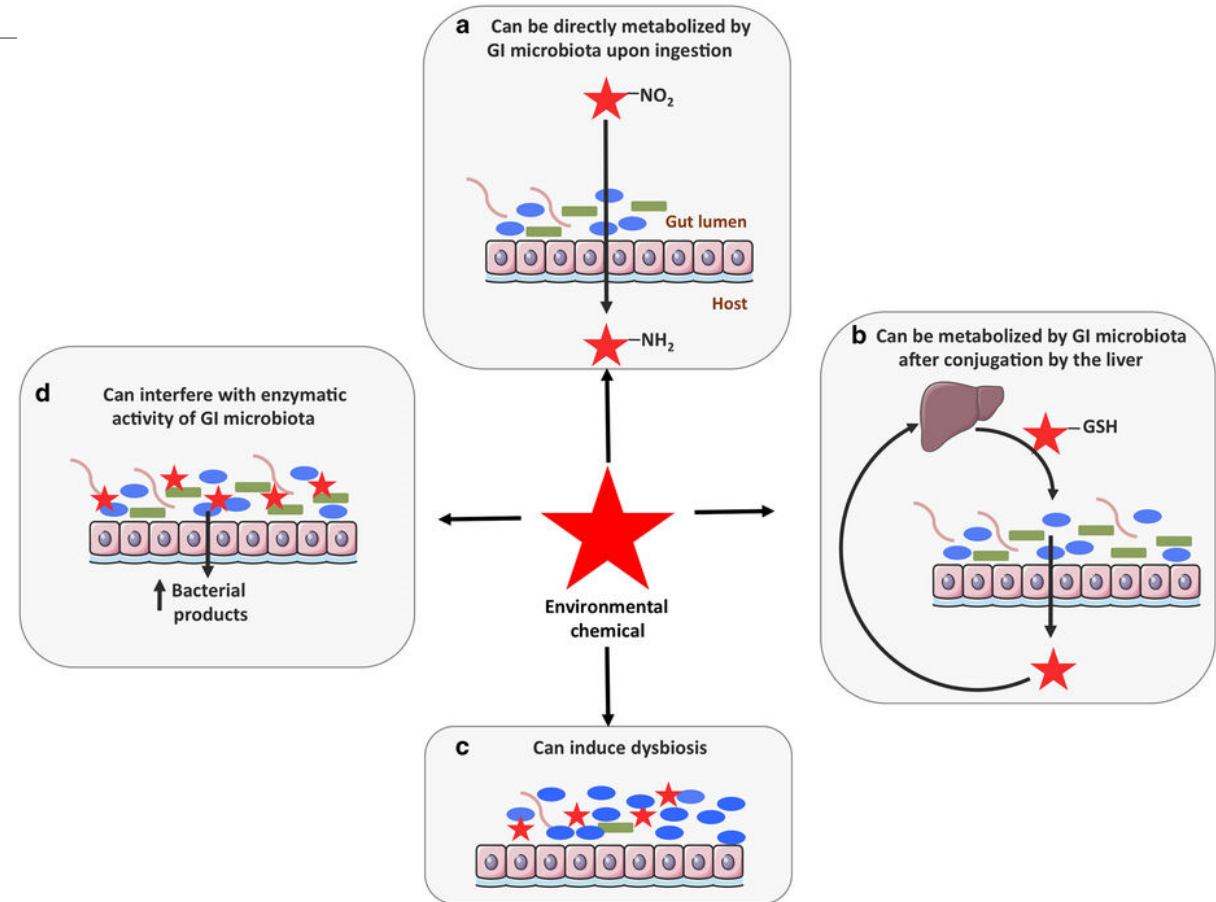
Pesticides

- Studies are indicating reduced sperm counts in birds and animals
- [The Disappearing Male](#) – documentary looks at world wide decrease in the level of boys
- Linked to areas where more toxic waste is prevalent
- Pesticide List (see handout)



Pesticides

- Exposure to chlorpyrifos has been shown to decrease good bacteria and induce dysbiosis in adult rats
- Research is also showing good bacteria play a role protecting us
- This includes aiding detoxification but pesticides can also interfere with them



Health Conditions

- Autism, ADHD, Alzheimer's, Parkinson's:
- Harvard study - children with pesticide breakdown materials in urine were far more likely to have ADHD than kids without the trace pesticide residues.
- Cancer – many studies -link pesticides to many types of cancer – thyroid, lymphoma, brain, breast, prostate, bone



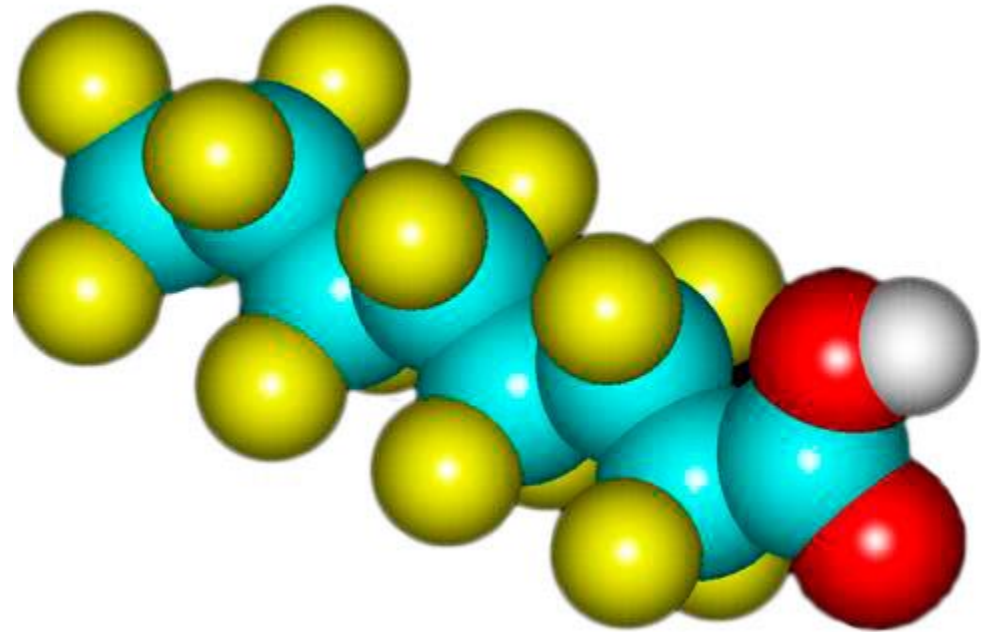
Health Conditions

- Over weight people with higher levels of pesticides in their bodies - higher risk of developing type 2 diabetes
- Memory, long –term planning, speed of information processing
- Food allergies – due to gut issues
- Infertility and birth defects
- Obesity – block hormones



PFAS

- Poly-and perfluoroalkyl substances (PFAS) used to create non-stick, stain-resistant, and water-repellant surfaces
- They are toxic and do not break down easily, both in the body and in the environment.
- Research has found trace PFAs in water near industrial sites
- It is a world-wide concern



Phthalates

- A group of chemicals that make plastic flexible.
 - Think about where plastic can be used in packaging or container
- They show up in surprising places



Phthalates

- All plastic containers
- Vinyl toys,
- Shower curtains,
- Wallpaper
- Vinyl miniblinds,
- Food packaging, plastic wrap.
- Containers for cosmetics, lotions, toothpaste
- Building materials such as solvents
- Vinyl flooring,
- Wood finishes
- Plastic plumbing pipes
- Detergents and adhesives such as glue and tapes
- Medical devices and plastic fluid bags
- Cash receipts

Bisphenol-A (BPA)

- Also makes plastic soft
- Originally designed to be an estrogen replacement for menopausal women
- Has the potential for widespread disrupting of hormones because of everyday exposure
- *Bacillus pumilus* strain found in kimchi, combined with beef extract and yeast degraded BPA
- BPA-Free may still contain endocrine disrupters



BPA and Phthalate Issues

- Linked to asthma, allergies (observational studies)
- Immune system issues – pre and post natal
- Other respiratory issues
- Other Developmental issues in small children – no specifics
- Obesity – hormone disrupters
- Environmental repercussions



Cosmetics

- Parabens – (many types) preservatives
- Triclosan – found in antibacterial soap, toothpaste, cleaning cloths, cutting boards – thyroid and estrogen disrupters
- Resorcinol – Hair dyes , topical treatments for acne and other skin conditions – affect thyroid
- Plus plastic containers etc.



Other Endocrine Disruptors

- Perchlorates: Uses in rocket fuels, found in our water supply
- PDBEs (flame retardants) found in humans and animals
- Atrazine – Herbicide used on corn crops- found in water
- Heavy metals– also interfere with hormones (possibly excess zinc and manganese)
- Glycol ethers – cleaning products and paints
- Glyphosate – herbicide (Round-Up)



What To Do?

- Eat organically
- Look for food that is not packaged in plastic
- Buy bottled water in glass, not plastic
- Use a combination of vinegar, baking soda, essential oils, natural soap for cleaning products



What To Do

- Use pure soap
- Don't handle case register receipts if possible

Store food in glass containers

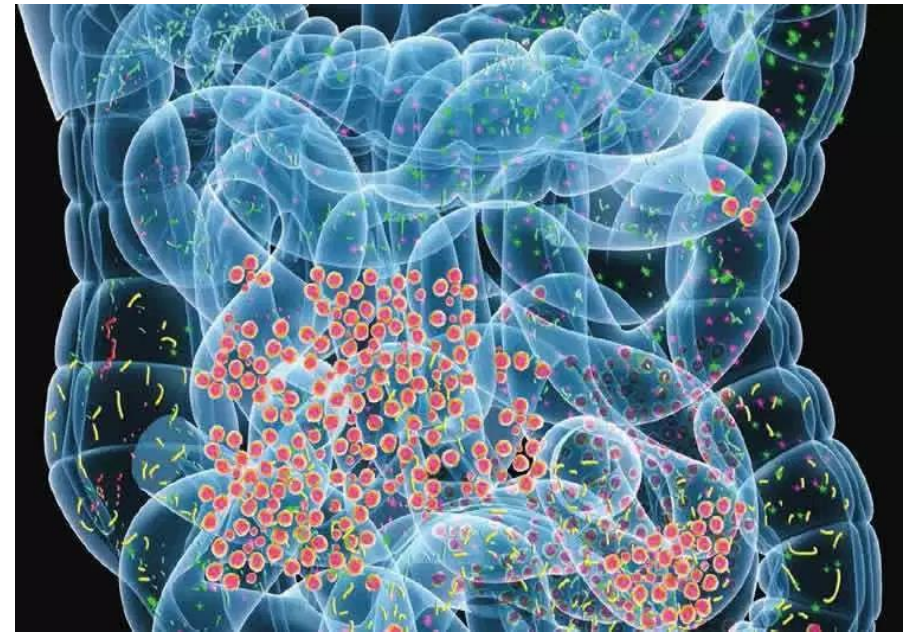
Support the liver detoxification pathways daily

Support gut health which aids detoxifications process:



How?

1. By helping directly the function of Phase I and Phase II detoxification pathways of the liver and bile production
2. The gut bacteria have their own ability to detoxify and remove chemicals before they enter the body
3. Good gut bacteria ensure liver conjugates leave



What To Do

- Clean water source – Black Berkey
- Only use reverse osmosis if re-mineralizing
- Check EWG link for resources for clean cosmetic and cleaning products options
- <https://www.ewg.org/skindeep#.WiNaDLanGM9>



In Summary...

- The goal is simple – limit exposure as much as possible
- Support the detoxification process
- Don't overwhelm the client or freak them out
- Start slow with suggestions – the key is to get them on board with the concept

