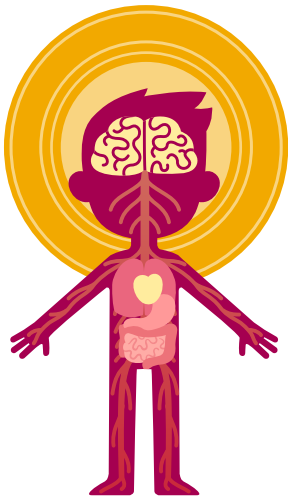




Prenatal-to-Age-Three Is Critical for Lifelong Health and Development

Early experiences and relationships affect the development of all biological systems in the body, building the foundation for all future learning, behavior, and health. Just as a weak foundation compromises the durability and strength of a house, adverse experiences early in life can impair healthy development and brain architecture, affecting both short- and long-term learning and health.

The foundation for healthy development is built early.



- Starting during the prenatal period, all biological systems in the body interact with each other and adapt to the context in which a child is developing—for better or for worse.
 - Biological systems relating to brain development, heart and lung function, digestion, energy production, fighting infection, and physical growth are **all interconnected and influence each other's development and function.**
 - Healthy development and a strong brain architecture built early in life are the foundations for all future learning, behavior, and health.
- Cardiovascular disease, diabetes, and depression—three of the most common and costly conditions that account for more than **\$600 billion in health care expenditures** in the U.S. annually—can be linked to adverse early childhood experiences.

Brains and body systems are built over time, from the bottom up.



- In the first three years of life the brain develops most rapidly, forming **more than 1 million new neural connections every second.**
- The billions of connections that form between neurons in the early, most active years provide either a strong or weak foundation for connections that form later.
- Experiences and exposures during pregnancy and the first few years after birth also affect developing biological systems in many ways that are difficult to change later.

Toxic stress can overload biological systems and lead to long-term consequences.



- Toxic stress, the excessive activation of stress response systems that can occur when a young child does not have supportive, caring adults, can lead to lifelong problems in learning, behavior, and physical and mental health.
- When stress responses are activated frequently, intensively, and persistently during early childhood, they can become set on permanent high alert. **Too much activation of the stress response can lead to obesity, elevated blood pressure, chronic inflammation, insulin resistance, diabetes, cardiovascular disease, and cognitive impairment later in life.**
- This damaging level of continual stress can be prevented or reversed by supportive and responsive relationships with caring adults in the earliest years of life and by reducing the sources of stress that affect pregnant mothers and families with young children.

Efforts to improve learning outcomes for children and prevent chronic illnesses in adults must begin in the early years from prenatal to age three.

- Policymakers, government leaders, program developers, and practitioners can help parents build the foundation for lifelong health and learning, and reduce disparities in preventable diseases and premature deaths, by ensuring that families and young children have conditions and environments that support healthy development.
- Programs that support infants and toddlers by **promoting responsive relationships, reducing sources of stress, and strengthening core life skills** build strong foundations for future success and could lower the high costs of health care for chronic illnesses that have their origins in early childhood adversity.



Learn more about the scientific case for investing in the first three years of life at www.thencit.org.

SOURCE: Center on the Developing Child at Harvard University. <https://developingchild.harvard.edu/resources/>