What is an exposure? An exposure is the interaction of behavior and the environment. There are many types of exposures, and these may be naturally occurring or made by humans.

Primary Routes of Exposure

- The three primary routes of exposure are inhalation (what we breathe in), ingestion (what we eat or drink), and skin/eye contact.
- Total exposure is the combination of all contaminants absorbed through inhalation, ingestion, and skin/eye contact.
- Exposure varies between individuals and across communities.

Dimensions of Exposure

- **Duration (How long?)**
  - Acute – short-term exposure
  - Chronic - long-term, potentially constant exposure

- **Intensity (How much?)**
  - Concentration/quantity
  - May reflect either cumulative or peak/maximum exposure

- **Frequency (How often?)**
  - More than once a day?
  - Daily or weekly?
  - Monthly or yearly?
  - Yearly?

- Asking questions about the dimensions of exposure can help us better understand which individuals have the most and the least exposure.
- Sometimes exposures stay the same across our lifetime (e.g., our genes) and sometimes they may change daily (e.g., our physical activity).

Vulnerable populations

- At certain points over the life course, individuals may be more susceptible to the potential adverse effects of different types of exposure.
- We may also define vulnerable populations in terms of other characteristics that may make them more susceptible to adverse health outcomes, more likely to experience severe disease, or more likely to be exposed to environmental contaminants.

Pregnant women and the developing fetus

Infants and children

Elderly individuals

Immunocompromised individuals

Economically vulnerable communities

Where to learn more:

- [https://www.epa.gov/expobox/exposure-assessment-tools-routes](https://www.epa.gov/expobox/exposure-assessment-tools-routes)

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Reducing Exposures to Harmful Chemicals

In your home
- Test for Radon
- Test your private well
- Use HEPA air filters to improve indoor air quality
- Eliminate sources of lead exposure in the home
- Avoid stain resistant carpet and furniture
- Wet dust/mop and use a vacuum with a HEPA filter
- Choose safer cleaning products

In your food
- Eat more home-cooked, whole food-based meals, and less ultra-processed food
- Eat a varied diet
- Be a conscientious consumer of seafood and game meat
- Choose glass or stainless-steel food containers
- Avoid non-stick cook and bakeware

On your body
- Reduce the number of personal care products that you use daily
- Choose products with safer ingredients
- Use fragrance free products

Making one or two changes can have a big impact
Small changes add up over time
Prioritize the changes that are most important to you

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