Mission: To create a healthier environment for human reproduction and development by advancing scientific inquiry, clinical care, and health policies that prevent exposures to harmful chemicals in our environment.
Our Challenge
Prevalence of chronic conditions among children and youth increased from 1988 to 2006

JAMA®
Dynamics of Obesity and Chronic Health Conditions Among Children and Youth
Jeanne Van Cleave; Steven L. Gortmaker; James M. Perrin
http://jama.ama-assn.org/cgi/content/full/303/7/623

![Bar chart showing prevalence of chronic conditions](chart.png)

- 1988 to 1994: 27.8%
- 1994 to 2000: 51.5%
- 2000 to 2006: 51.5%
Federal reserve data on chemical production is only offered as relative production, which is unit-less. A specific reference year is chosen and values are calculated relative to that year’s production. In this particular data set 2007 is the reference year and is assigned a value of 100.

Data from: U.S. Federal Reserve Board, Division of Research and Statistics
Today

80,000 chemical substances registered for use in U.S. commerce
3,000 chemicals manufactured or imported in excess of 1 million pounds
700 new industrial chemicals introduced into commerce each year
Everywhere, Everyday, and Everyone
43

Toxic Chemicals in Pregnant Woman in the US

Environmental chemicals can cross the placenta
How the first nine months shape the rest of your life

The new science of fetal origins

By Annie Murphy Paul
98 - 100% Phthalates
99% PFCs

Woodruff, Zota, Schwartz EHP 2011
62-100% Pesticides
PBDEs

- 100% pregnant women exposed
- *In vitro*, disruption of fetal human brain cells development
- *In animals*, affect learning, memory, and attention
- *In humans*, associated with decrements in IQ – similar to that of lead

(Schreiber et al., 2010, Driscoll et al., 2008, Viberg et al. 2006)
The evidence that links exposure to toxic environmental agents and adverse reproductive and developmental health outcomes is sufficiently robust, and the American College of Obstetricians and Gynecologists and the American Society for Reproductive Medicine join leading scientists and other clinical practitioners in calling for timely action to identify and reduce exposure to toxic environmental agents while addressing the consequences of such exposure.
ACOG/ASRM Committee Opinion
“Environmental exposures can have a profound and lasting impact on the health of our patients and future generations”
ACOG/ASRM Committee Opinion

All exposures are not created equal

Underserved and minority populations disproportionately impacted

More likely to be exposed to higher levels of outdoor and indoor pollutants
ACOG/ASRM Committee Opinion

All exposures are not created equal

Women of reproductive age with occupational exposure to toxic chemicals are highly vulnerable to adverse reproductive health outcomes.
CHALLENGES AHEAD
ACOG/ASRM Committee Opinion
*Individual Action Alone is Not Enough*

### MEET MOLLY GRAY.

- Eats organic.
- Avoids BPA.
- Buys natural cleaners.

*Loaded with toxic chemicals.*

- Nine pregnant women tested from Washington, Oregon, and California, during the second trimester had detectable:
  - Bisphenol A
  - Mercury
  - At least four phthalates
  - At least two and up to 4 perfluorinated chemicals
January 10, 2014

The New York Times

Thousands Without Water After Spill in West Virginia

Affected counties

50 mi
50 km

WEST VIRGINIA

Elk River

Charleston
A chemical used in the coal industry leaked into the Elk River on Thursday
4-methylcyclohexanemethanol (MCHM)
**Toxicology Data**

Not available.

### Section II. Composition and Information on Ingredients

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS Number</th>
<th>Percent (%)</th>
<th>TLV/PEL</th>
<th>Toxicology Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-Methyl-1-cyclohexanemethanol</td>
<td>34885-03-5</td>
<td>Min. 98.0 (GC)</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

### Section III. Hazards Identification

**Acute Health Effects**

No specific information is available in our database regarding the toxic effects of this material for humans. However, exposure to any chemical should be kept to a minimum. Skin and eye contact may result in irritation. May be harmful if inhaled or ingested. Always follow safe industrial hygiene practices and wear proper protective equipment when handling this compound.

**Chronic Health Effects**

**CARCINOGENIC EFFECTS**: Not available.

**MUTAGENIC EFFECTS**: Not available.

**TERATOGENIC EFFECTS**: Not available.

**DEVELOPMENTAL TOXICITY**: Not available.

**Inhalation**

If breathing is difficult, oxygen can be administered. Seek medical attention.

**Skin Contact**

Remove contaminated clothing and shoes. Wash clothing medical attention.

**Eye Contact**

Rinse eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to remove. Continue rinsing. Seek medical attention.

**Ingestion**

Induce vomiting by sticking finger in throat. Lower the head so that the vomit will not reenter the mouth and throat. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive.

**Inhalation**

If breathing is difficult, oxygen can be administered. Seek medical attention.

**Eye Contact**

Rinse eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to remove. Continue rinsing. Seek medical attention.

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11. TOXICOLOGICAL INFORMATION

Acute toxicity data, if available, are listed below. Additional toxicity data may be available on request.

Oral LD-50: (rat) 825 mg/kg

Used to decide “safe” level
Residents told water is safe to drink
<table>
<thead>
<tr>
<th>13</th>
<th>Monday</th>
<th>14</th>
<th>Tuesday</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residents told water is safe to drink</td>
<td>?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Residents told water is safe to drink.

“CDC recommends - out of an abundance of caution that pregnant women drink bottle water until there are no longer detectable levels of 4 4-methylcyclohexane methanol, or MCHM, in the water distribution system."
January 16 – Company makes other toxicology studies public - based on adult male/female rats

6 Days after the spill
TOXIC SUBSTANCES CONTROL ACT

Passed: 1976

NEVER UPDATED
Tip of an Iceberg

~200 chemicals tested for health effects

~3000 chemicals manufactured/imported
> 1 million pounds

~62,000 chemicals “grandfathered in” TSCA, not tested

~700 new chemicals added each year

(87,000 chemicals registered for use in the U.S. commerce as of 2006)
Pharmaceuticals must have data to show **efficacy** and **safety** prior to use.

- Do manufactured chemicals have to have data on **safety** before use?

**NO**
February 12, 2014

The Honorable Fred Upton  
Chair, Energy and Commerce Committee  
U.S. House of Representatives  
Washington, DC 20510

The Honorable Henry Waxman  
Ranking Member, Energy and Commerce Committee  
U.S. House of Representatives  
Washington, DC 20510

The Honorable John Shimkus  
Chair, Environment and the Economy Subcommittee  
U.S. House of Representatives  
Washington, DC 20510

The Honorable Paul Tonko  
Ranking Member, Environment and the Economy Subcommittee  
U.S. House of Representatives  
Washington, DC 20510

Dear Chairman Shimkus and Ranking Member Tonko,

The American Congress of Obstetricians and Gynecologists (ACOG), the American Society for Reproductive Medicine (ASRM), the American Academy of Pediatrics (AAP), and the Society for Maternal-Fetal Medicine (SMFM) thank you for your leadership in elevating the issue of toxic chemical reform. Together our organizations represent nearly 120,000 physicians and partners dedicated to the health of vulnerable populations such as pregnant women, infants, and children. We appreciate your commitment to enacting meaningful chemical safety legislation.

We are taking this opportunity to provide you with our comments on reform of the Toxic Substances Control Act (TSCA).
“… we must shift the burden of proof from the individual health care provider and the consumer to the manufacturers before any chemicals are even released into the environment.” Dr. Jeanne Conry, President ACOG
Actions Matter – Policy

PBDEs concentration ng/g lipid

June 2006, California State bans PBDEs

39%

Summary

- Exposure to toxic environmental chemicals among pregnant women are ubiquitous
- Health impacts can manifest across the lifespan and generations
- Preventing exposure to reproductive toxicants requires improved public policy
Thanks for listening!
Questions?