

Let's talk about *Xenoestrogens*

The word itself - 'Xenoestrogen' - sounds unpalatable doesn't it?

However the subject of xenoestrogens is currently quite a popular hot topic in the media. Read on and we will try and clarify the current debate. Dr Daisy Mae writes.

Please note - right at the onset of this article I would like to state - this may well be an interesting topic - but - there is really no need to panic!

What are xenoestrogens?

By definition, xenoestrogens are chemicals, which are not produced in the human body, but have estrogen-like effects.

It is important to note that not all xenoestrogens are harmful.

- **Natural xenoestrogens** include for example plant based estrogens, known as phytoestrogens. A diet rich in phytoestrogens is often recommended in peri/post menopausal women.
- **Synthetic xenoestrogens** include for example ethinyl estradiol, the most common type of estrogen in the Combined Oral Contraceptive Pill. The Combined Pill has been shown overwhelmingly to have huge advantages for female health.

Now let's also not get confused - **Hormone replacement therapy (HRT) does not contain xenoestrogens.** The estrogen in most HRT products - is a natural estrogen, chemically identical to the estrogen produced by the premenopausal ovary.

So this article - surprisingly - is not really about HRT at all! - but it is all about hormones.

So what is the xenoestrogen debate all about?

This debate concerns a third group of synthetic xenoestrogens. These are industrially manufactured chemicals, which have been shown in laboratory tests to have some degree of estrogenic activity.

These substances are present in pesticides, food crops, plastics, cosmetics and fragrances. This list is not exhaustive, but here are some examples. Biphenol Acetate (BPA) is found in plastic bottles, cans and food packaging. Phthalates, are plastic softeners found in soft plastic tubing, in wall and floor coverings, as well as in cosmetics and perfumes. Polychlorinated biphenols are present in insulants and coolants. Endosulfan is an insecticide. Atrazine is a pesticide sprayed on crops.

Why should we be concerned about these synthetic xenoestrogens?

Some protagonists have suggested that these chemicals leach into the body either through our food, absorption through the skin or simply breathing them in. A good example is BPA, which is present in canned food. Every

time you use a can of food, you will be ingesting tiny amounts. Another good example is food heated in a plastic container in a microwave. The theory is that each time this happens, you will be ingesting some EDCs which have leached out of the plastic and into the food.

So why does this matter?

Xenoestrogens are often called by another name - Enzyme Disrupter





Chemicals – or EDCs. They are said to mimic natural hormones, by activating estrogen receptor sites, and then either stimulating or inhibiting the production of other hormones. The idea is, that by using plastic etc... we are inadvertently stimulating our estrogen receptors and living under the influence of too much hormone. This, it is postulated, might be adding to our risk of modern diseases, such as cancer.

What's the evidence EDC's are harmful?

Here's the good news - so let's get this into perspective.

1. There is no strong research evidence to support this theory.
2. All the research that exists has been done in rats and monkeys and cannot prove causation in humans. **There is no conclusive evidence that these substances really are dangerous in humans.**

However, it is always important to consider the environment decisions with great care. Moreover, it is not as simple as simply refusing to use these types of products. How many EDCs did I come into contact with, for example, just taking a shower this morning!

With any product, before condemning it's use, it is always vital, to weigh up carefully the health benefits of a product against the risk of harm. Consider flexible plastic tubing used in hospitals to give sick patients intravenous fluids and blood transfusions. This is a life saving product. It would be nonsensical to discontinue using it without overwhelming evidence it was harmful.

Some protagonists of this xenoestrogen theory, have suggested we should all be doing everything we can to avoid our exposure to EDC's – and to estrogen. They are quick to blame some of the problems we face today, such as the global increases in numbers of cancer diagnoses etc... on our exposure to EDCs. But in truth, at present there is not enough known about this issue to make any firm decisions on a public health basis. There are however

• BPA can be found in plastic bottles.



Winter 2017

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many other environmental factors that are known to be far more closely associated with disease such as obesity, alcohol and smoking.

We know, from working in the specialist area of menopause care, just how important estrogen is a hormone.

Estrogen is not a poison. It is a hormone which is naturally produced by the female body, and is responsible for breast development, egg production, fertility, bone and cardiovascular health, and general well being. It is not as simple as agreeing with the theorists that we should all avoid oestrogen. Many patients are attending their doctors' surgeries or menopause clinics precisely because they are suffering the effects of estrogen loss.



• Estrogen makes us the women we are today.

Some nutritionists have written articles claiming that estrogen dominance is a modern day health condition, and advising a lot of self help measures to reduce our every day exposure to estrogens/EDC's. These measures actually come as no surprise: loose weight, drink less alcohol, eat whole grain foods, avoid tinned and processed foods, eat organic, increase vegetable intake, wash fruit and vegetables before use. This is generally accepted as advice for good health, irrespective of xenoestrogens.

This xenoestrogen controversy has left the media to conclude that by prescribing HRT in the menopause world, we are increasing, not decreasing, our patients exposure to estrogen and that this is harmful. I have already summarised just some of crucial hormonal effects of estrogen in women. Estrogen makes us the women we are today.

This is not the first time there has been an emerging health conundrum, for which there is no immediate answer. But should we take note of this, or can we safely ignore it? Which authority could give us advice and direction? Can I still use my shower products in their squeeze bottles, or wrap my baked potato in cling film?

The Endocrine Society, the largest global endocrine organisation, did review the most up to date evidence on this topic and issued a statement in 2015.

Their statement "Called for better regulation, substantive research and emphasised the need for precaution and prevention until a definitive opinion is agreed."

'Precaution and prevention?' They don't elaborate on this.

- I think there will be a lot more to follow with this debate, and we will watch and wait with interest.