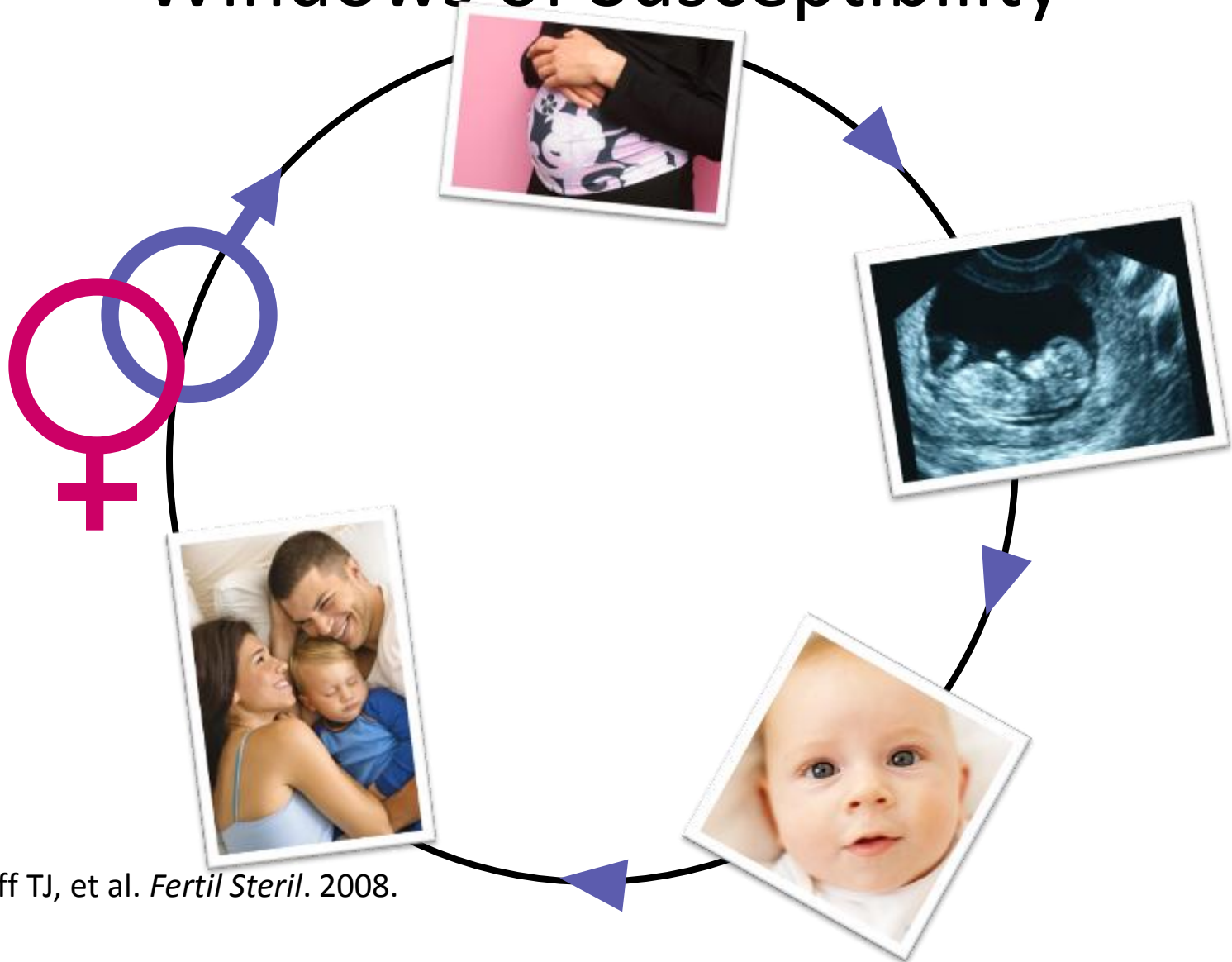


# Environmental Challenges to Fertility

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# 1. Environmental Exposures and Critical Windows of Susceptibility



Woodruff TJ, et al. *Fertil Steril*. 2008.

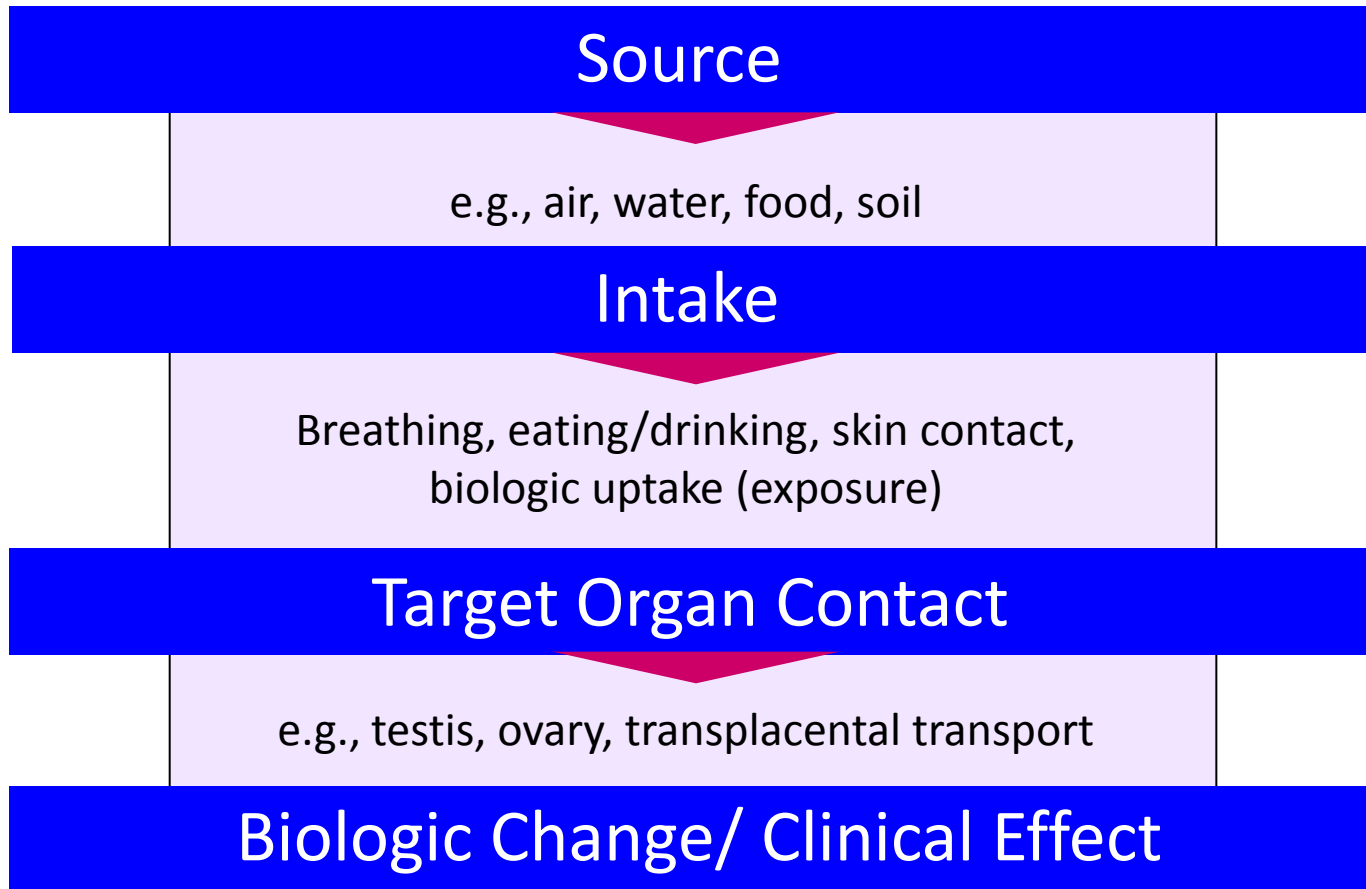
# 2. Routes of Exposure

- 1 Inhalation
- 2 Ingestion
- 3 Skin contact
- 4 In utero exposure (fetus)



*more...*

# 3. Exposure-Effect Continuum



# 4. Fertility Challenges – Congenital

- Uterine Anomalies (eg DES)
- Diminished number of eggs (animal data with BPA exposure, human data from in-utero exposure to cigarette smoke)
- Abnormal genitalia (undescended testes or hypospadias) and low sperm counts from testicular exposures prior to birth

# 5. Fertility Challenges - Acquired

- Obesity – lowers fertility in women and men
- Underweight – lowers fertility in women
- Endometriosis – may be related to environmental exposure to PCBs
- Lower sperm counts (perhaps exposures to BPAs, poor air quality, cigarette smoke, insecticides) and egg numbers (cigarette smoke)

## 6. Fertility Challenges – Clean up the personal incubator

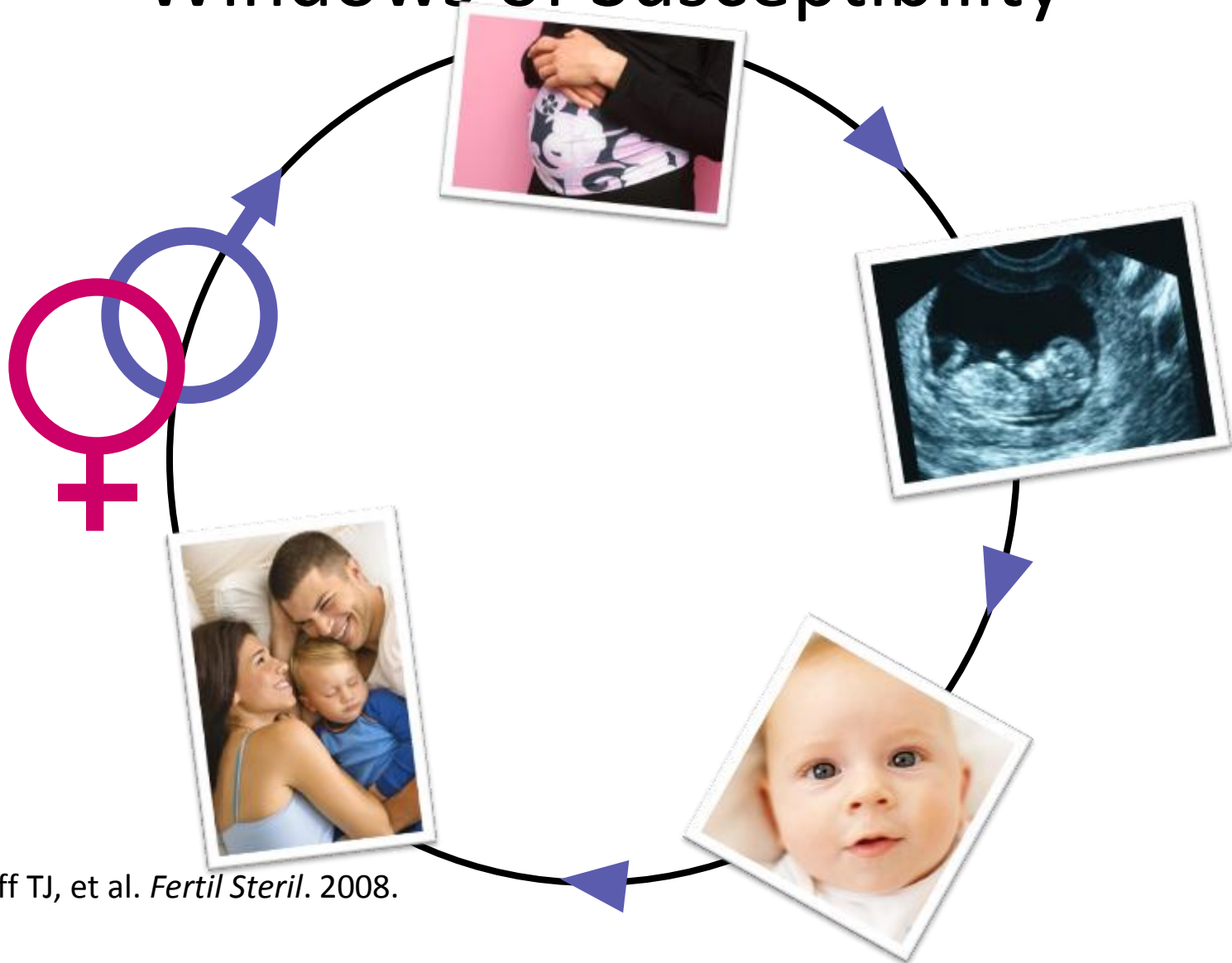
- Maintain a health weight for men and women (lowers miscarriage rates, improves fetal outcome and health of future adult)
- Decrease exposure to known endocrine disruptors –decreasing exposure to cigarette smoke, avoiding BPA (canned food), phthalates (personal care products), insecticides (organic food) can lower fetal exposure – the important time may be before a woman knows she is pregnant

# 7. Clean up the Larger Incubator Your Community and the Planet

- Advocate for clean air
- Advocate for clean water (not water out of plastic bottles.....)
- Advocate for decreased use of pesticides
- Break the cycle
- Protect your future child's fertility



# 8. Environmental Exposures and Critical Windows of Susceptibility



Woodruff TJ, et al. *Fertil Steril*. 2008.