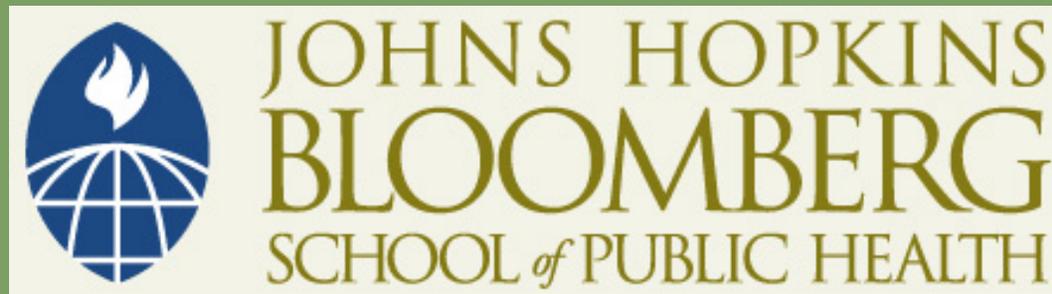


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JOHNS HOPKINS
BLOOMBERG
SCHOOL *of* PUBLIC HEALTH

Section B

Physical Environments and Toxic Exposures

A Child's Changing Environments

Age	Behaviors related to exposure	Physical spaces
0-2 mos.	Breast/bottle fed; hand to mouth, surface contact	Breathing space close to floor; sedentary, home/ daycare
3-11 mos.	Floor mobility increases; mouthing objects; food consumption	Floor; mobility may stir dust particles
12-23 mos.	Consumes all foods, highly mobile, touching and mouthing	Upright, wider breathing zones, more out-of-home exploration
2-5 years	Hand to mouth declines	Outdoor spaces increase
6-10 years	Decreased tactile and oral exploration	School, sports, and social environments

Portals of Entry and Exposures

Portal of entry	Exposures
Breast milk	PCB, dioxin
Food	High dairy and fruit intake: Alar, PCB, organophosphates
Drinking water	Fertilizers, pesticides, mercury
Soil	Pica: lead, fertilizers, pesticides
Inhalation	Mites, dust, allergens, nicotine
Skin	Organophosphates, lead, toluene, nicotine

Toxins and Their Consequences

Toxin	Consequences
Lead	IQ deficit, hyperactivity, attention problems, LD, violence/aggression
Mercury	Visual impairments, LD, attention deficit, motor dysfunction
Ethanol	Memory impairments, LD, attention deficits, behavior problems, craniofacial/limb/cardiac abnormalities
Toluene	Craniofacial abnormalities, speech deficits, motor dysfunction, LD
Organophosphates	Developmental delays, hyperactivity, inability to draw familiar objects, decreased memory, decreased stamina
Nicotine	Hyperactivity, LD, delay in cognitive development
Dioxins/PCB	LD, memory impairment, hyperactivity

Conditions That Negatively Affect Brain Development

- Alcohol
- Lead
- Tobacco
- Prenatal infections (TORCH)
- Ionizing radiation

Conditions That Negatively Affect Brain Development

- Alcohol
- Lead
- Tobacco
- Prenatal infections (TORCH)
- Ionizing radiation
- Cocaine
- Metabolic disorders (PKU)
- Mercury
- Iron deficiency
- Chronic stress