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ROLE OF ENVIRONMENT ON PRENATAL DEVELOPMENT

- By environment, I mean *agents and circumstances outside the organism* (i.e., not genetic).
  - environment in uterus
  - environment in outside world, etc.

- 25% of congenital defects are purely genetic
- 3% are due purely to environment
- 25% are due to a combination of both
- Over 40% specific cause is unknown.

Research On Environmental Factors Is Hard To Do & Often Inconclusive

- **Research with humans is:**
  - necessarily naturalistic/correlational
  - can't absolutely conclude causality
  - confounding factors

- **Experiments with controlled manipulations only possible with nonhumans.**
  - External Validity:
  - Also seldom study nonhumans for long-term

TERATOGENS

- Teratogens - environmental agents that cause disruption of normal progress during prenatal period.

Principles of Teratogenic Effects

- Susceptibility:

- Level of Dosage:
  - amount:
    - smoking:
    - alcohol:

- Critical periods:
  - peak susceptibility?
  - examples of how timing relates to effect:
    - Rubella/German Measles
    - Thalidomide

- Sleeper Effects
  - DES:

Drugs as Teratogens

- Alcohol
  - *Fetal Alcohol Syndrome*

- Nicotine (Carbon Monoxide)
  - *Fetal Tobacco Syndrome*

- Caffeine

- Illegal drugs

- Aspirin

Diseases as Teratogens

- Rubella (German Measles)
- Herpes:
- Taxoplasmosis:

Teratogens Affect Male & Female Gametes

- Eggs
- Sperm

Preterm Infants & Low Birth Weight Infants

- Preterm Infants:
- Low birth weight infants:

Public Policy Issues

- Laws to prevent women of child bearing age from doing certain jobs
- Maternal liability for child disability