

- UNDERSTANDING - The Endocrine System

The Endocrine System is the body's mechanism for controlling hormones – which control a number of essential bodily functions, including growth and development. Here's how it works...

Pituitary:

the body's master gland, producing the most hormones and controlling other endocrine glands.

Hypothalamus:

controls the nervous system.

Thyroid and Parathyroid glands:

maintain levels of calcium and phosphate in the blood – essential for the functioning of nerves and muscles.

Pancreas:

regulates blood sugar levels, insulin and glucagons.

Adrenal glands:

manufacture adrenalin, noradrenalin and dopamine.

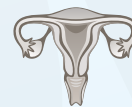
Testes:

in males produce sperm cells and sex hormones.



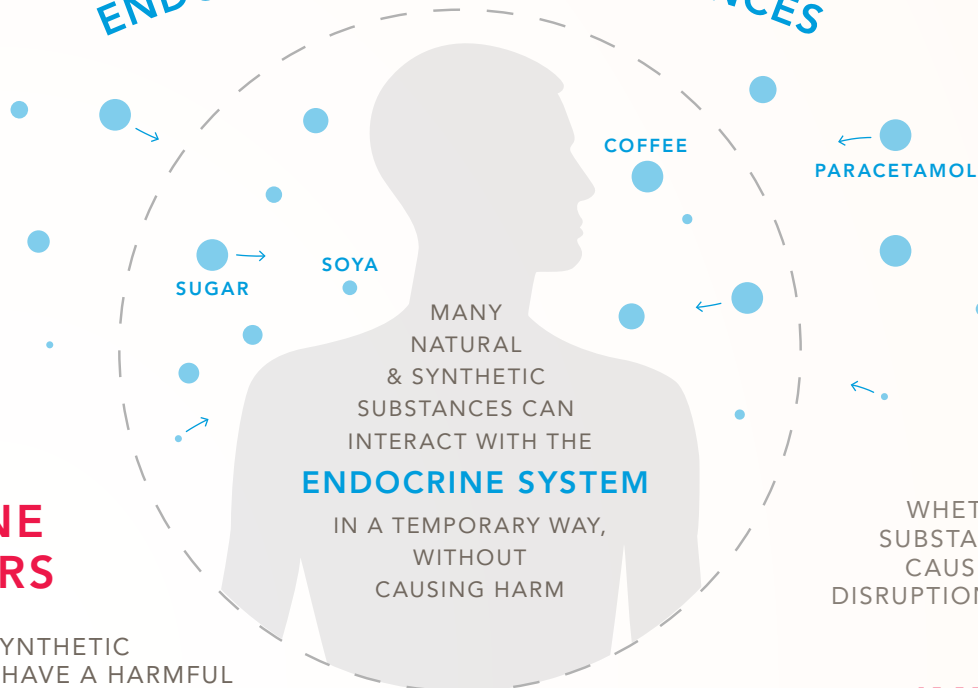
Ovaries:

in females, produce egg cells (ova) and sex hormones.



Endocrine Activity and Endocrine Disruption

ENDOCRINE ACTIVE SUBSTANCES



ENDOCRINE DISRUPTORS

ARE NATURAL OR SYNTHETIC SUBSTANCES THAT HAVE A HARMFUL EFFECT BY ALTERING THE FUNCTIONING OF THE HORMONE SYSTEM, CAUSING IRREVERSIBLE CHANGE OR ILLNESS.

WHETHER OR NOT A SUBSTANCE ACTUALLY CAUSES ENDOCRINE DISRUPTION DEPENDS ON

TWO IMPORTANT FACTORS:

According to the WHO:

"An endocrine disruptor is an exogenous substance or mixture that alters function(s) of the endocrine system and consequently causes adverse health effects in an intact organism... A potential endocrine disruptor... possesses properties that might be expected to lead to endocrine disruption in an intact organism."

(http://www.who.int/ipcs/publications/new_issues/endocrine_disruptors/en/)



How **Potent** it is.

A measure of a substance's strength: at similar dosages, a highly-potent substance produces a greater effect than a substance of low potency.



Exposure to the substance:

the levels **or dose** to which humans and the environment come in contact with it.

BOTH FACTORS ARE CRITICAL AND SHOULD BE TAKEN INTO ACCOUNT WHEN CONSIDERING THE POTENTIAL FOR ANY SUBSTANCE (BOTH NATURAL AND SYNTHETIC) TO CAUSE HARM.

IT'S THE DOSE THAT MAKES THE POISON

MANY SUBSTANCES THAT ARE VITAL IN SMALL AMOUNTS CAN BE LETHAL IN

LARGE DOSES

The body needs Salt, but



57g

is considered a fatal dose for a child.

Pears naturally contain



Formaldehyde

which can kill in large doses

CONCLUSION:

THERE IS LITTLE RISK FROM THESE SUBSTANCES AT THE NORMAL DOSES WE CONSUME.