

FOR DOCTORS AND SCIENTISTS

2017

INTEGRATIVE

ENVIRONMENTAL MEDICINE



ALY COHEN, MD AND

FREDERICK S. VOM SAAL, PhD

WEIL INTEGRATIVE  MEDICINE LIBRARY

FOR THE GENERAL PUBLIC

2020

DR. WEIL'S HEALTHY LIVING GUIDES

Non-Toxic

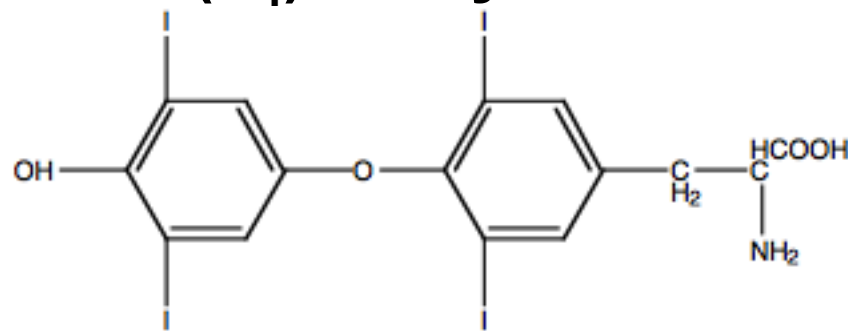
Guide to Living Healthy
in a Chemical World



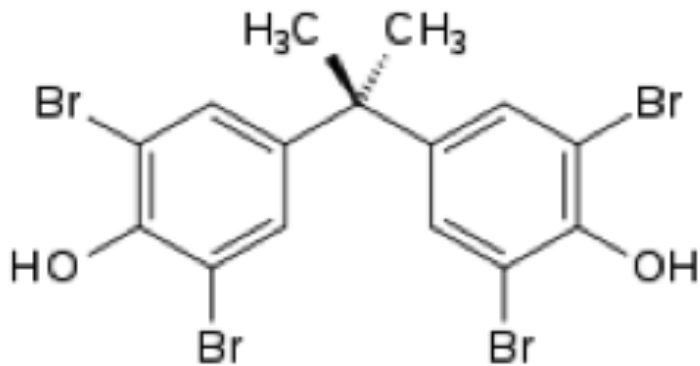
Aly Cohen, MD

Frederick S. vom Saal, PhD

Thyroxine (T₄) – Thyroid hormone

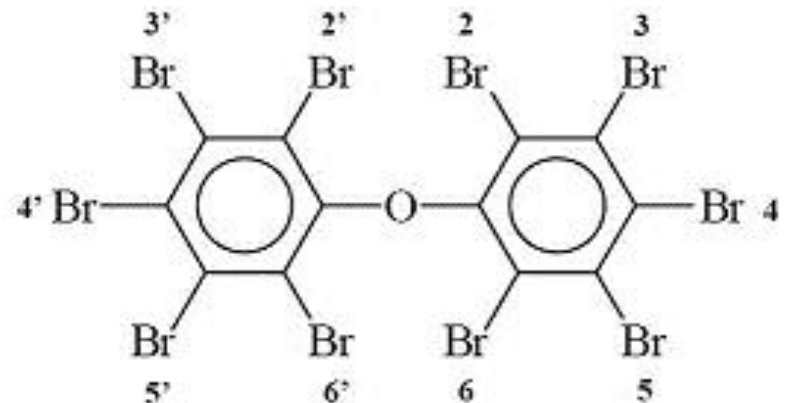


Thyroid hormone disrupting chemicals: Dioxin and Chemicals in Flame Retardants

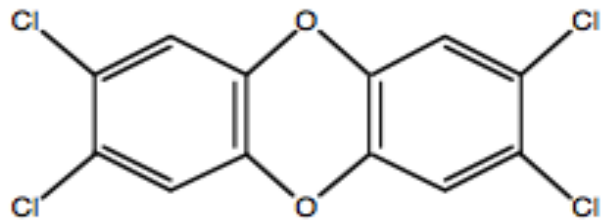


Tetrabromobisphenol A (TB-BPA)

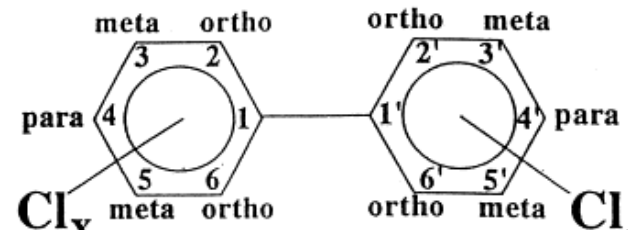
Th



Polybrominated diphenyl ethers
PBDEs (209 Congeners)



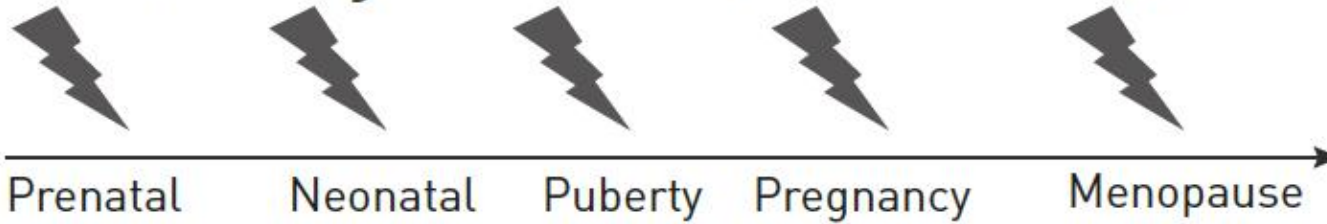
Tetrachlorodibenzo-p-dioxin (TCDD)



Polychlorinated Biphenyls
PCBs (209 Congeners)

VULNERABLE PERIODS IN LIFE TO ENDOCRINE DISRUPTING CHEMICALS

(Not just *what*, but *when*)



Press only

Chemicals Are All Around Us

- **Televisions, computers, tablets are treated with flame retardants**
- **Furniture and carpets are coated with stain guards, water-proofing**
- **Food containers can contain plasticizers (DEHP and BPA)**
- **Plastic toys are molded from polyvinyl chloride (PVC)**
- **Bathrooms are filled with chemical-laden cosmetics and personal care products**
- **Drinking water has been found to have many contaminants, such as metals, medications, and industrial chemicals**
- **Food is “engineered” with preservatives, coloring, and synthetic flavors**
- **Air fresheners, synthetic fragrances, and engine fumes waft through the air**



Disruption Among Us

Known endocrine disrupting chemicals are added to plastics to create household goods

Flame retardants

- Electronic casings
- Furniture

BPA

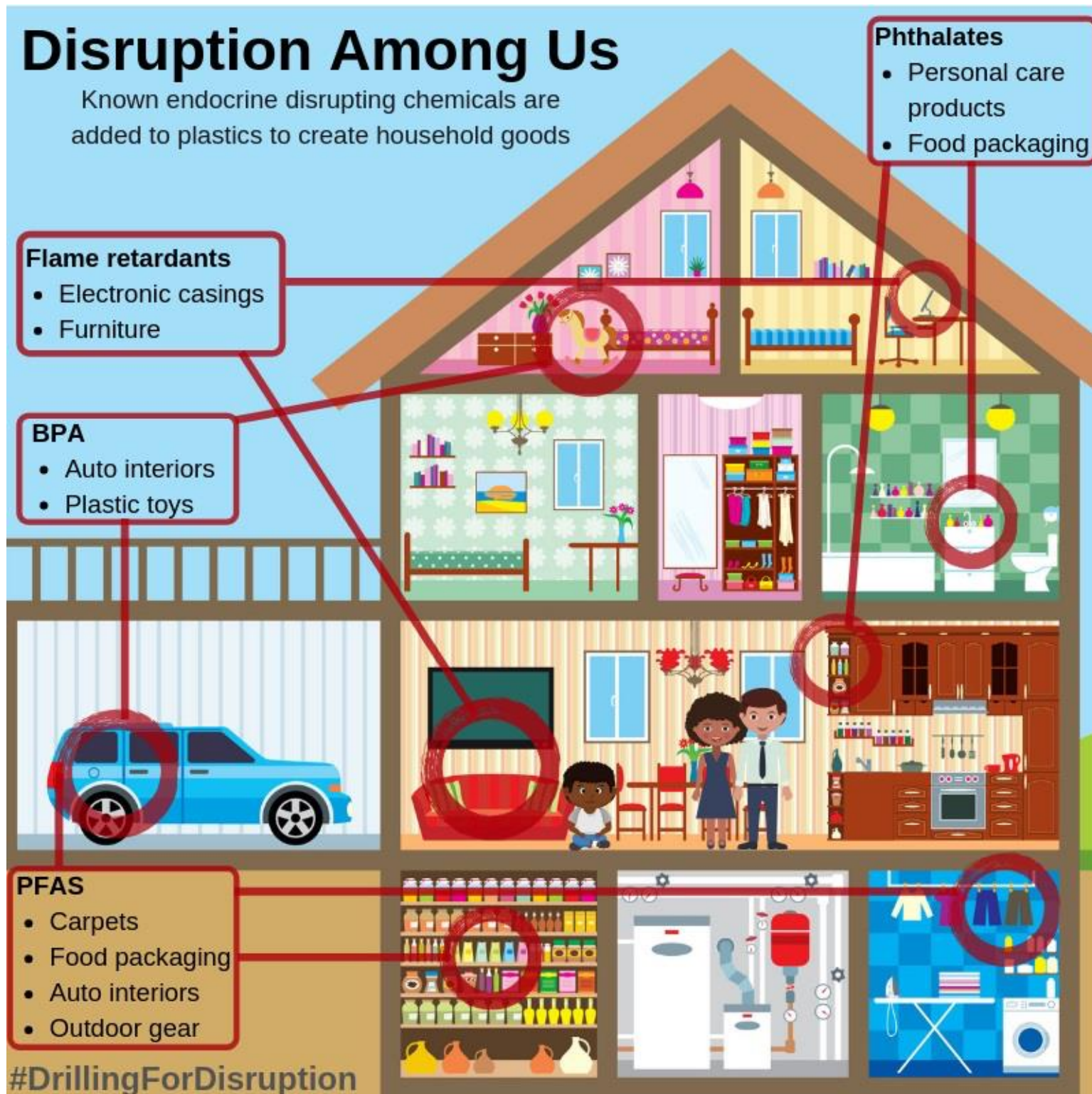
- Auto interiors
- Plastic toys

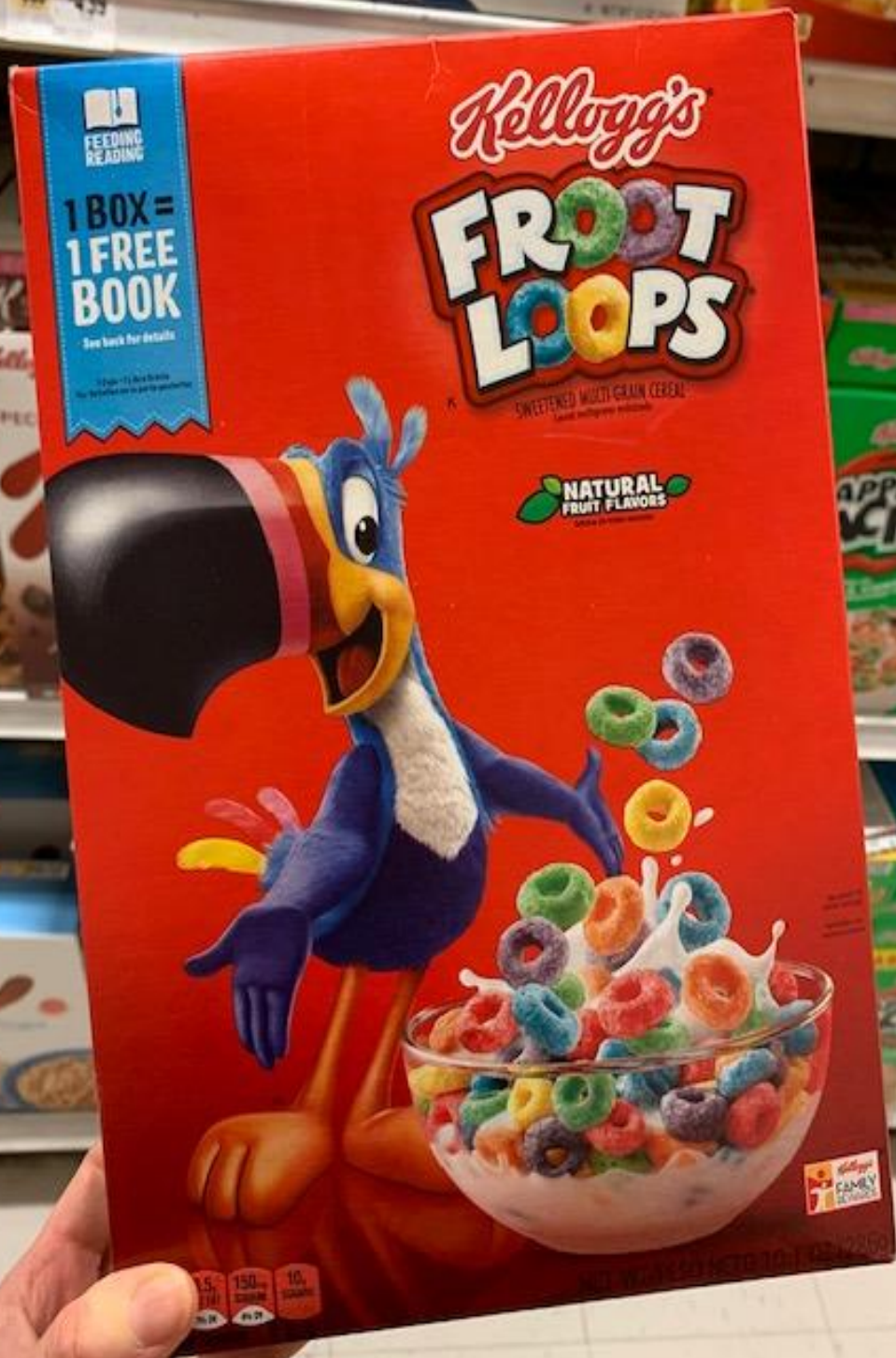
PFAS

- Carpets
- Food packaging
- Auto interiors
- Outdoor gear

Phthalates

- Personal care products
- Food packaging





... 0.1mg de sodio, 191mg de potasio, 6g de carbohidratos totales (6g de azúcares), 4g de proteínas.

** Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs: / Los porcentajes de valor diario están basados en una dieta de 2,000 calorías. Sus valores diarios pueden ser mayores o menores dependiendo de sus necesidades calóricas:

	Calories / Calorías	2,000	2,500
Total Fat / Grasa Total	Less than / Menos de	65g	80g
Saturated Fat / Grasa Saturada	Less than / Menos de	20g	25g
Cholesterol / Colesterol	Less than / Menos de	300mg	300mg
Sodium / Sodio	Less than / Menos de	2,400mg	2,400mg
Potassium / Potasio		3,500mg	3,500mg
Total Carbohydrate / Carbohidratos Totales		300g	375g
Dietary Fiber / Fibra Dietética		25g	30g

Ingredients: Corn flour blend (whole grain yellow corn flour, degerminated yellow corn flour), sugar, wheat flour, whole grain oat flour, modified food starch, contains 2% or less of hydrogenated vegetable oil (coconut, soybean and/or cottonseed), oat fiber, salt, soluble corn fiber, natural flavor, red 40, turmeric extract color, blue 1, yellow 6, annatto extract color, BHT for freshness.

Vitamins and Minerals: Vitamin C (sodium ascorbate and ascorbic acid), niacinamide, reduced iron, zinc oxide, vitamin B₆ (pyridoxine hydrochloride), vitamin B₂ (riboflavin), vitamin B₁ (thiamin hydrochloride), vitamin A palmitate, folic acid, vitamin B₁₂, vitamin D₃.

CONTAINS WHEAT INGREDIENTS. CORN USED IN THIS PRODUCT MAY CONTAIN TRACES OF SOYBEANS.

Ingredientes: Mezcla de harina de maíz (harina de maíz amarillo de grano entero, harina de maíz amarillo sin germen), azúcar, harina de trigo, harina de avena de grano entero, almidón alimentario modificado, contiene 2% o menos de aceite vegetal hidrogenado (coco, soya y/o semilla de algodón),

FOOD AND DRUG ADMINISTRATION (US-FDA)

DRUGS: The FDA requires studies to assess both the safety and efficacy of drugs prior to use.

FOOD: Chemicals in processed food are typically not tested for health effects.

Approved by FDA as GRAS: Generally Regarded As Safe

1. No studies of health effects.
2. Until proven to cause human harm, chemicals are presumed to be safe.

Thousands of chemicals in processed food have never been tested for health effects



Water Contamination

- Infectious Contaminants
 - Bacteria
 - Viruses
 - ?coronavirus
- Aging infrastructure/water pipes (lead)
- Agricultural run-off
 - Fertilizers (nitrates)
 - Pesticides
 - Fecal waste
- Medications
- Radionucleotides
 - Radon
 - Other nucleotides
- Industrial chemicals
 - Microplastics
 - PFOA/PFOS
 - Flame retardants
 - Heavy metals
 - Coal ash
 - Biosolid
 - Perchlorate (rocket fuel)
 - Legacy pesticides
 - Plasticizers
 - Cleaning products/personal care products
 - Hydraulic fracking
 - Storm/hurricane run-off
 - Major chemical spills (pipeline leaks, fires, chemical spills)
- Air pollution
- Bioterrorism/water security/climate change

Endocrine Disrupting Chemicals Contaminate Water



How Contaminants Get Into Our Water Supply

10 Endocrine Disrupting Chemicals and Effects

Bisphenols (BPA) - disrupts development, immune, reproduction, brain, metabolic systems

Phthalates (DEHP) - disrupts development, reproduction, metabolic systems

DDT - disrupts development, reproduction, brain, metabolic systems

Flame retardants - disrupt development, brain

PCBs (Polychlorinated biphenyls) - disrupt development, brain

PFAS (perfluorinated chemicals) - immunotoxicity, fertility, testicular, liver, thyroid disease

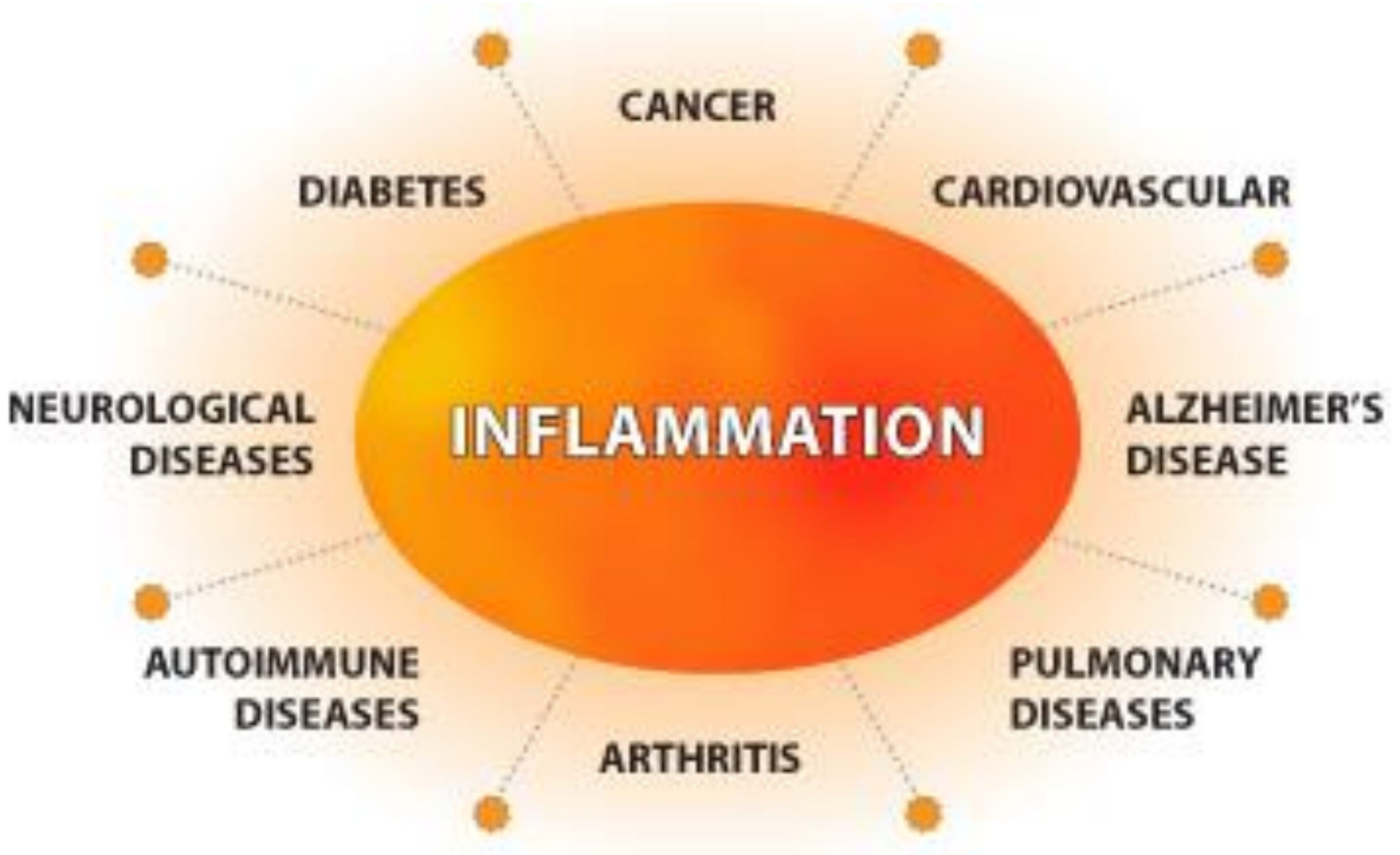
PAHs (Polycyclic aromatic hydrocarbons) – cardiovascular disease

TBT (Tributyltin) - disrupts development, metabolic systems

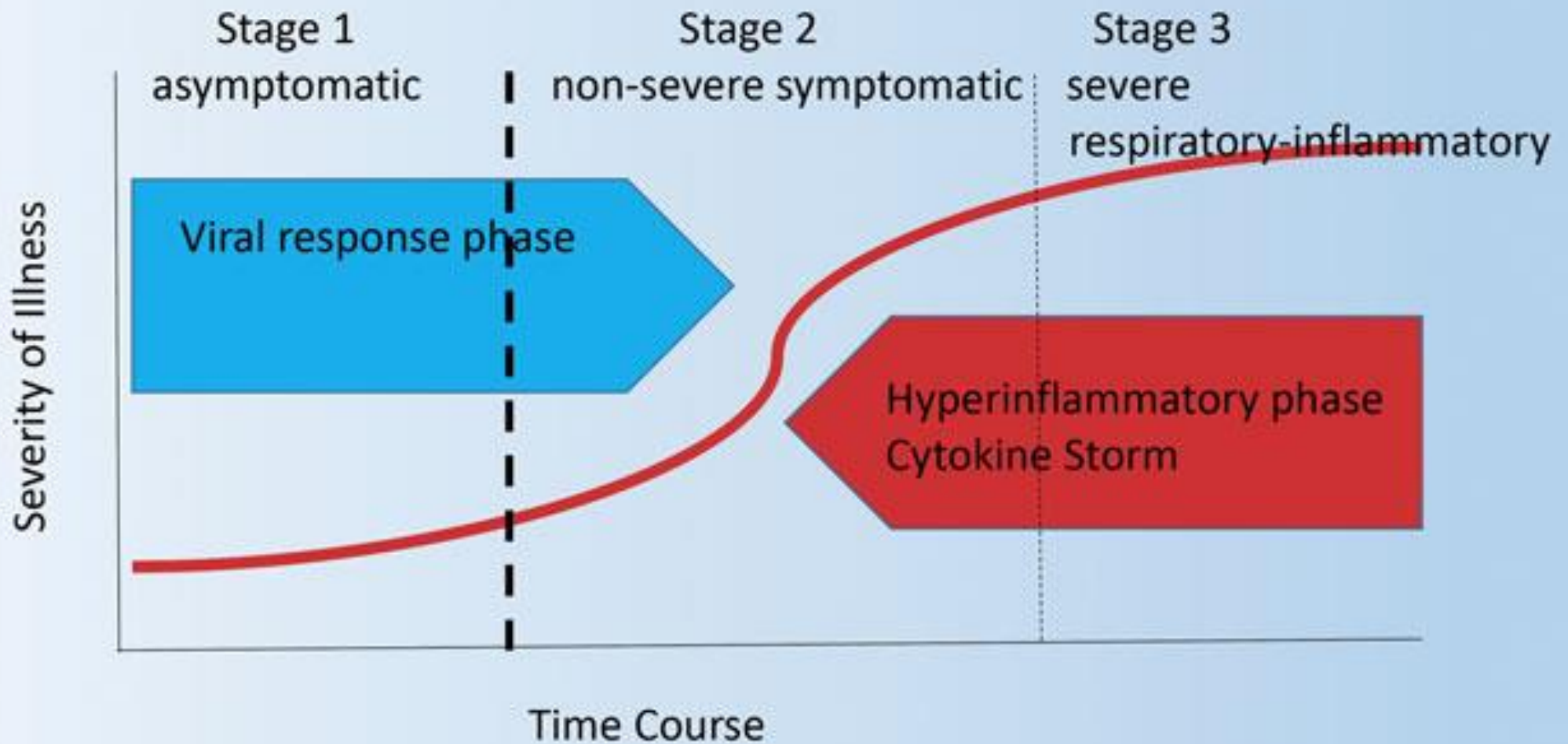
Perchlorate – disrupts development, brain

Antimicrobials (triclosan) – Immune system disruption

Endocrine Disrupting Chemicals, Inflammation and Diseases



Course of COVID-19 Infection



Top 12 Recommended Life-Style Changes

- Reduce canned food
- No more non-stick or stain guard anything
- No more plastic for storage & microwave use
- Create a healthy water “system”
- Dust/mop/vacuum much more
- No more creams, lotions, shampoos, deodorants....with unknown fragrances and other ingredients
- Reduce foods with pesticides, coloring, preservatives or GMO
- Avoid carpet cleaners/Scotch Guard/cleaning products with toxic chemicals
- Avoid exhaust/air-fresheners/gasoline fumes/synthetic fragrances
- Understand your medications
- Promote quality sleep, reduce stress, and increase exercise
- Limit radiation exposure whenever possible

Lifestyle Changes to Reduce Inflammation

- Diet
- Exercise
- Sleep hygiene
- Stress management
- Smoking/vaping cessation
- Limit medication/USE appropriate medication
- Limit harmful chemical exposures
- Appropriate use of supplements



Nutrients

When humans are *nutrient sufficient*, they are better equipped to handle toxin exposure.

Cruciferous Vegetables

- Cabbage
- Chinese cabbage
- Broccoli
- Kohlrabi
- Brussels sprouts
- Turnip greens
- Mustard greens
- Collard greens
- Watercress
- Land cress
- Shepherd's purse
- Cauliflower
- Bok choy
- Kale
- Daikon radish
- Oriental radish
- Horseradish
- Arugula
- Wasabi
- Rutabaga
- Turnip

Important Supplements

(vitamins, minerals, anti-oxidants)

- Folate B9 (reduced methylation)
- Vitamin D3 (400+ immune effects)
- Zinc
- Curcumin
- Vitamin C
- Quercetin (PCBs, methylmercury)
- B3
- Selenium (neuroprotection)
- Probiotics
- Fatty acids
- Vitamin A
- N-acetylcysteine (NAC)
- Melatonin (antioxidant)
- Green tea (epigallocatechin gallate (EGCG))
- Iodine (thyroid protection)

Non-Toxic Take Home Messages

- Chemicals are ubiquitous
- There is minimal oversight from U.S. laws
- Chemicals get absorbed through skin, lungs, GI tract, vaginal mucosa...and they cross the placenta
- There are long-term health issues from low levels of exposures over time.... AND during critical periods of human development!
- Exposure to EMF radiation, medications, stress, noise pollution e.g. can also pose health risks
- Body awareness and making smart choices to reduce body burden are key!
- Many vetted resources DO exist!

Resources

- Environmental Working Group (EWG) www.ewg.org
- EWG's Skin Deep Database www.ewg.org/skindeep
- Because/Health www.becausehealth.org
- Green Science Policy Institute greensciencepolicy.org
- Environmental Defence environmentaldefence.ca
- Natural Resources Defense Council www.nrdc.org
- Environmental Health News www.ehn.org
- Collaborative on Health and the Environment (CHE) www.healthandenvironment.org
- Healthy Environment and Endocrine Disruptor Strategies (HEEDS) heeds.org
- Environmental Protection Agency www.epa.gov
- Pediatric Environmental Health Speciality Units (PEHSU) www.pehsu.net
- Health Care Without Harm noharm.org
- Centers for Disease Control and Prevention www.cdc.gov
- Environmental Health Trust: www.EHTrust.org
- Electromagnetic Radiation Safety: www.saferemr.com
- Consumer Reports Greener Choices www.greenerchoices.org

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