

Certified Fertility Counselor Course-Session 10- What Can Harm Fertility

The wrong choices

So much we do can harm our fertility. When we look at the reality of it, between environmental factors, bathroom products, electronics, and foods, it makes you wonder how anyone conceives. However, this might be the reason why infertility is on the rise. Over time with all the bad put into our bodies, it's going to build up and congest our systems. Sometimes you can't help environmental factors, and it's hard to avoid every little thing like plastics, but by having a key essential healthy raw food diet, you can at least counteract some of the bad with a lot of the good.

In men there are a few things that can harm sperm count, quality, and quantity.

High temperatures of sperm cells: The cells will not develop or function well if their temperature is higher than 93F degrees despite the body's normal core temperature being 98.8F degrees. Spending a long time in the sauna, Jacuzzi or hot bath can cook sperm cells. Long distance driving also heats the scrotum.

Stress: Stress also affects sperm, especially associated with long hours and a poor diet. Constant stress results in the body fighting on all fronts to get blood to the heart, lungs and brain. Since energy is needed to make sperm, if it is diverted to other parts of the body, sperm production suffers.

Alcohol: Alcohol has a lot of negative effects on male fertility including interfering with the secretion of testosterone, speeding up its conversion to estrogen, lowering sperm count and reducing the sex drive. So does smoking, which doubles the number of free radicals produced in the body every second, reduces sperm count and motility, but also increases sperm abnormalities and genetic defects.

Drugs: The active ingredient in Marijuana, is chemically related to testosterone and tends to build up in the testicles lowering libido and causing impotence.

Prescription and Nonprescription Drugs: These also interfere with male and female fertility. Some are toxic to eggs and sperm. Here are some to be aware of;

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| Painkillers- Nonsteroidal anti-inflammatory drugs (NSAIDs) such as ibuprofen (Midol is one), with heavy use will stop ovulation. |
| Steroids- drugs such as cortisone and prednisone can prevent the pituitary gland from producing hormones for ovulation |
| Acne relief agents- Accutane has been linked to miscarriages and birth defects. It's best to stay away from anything with Accutane. |
| Anti-vertigo agents (morning sickness pills) dries cervical mucus |
| Antidepressants- all antidepressants can interfere with changing hormones |
| Antimalarial pills- linked to abnormalities in embryos |
| Antihistamines- these are used usually in cough or cold medicines. They can dry up fertile cervical mucus. |

Drugs to avoid:

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| Antibiotics |
| Antihistamines |
| Inhalers |
| Sleeping pills |
| Prozac |
| Antiviral drugs |
| decongestants |
| anti-hypertensives |
| antimalarial pills |
| painkillers |

Dietary Dangers

Dietary mutagens can be caused by pyrolysis, which is a process that occurs when foods (especially proteins) are cooked at high temperatures (such as using microwaves). Pyrolysis adversely affects eggs and the genetic material they contain.

This damaging effect increases if food is cooked in unsaturated fats heated over 212F degrees, such as grilling, frying, roasting and microwaving. Many of the harmful substances produced by this pyrolysis of protein can be destroyed in the digestive tract, especially in the presence of dietary antimutagens, however some are absorbed and penetrate all the body's systems.

Other factors can increase the damage caused by mutagens, including having low nutrient levels in the body such as vitamins A, B1, B2, B5, B6, B12, E, Folate, and vitamin C, and minerals such as zinc, magnesium, selenium, and fatty acids.

What about flavorings and additives which appear in nearly every type of food or drink? While about 30-40 years ago our foods came from obvious sources, many foods today however are chemically created or vastly treated. Literally several thousands of additives are used in food processing, but yet only just a few appear on food labels. For instance, Sulfur dioxide is a preservative that enhances the color of dried apricots. In fact it's nearly almost in every product as a preservative. Even a small amount of sulfur can have a negative effect if you're sensitive to it. If you have asthma, it can cause serious health issues. It's best to try and stay away from as many as possible, as not all of them have been fully tested.

Salt can also cause an imbalance in hormones, especially if amounts are very high.

Aspartame is another one, which is found in sweeteners, sodas, gum, and normally in foods or drinks labeled as "diet" or "sugar free". When temperatures of aspartame exceed over 86F degrees, (and which when ingested it does), the wood alcohol in it converts to formaldehyde (a poison that's used to preserve body parts) and then to formic acid, which is highly toxic.

Aspartame obviously has an adverse effect on every stage of the reproductive process and can cause miscarriages by triggering an immune response that could destroy the fetus.

Monosodium Glutamate (known as MSG): This is found in a lot of Chinese or Mexican restaurants and prepared foods. MSG is an amino acid found in a lot of flavorings for foods. In several studies, it was shown that it causes infertility in rats. Rat's reproductive systems are just like humans. MSG is known as an excitotoxin, a substance which overexcites cells to the point of damage or death. Studies show that regular consumption of MSG may result in adverse side effects which include depression, disorientation, eye damage, fatigue, headaches, and obesity. MSG affects the neurological pathways of the brain and disengages the "I'm full" function which explains the effects of weight gain. Usually MSG can be found in flavored chips, meat seasonings, cookies, snacks, and soups.

High Fructose Corn Syrup (HFCS) is a highly-refined artificial sweetener which has become the number one source of calories in America. It is found in almost all processed foods. HFCS causes massive weight gain faster than any other ingredient, increases your LDL ("bad") cholesterol levels, and contributes to the development of diabetes, infertility, and tissue damage, among other harmful effects. It can be found in most processed foods, breads, candy, flavored yogurts, salad dressings, canned vegetables, cereals, and syrups.

Artificial Food Colorings: Many countries have banned these due to their effects on humans. The most common food dyes are blues, reds and yellows. Food dyes have been linked to causing cancer, growths, behavior problems in children, and infertility.

Blue #1 and Blue #2 (E133)

These have been banned in Norway, Finland and France. They cause chromosomal damage, especially in embryo development, and sperm development. Commonly found in: candy, cereal, soft drinks, sports drinks and pet foods

Red dye # 3 (also Red #40 – a more current dye) (E124)

These have been banned in 1990 after 8 years of debate from use in many foods and cosmetics. However this dye continues to be on the market in many products. Red Dye #40, has been proven to cause thyroid cancer, infertility, behavior problems, and chromosomal damage in laboratory animals and may also interfere with brain-nerve transmission.

Commonly found in: fruit cocktail, maraschino cherries, cherry pie mix, ice cream, candy, bakery products and more.

Yellow #6 (E110) and Yellow Tartrazine (E102)

These have been banned in Norway and Sweden. They increase the number of kidney and adrenal gland tumors in laboratory animals and may cause chromosomal damage.

Commonly found in: American cheese, macaroni and cheese, candy and carbonated beverages, lemonade and more! However Yellow dye can get tricky, Yellow 5 FDA status is called FD&C Yellow-5 (AKA Tartazine which is made from tar) Known as E102 in the industry, is one of the most leading dye causing allergies. Causes zinc deficiency and depletes faster in patients with ADHD, which lowers sperm counts. Also causes asthma, headaches, stomach ailments, depression, and damages nervous system. Commonly found in pickles, cereals, candy, cakes, breads, drinks, baby food, shampoo and more!

Sodium Nitrate (or sodium nitrite) is used as a preservative, coloring and flavoring in bacon, ham, hot dogs, luncheon meats, corned beef, smoked fish and other processed meats. This ingredient, which sounds harmless, is actually highly carcinogenic once it enters the human digestive system. There it forms a variety of nitrosamine compounds that enter the bloodstream and wreak havoc with a number of internal organs: the liver and pancreas in particular. Sodium nitrite is widely regarded as a toxic ingredient, and the USDA actually tried to ban this additive in the 1970's but was vetoed by food manufacturers who complained they had no alternative for preserving packaged meat products. Wondering why the industry still uses it? Answer: this chemical just happens to turn meats bright red. It's actually a color fixer, and it makes old, dead meats appear fresh and vibrant. Commonly found in: Processed meats.

Potassium Bromate is an additive used to increase volume in some white flour, breads, and rolls. Potassium Bromate is known to cause cancer in animals and infertility. Even small amounts in bread can create problems for humans.

Gluten/Wheat Gluten is found in many items such as breads, dough, chips, cereals, snacks, cakes, and more. Gluten is a protein composite found in foods processed from wheat and related grain species, including barley and rye. Gluten gives elasticity to dough, helping it rise and keep its shape and often gives the final product a chewy texture. But gluten can also turn up in unexpected places, like certain brands of chocolate, imitation crab (surimi), deli meats, soy sauce, vitamins and even some kinds of toothpaste. Gluten is different from protein in other grains (such as rice) and in meat (such as steak) in that it is difficult for humans to digest completely. It can make some people very ill. With the great increase in our gluten intake over the past 50 years due to the over-consumption of products made with highly refined wheat flour, it's taking a huge toll and impact on health.

As a society, we are in a state of "gluten overload," and millions of people of all ages and all walks of life are suffering as a result of a condition that was recognized only a few years ago, called gluten sensitivity. When people with gluten sensitivity eat foods containing gluten, it triggers a whole list of symptoms: stomach pains, bloat, heartburn, joint pains, headache, skin rashes, fatigue, insomnia, brain fog, constipation, diarrhea, to name some of the most common. Gluten sensitivity or even Celiac's has had a huge impact on fertility related issues due to the inability to digest properly.

Glutenin and Gliadin, which collectively make up gluten, account for most of the protein in wheat. Gluten proteins, particularly those in wheat, exhibit a flexible and elastic nature that provides the structure to yeast-enriched baked goods. As the yeast in these products release gas, the network of glutenin and gliadin fibrils traps the gas and allows the bread or rolls to rise. Problems with gluten in your digestive tract occur when the cells of your small intestine react badly to the presence of these proteins in the foods you consume.

The small intestine is lined with tiny hair-like projections called villi, which greatly increase the surface area of your digestive tract and are the location of nutrient absorption. In celiac disease, also called gluten intolerance, gluten triggers an abnormal immune response within the body that destroys the integrity of villi. As this happens, the ability to absorb nutrients is severely compromised.

About 1 out of 130 people are affected by gluten sensitivity or Celiac's disease, the problem is most of them don't even know it. Unfortunately a lot of women who are diagnosed with unexplained infertility have symptoms of gluten sensitivity. Many women who suffer from Celiac's disease have menstrual disorders. For example, in an Italian study, nearly 20 percent of the celiac women had amenorrhea, or missed menstrual periods. Only 2.2 percent of the women tested suffered from amenorrhea. Meanwhile, pregnancy complications such as threatened miscarriage, pregnancy-related hypertension, severe anemia and intrauterine growth retardation occurred four times more often in women with celiac disease.

It's always important to get tested if any symptoms are experienced that lead to Celiac's disease.

Environmental Factors

Nitrous compounds, pesticides, herbicides, fertilizers, and environmental estrogens have all entered the food chain and our water supply through industrial farming and pollutants. Environmental estrogens also leach out of plastics, such as plastic wrap, plastic water bottles, and food wrappers. Every year approximately 11lbs of preservatives and additives, and one gallon of pesticides and herbicides are consumed, and eaten each year. Some of this exposure is unavoidable but eating organic food and drinking filtered water (from glass bottles) will reduce the intake.

Lead was introduced into the environment through car exhaust fumes, industrial pollution, old water pipes, vegetables exposed to pollution, and even some shampoos. High levels build up in the body if intakes of calcium, zinc, iron and manganese are low.

Studies have revealed high percentages of lead in some sperm samples. Lead is thought to be responsible for malformed sperm, low sperm counts, poor sperm motility and altered sperm production. In women, lead affects the quality of eggs leading to an increased risk of infertility, miscarriage, congenital abnormality, and stillbirth.

Laptops can also have an adverse effect on sperm. The heat from the laptop can cause the scrotum to overheat, killing or damaging sperm.

Stress and fertility

There are different types of stress, and how the body handles it. Stress is the body's response to a stressor, it puts the body into defense mode by sending a message to the pituitary gland via the hypothalamus to start the fight or flight response. The response;

- Activates adrenal glands to produce adrenaline, cortisol and DHEA- which interferes with hormone production.
- Increases heart rate and blood pressure.
- Constricts blood vessels (restricting blood flow for making sperm).
- Releases blood sugar to give the extra energy the body needs to fight the stress, which also interferes with hormone production.

This all happens in a split second which allows the body to deal with the situation instantly.

Modern stress is the stress that people have to deal with usually on a day to day basis. It doesn't really involve life-threatening situations. Most of it is work stress, bills, stress of the home type situations. They don't have enough time to exercise, eat correctly, or even get sufficient sleep regularly. This results in an overabundance of caffeine consumption or alcohol consumption. Over an extended period of time, eventually this every day modern stress leads to exhaustion.

Once the body is locked into prolonged stress response, nonessential functions start to slow down or switch off altogether, as does nonessential chemical production (the body's metabolism). Most of the body's organs and systems are affected:

- Excessive cortisol is released, interfering with hormone balance
- digestion is inhibited
- excess stomach acid is produced
- sex drive decreases
- white blood cells decrease (which impairs the immune system)
- blood pressure spikes
- weight gain
- excess adrenaline production leading to dopamine deficiency and depression
- vital nutrients (vitamins B, C, calcium and magnesium) deplete
- constant fatigue

When the body stresses, the hormones adrenaline and cortisol cause the blood sugar (glucose) levels to rise, so that there is more energy ready for the fight or flight response. Then the body produces more insulin to get the sugar out of the blood and into the body's cells, so the blood sugar level falls abruptly. This is known as hypoglycemia, then the cycle of sugar cravings and tiredness starts.

Twenty percent of the body's entire intake of glucose fuels the brain, which includes the pituitary gland, responsible for reproductive hormones. This obviously causes issues with the menstrual cycle, especially when glucose levels drop.

Stress can have a profound effect on fertility. Stress hormones affect every part of the reproductive organs. In women the reproductive hormone prolactin is overproduced, and this interferes with ovulation. The hypothalamus stops secreting GnRH, which in turn will affect the release of LH and FSH. Since those hormones stimulate ovulation, fertility is compromised. In men, stress can decrease their sperm volume, and contribute to abnormalities.

Stress can also cause a drop in levels of DHEA, which is converted into other hormones. This, together with the cortisol released when the body is stressed may bring out hormonal imbalance such as too high estrogen levels, affecting fertility.

Foods to avoid

Most of the foods to avoid for fertility are pretty much common sense. Although there are some foods that people do eat daily, or even just “a little” that can cause problems with fertility.

- Non-organic foods
- caffeinated drinks (coffee, tea, soda and also avoid decaffeinated alternatives)
- orange juice (fresh squeezed is okay)
- sugar, especially refined
- refined carbohydrates, white versions of foods (bread, pizza, rice, and cakes/cookies)
- red meats
- dairy products
- wheat
- foods containing additives/preservatives
- packaged and processed foods
- salt
- margarine
- white flour
- fatty meats
- fruit juices
- processed peanut butter
- pizza
- cakes
- pastries
- potato chips
- beer
- French fries
- bread/rolls/muffins
- fruity flavored drinks

Avoid any product containing hydrogenated vegetable oil. This includes many solid margarine, vegetable shortening, most commercial baked goods, and most fast foods. These contain trans fats.

Rhubarb and peas should be avoided as they both have been linked to infertility. Peas seem to contain a natural contraceptive (m-xylohydroquinone) which interferes with estrogen and progesterone.

Crash diets, high fat diets should always be avoided, not just for fertility but for health as well.

Exercise and Weight

Weight is everything when it comes to fertility. Many women have trouble with their weight, but it's important to be the right weight and BMI (body mass index). BMI charts can be useful but not reliable.

Being overweight can lead to raised estrogen levels. This is because fat cells continually release estrogen, which suppresses the pituitary gland, affecting the release of FSH. Losing a small amount of weight, might restore hormonal balance, assuming there are no other issues with infertility.

Being underweight by more than 15 percent can also stop ovulation. Too little body fat may cause estrogen levels to fall and menstruation to be intermittent or even stop altogether. It also affects the quality of cervical mucus. Being underweight or too lean can cause long cycles, anovulatory cycles, and amenorrhea. Both ratio of weight to height and ratio of fat muscle affect fertility menstrual cycles. Lean women have higher than average amounts of protein, which binds estrogen. Therefore they have less free estrogen, and the hypothalamus does not properly stimulate the fertility hormones FSH and LH.

Avoiding excessive exercise

According to a study published in The American Journal of Physiology, when available energy is diverted to exercise, reproductive attempts are suspended in favor of physiological process necessary for individual survival. Poorly controlled diabetes, eating disorders, cold exposure, and lactation can also account for infertility for this reason. Too vigorous exercise also lowers sperm counts and has a negative affect on ovulation.

Unless excess estrogen is produced, there is one situation in which vigorous exercise is okay. If women suffer from particularly heavy menstrual flow, it may be because too much excess estrogen is being produced.

Other everyday items

Soaps and shampoos contain alkyl-phynol ethoxylades, which is an estrogenic chemical thought to affect sperm count and quality. Read labels also of shaving creams, face washes, make-up, and other everyday items that are of use.

Plastic wraps, as some contain endocrine disruptors which interfere with the body's hormones, leading to reproductive effects including low sperm count. The dangerous plastic wraps are those that are composed of PVC and contain the plasticizer DEHA (dip(2-ethylhexyl)-adipate), the component that adds clinginess to the wrap.

Tampons, douches and other feminine personal products should also be used with caution.

CERTIFIED FERTILITY COUNSELOR COURSE - SESSION 10 – QUESTION & ANSWERS

NAME: _____

ADDRESS: _____

PHONE: _____

FAX: _____

E-MAIL: _____

Please be sure to fill out the information above, complete the test and e-mail it back to us at myeggandme@amandabears.com. We will grade your question & answer session and will let you know if we have any questions or concerns.

1. What non-prescription and prescription drugs need to be avoided?
2. Define “mutagens” and what can it be caused by?
3. What happens when foods get cooked in unsaturated fats at a higher temperature?
4. What should men avoid when trying to get pregnant?
5. What can aspartame do, and name 8 common products it's found in?
6. What is MSG?
7. What is HFCS?
8. What is sodium nitrate? What types of foods include it?
9. _____ is used to increase volume in some white flour, breads, and rolls, however causes infertility in animals.
10. What additive causes zinc deficiency leading to low sperm counts?
11. Define gluten and how it can affect fertility.
12. How many preservatives and additives do American's consume each year?
13. How does stress affect fertility and hormones?
14. What are different kinds of stress?
15. Name ten foods to avoid for fertility
16. Being on a commercial diet as long as weight is lost, is okay? T/F
17. How does being overweight affect fertility?
18. How does being underweight affect fertility?
19. High levels of _____ build up in the body if intakes of calcium, zinc, iron and manganese are low.
20. Too much _____ also lowers sperm counts and has a negative affect on _____.