Chemical Consciousness

Toxins in Food and Water that Could Affect Gut Microbiome

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Recent Graduate

Chemical Engineer

1981

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2014

Typical Large Chemical Facility

Typical Chemical Facility at Night
Do you see the leak?

What do they make here?

Hazardous?

Purity of
Young Living Oils

VERIFIED

Donna's Detox

January
2012

February
2013

How Did We Get Here?

And What Can We Do About It?

A Risky Game

A Risky Game

RISK

Risk Is The Product of

Frequency Of Occurrence (F)

And

Potential Consequences (C)

for an Event

RISK = F x C

Acceptable Risk

What is acceptable to YOU?

Evaluate the Things that You Do Every Day

Swim	Clean House
Eat Brownies	Chew Gum
Exercise	Drink Coffee
Paint	Sleep
Travel	Gardening
Wear perfume	Lay on the floor
Ride a bike	Drive in Traffic

Routes of Exposure

Four ways that toxins enter the body:

- Inhalation
- Absorption
- Ingestion
- Injection

Airborne Contaminants - Inhalation

- Carpet, furniture, cookware that "off-gas" into the home
- Heating systems including fireplaces, woodstoves and space heaters
- Dry cleaning brought into the house
- Candles and fragrances
- Cleaning Products
- Toxins brought in to the house on our shoes
- Mold, Fungi and other things that "grow" in the house

How to Clean Up the Air

Ventilation

Filtering

Purification

Water Contaminants

Inhalation Ingestion Absorption

How your household water supply becomes unhealthy

- Chemicals added by the Water Company
- Chemicals that enter the water supply
- Substances naturally in some water supplies
- Mold, Fungi, bacteria and other things that "grow" in the water system

How to Clean Up the Water

- Research/Test the source
- Purification vs. Filtration
- Bottled Water

What's In Our Food?

- Very common hazardous food ingredients (GRAS)
- Toxins in vitamins and supplements
- Containers, cookware and other household items that can add toxins to food
- Improper food preparation and storage
- Where the food came from really matters (Pesticides, Herbicides, Fungicides, GMO)

Product Contaminants

Inhalation Absorption

- Common ingredients in personal care and cleaning products (GRAS)
- Toxins in cleaning products – no labeling requirement
- Threats to family pets and children from cleaning and flea products
- Incompatible mixtures of cleaning products
- Other hazards of personal care/cleaning products – flammability, reactivity, corrosivity

How to Clean Up Our Food and Products

- Learn to understand labels
- Learn to recognize the dangerous ingredients
- Research and purchase safe alternatives
- Buy fresh whole unprocessed organic foods
- Consider making your own products.
- Understand advertising techniques and deceptions

Cosmetics and Personal Care Products

- The skin is the largest organ in the body
- *Never put anything on your skin that you wouldn't be willing to eat!*
- Exception: large-molecule substances like titanium dioxide and zinc oxide (found in sunscreens – not the nano particles)
- Use www.ewg.org Skin Deep and Sunscreen databases to check all personal care products

How Food Labeling Works

- Ingredients are listed in decreasing order of weight
- Less than 2%, they can be listed in any order
- If listed in the nutritional facts, the ingredient doesn't have to be listed below.
- Nutritional facts apply to the specific serving size on the label.

Nutrition Facts	Amount/serving	%DV*	Amount/serving	%DV*
Serv. Size 1 cup (249g)	**Total Fat** 12g	**18%**	**Sodium** 940mg	**39%**
Servings About 2	Sat. Fat 6g	**30%**	**Total Carb.** 24g	**8%**
Calories 250	Polyunsat. Fat 1.5g		Dietary Fiber 1g	**4%**
Fat Cal. 110	Monounsat. Fat 2.5g		Sugars 1g	
*Percent Daily Values (DV) are based on a 2,000 calorie diet.	**Cholest.** 60mg	**20%**	**Protein** 10g	**20%**
	Vitamin A 0% • Vitamin C 0% • Calcium 6% • Iron 8%			

INGREDIENTS: WATER, CHICKEN STOCK, ENRICHED PASTA (SEMOLINA WHEAT FLOUR, EGG WHITE SOLIDS, NIACIN, IRON, THIAMINE MONONITRATE [VITAMIN B1], RIBOFLAVIN [VITAMIN B2] AND FOLIC ACID), CREAM (DERIVED FROM MILK), CHICKEN, CONTAINS LESS THAN 2% OF: CHEESES (GRANULAR, PARMESAN AND ROMANO PASTE (PASTEURIZED COW'S MILK, CULTURES, SALT, ENZYMES), WATER, SALT, LACTIC ACID, CITRIC ACID AND DISODIUM PHOSPHATE), BUTTER (PASTEURIZED SWEET CREAM (DERIVED FROM MILK) AND SALT), MODIFIED CORN STARCH, SALT, WHOLE EGG SOLIDS, SUGAR, DATEM, RICE STARCH, GARLIC, SPICE, XANTHAN GUM, CHEESE FLAVOR (PARTIALLY HYDROGENATED SOYBEAN OIL, FLAVORINGS AND SMOKE FLAVORING), MUSTARD FLOUR, ISOLATED SOY PROTEIN AND SODIUM PHOSPHATE.

Naturally Misleading

Artificial Sweeteners

- Can claim to be calorie-free or containing no sugar
- However, often times they are bulked up with sugar

What is NOT on the Label

- Processing Aids
- Ingredients that are present in quantities less than 2% by weight are optional
- "Harmless Markers" that producers add to identify their products
- Herbicides
- Pesticides
- Genetic Engineered Foods

Label Confusion

- Serving Size
- Calories – less than 5 calories = zero!
- Fats and trans-fats – less than 0.5 grams = zero!
- Sugars – less than 0.5 grams = zero!
- All Natural – No FDA definition
- Generally Recognized as Safe (GRAS)

How Cleaning Product Labeling Works

- NOT required to be labeled with ingredients
- Responsible companies voluntarily disclose ingredients
- Use www.ewg.org Cleaning Product database to check cleaning products even if the label says they are safe

Ingredients

Artificial Sweeteners

- Sucralose
  - Interferes with nutrient absorption
  - Increases body weight
  - Decreases the amount of beneficial bacteria in the intestines
  - Can cause migraines in sensitive people.
- Aspartame
  - Linked to brain cancer and blindness.
  - Can cause high blood pressure, headaches, nausea, or heartburn.
  - Contaminated with methanol, which is converted to formaldehyde (a carcinogen) in the body

Artificial Sweeteners—Sorbitol

- Can cause bloating, abdominal cramps and pain, diarrhea, flatulence, and nausea.
- Small quantities are considered okay if you are not symptomatic —avoid consumption in large quantities
- People with digestive diseases should avoid always
- Often found in sugar-free gums

High Fructose Corn Syrup

- Is linked to obesity, diabetes, and metabolic syndrome
- Often made from GMO corn.
- May contain mercury
- Is broken down by the body in a different way than normal sugar
- Studies on rats have shown that rats gain more weight when consuming high fructose corn syrup compared to sugar, even when the amount of calories consumed is the same.

Meat and Dairy Products

- Can contain antibiotics, pesticides, or growth hormones—look for labels that advertise a lack of these
- Examples:
  - American Humane Certified
  - Animal Welfare Approved
  - Certified Humane
  - Global Animal Partnership Welfare Rating
  - Organic
  - rBGH-free
  - rBST-free

Synthetic Dyes

- Some are linked to hyperactivity in children
- Variety of effects:
  - Red 3: Linked with thyroid damage
  - Red 4: Toxic to kidney and bladder
  - Yellow 5: Can cause allergic reactions, migraines, blurred vision, itching
  - Yellow 6: Can cause allergic reactions of upset stomach, diarrhea, vomiting, rash, and swelling of the skin.
  - Yellow 10: Can damage DNA

MSG

- Excites cells to the point of damage or death in high levels.
- Effects over time are important
- Some people may be sensitive to MSG with a condition known as "MSG Symptom Complex" or "Chinese Restaurant Syndrome".
- Symptoms include headaches, numbness, burning sensation, tingling, facial pressure or tightness, chest pain, nausea, rapid heartbeat, drowsiness, or weakness.

MSG

- Other names for MSG:
  - Autolyzed Yeast, Calcium Caseinate, Gelatin, Glutamate, Glutamic Acid, Hydrolyzed Protein, Monopotassium Glutamate, Sodium Caseinate, Textured Protein, Yeast Extract, Yeast Food, Yeast Nutrient.
- MSG may be found in the following ingredients:
  - Flavors and Flavorings, Seasonings, Natural Flavors and Flavorings, Natural Pork Flavoring, Natural Beef Flavoring, Natural Chicken Flavoring, Soy Sauce, Soy Protein Isolate, Soy Protein, Bouillon, Stock, Broth, Malt Extract, Malt Flavoring, Barley Malt, Anything Enzyme Modified, Carrageenan, Maltodextrin, Pectin, Enzymes, Protease, Corn Starch, Citric Acid, Powdered Milk, Anything Protein Fortified, Anything Ultra-Pasteurized

Preservatives

- BHA – Causes cancer in mice, rats, hamsters, and fish, and is suspected to be a carcinogen for humans.
- TBHQ — High doses can cause nausea or collapse. Linked to stomach cancer and DNA damage.
- BHT – Linked to organ, developmental and reproductive toxicity. May induce allergies

Sodium benzoate/Potassium benzoate

- There is a natural form of sodium benzoate but is expensive and rarely used – label will most likely say derived from fruit
- Synthetic version will form carcinogenic benzene in soft drinks when combined with ascorbic acid (Synthetic Vitamin C).
- Linked to leukemia.
- Can cause allergic reactions.

"Fragrance"

- An undisclosed mixture of chemicals
- Can cause irritability, muscle pain, asthma, bloating, joint aches, sinus pain, fatigue, sore throat, eye irritation, gastrointestinal problems, laryngitis, headaches, dizziness, swollen lymph nodes, spikes in blood pressure, coughing, and/or burning or itching skin irritations.
- Many people are allergic to fragrance and often do not know it until they are away from it for a while and then experience an immediate return of symptoms upon re-exposure.

Triclosan

- Used in cleaning supplies and antibacterial hand washes
- Impairs muscle function
- Mimics estrogen in the body and can increase risk of breast cancer
- Linked to liver toxicity
- Linked to antibiotic resistance
- Destroys probiotic environment in the gut

Chlorine

- Placed in drinking water to disinfect: kill bacteria. It kills all bacteria and can destroy gut beneficial organisms
- Chronic effects by skin absorption and ingestion
- Affects thyroid by preventing iodine absorption
- Reacts with organic materials to form TriHaloMethanes (THM's) which are carcinogenic
  - Your body is organic!
  - Many contaminants in drinking water are organic

Deet (Insect Repellant)

- Heavy exposure can cause memory loss, headache, weakness, fatigue, tremors, and shortness of breath.
- Use sparingly, wear long clothes and spray onto clothes. Follow instructions on label strictly. Wash skin after exposure.
- These products kill living organisms. What do you think it does in your body?

Solutions

How to Clean Up Our Food and Products

- Buy fresh whole unprocessed organic foods
- Learn to understand labels
- Learn to recognize the dangerous ingredients
- Research and purchase safe alternatives
- Consider making your own products.

Essential Oils

- Essential Oils are the lifeblood of plants
- Used in biblical times to anoint the body for celebration, prayer and ordination
- Essential Oils are used throughout the world for hundreds of healing purposes
- Essential Oils can be used to detoxify the body
- Essential Oils dissolve toxins and therefore make excellent cleaning products

Resources

- www.ewg.org
- www.epa.gov
- http://www.cdc.gov/niosh/
- www.ChemConscious.com

ChemConscious Approved

- Now Accepting Applications
- Products that are 100% FREE of hazardous ingredients
- Requires manufacturing facility review by ChemConscious inspector
- Affiliate or Commission Agreement
- Contact donna@chemconscious.com

Detoxify Your Life Product

- Program that effortlessly guides you through the hazard identification process in 5 areas of your life
- Assess YOUR risk based on the likelihood that YOU will be exposed to toxins based on YOUR own personal habits, behaviors and your environment.
- Risk based online downloadable checklist
- Step-by-step formula for uncovering hidden toxins

Detoxify Your Life

- Special Pre-launch Pricing Includes lifetime updates
- http://chemconscious.com/detoxify-your-life
- Includes
  - Checklists and instructions
  - MP3 of never-released call with Donna and Dr. Ritamarie on the topic of Detoxification

CHeM Conscious Creating a Healthier World Through Chemical Awareness

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