

# PREVENTION Tactics

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## Early Childhood Development- A "No Brainer"?

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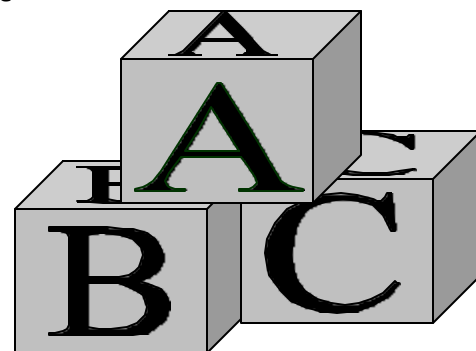
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Is the power of your brain determined by what's stuffed inside it when you're made? That's what the scarecrow thought! When it comes to humans, the nature of brain growth after birth was once thought to be primarily pre-determined by genetics. However, thanks in large part to new technologies like MRI and PET scans, scientists are able to get a better picture (literally) of brain activity and development. Research now shows that a child's experiences and interactions with people before the age of four are extremely important. These experiences help determine the actual structure of the brain—how people think, learn and behave into adulthood.

### WHAT HAPPENS INSIDE?

Nerve cells in the brain (neurons) develop rapidly before birth, reaching a count of about 100 billion. After birth no new neurons are formed, but the child's brain faces the task of creating connections (synapses) among the neurons. These connections provide the structure for learning about and understanding the world. Some connections are also "pruned" away, but during the early months they are formed more quickly than they are broken. By the age of two, a baby has as many synapses in her brain as an adult. By the age of three she has almost twice that many—1,000 trillion! Through the first 10 years of a child's life this number holds fairly steady, then pruning starts occurring more rapidly



than formation. By late adolescence the connections have been trimmed down to roughly 500 trillion synapses, about the same as an adult. Early childhood experiences help determine which synapses are strengthened and kept, and how many are kept (if strengthened enough, a connection becomes "immune" to pruning).

### WHAT HELPS THE BRAIN DEVELOP?

So, what are the "good" brain-developing experiences? What things can parents and caregivers do to make the most of this time when a child's brain is so active? Infant flash cards? Toddler reading programs? Not necessarily. Actually, any type of loving, involved and stimulating caregiving promotes brain development, including many of the things people already do naturally with children. Infants' learning occurs through a caring, trusting relationship, not through learning instruments propped in front of them. Playing a game of "patty-cake," for example, not only causes excitement and laughter, but synapse development as well. Reading a picture book, even to a pre-verbal baby, activates thousands of his neurons—creating new connections between brain cells and strengthening existing ones. This simple activity is part of how a child's brain recognizes sounds and

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Youth Development

## Early Childhood Development

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develops language skills. Encouraging a toddler to interact with a book (“Which one is the elephant? Why do you think he’s so big?”) promotes synaptic activity at a different level. Because of the way the human brain develops, the first three years of a child’s life represent an opportunity for

“super learning” from everyday life. Within the “super learning” years and the entire first decade, there are smaller windows of time when certain areas in the brain get extra special priority. These “windows of opportunity” are a prime time for growth and strengthening in those areas of the brain. Children are ready to pick up lessons from adults—they are competent, curious and motivated (an attentive adult can also pick up cues about a child’s readiness to move on). Missing these early windows does not mean it’s “too late” to learn. Later efforts may be more difficult, however, and possibly less effective.

### Tips for Parents

1. **Be warm, loving and responsive.** When children receive warm, responsive care, they are more likely to feel safe and secure with the adults who take care of them.
2. **Respond to the child’s cues and clues.** Recognize and respond to the sounds, movements and expressions that your child makes. This will help you build secure attachments.
3. **Talk, sing and read to your child.** All of these interactions help your child’s brain make the connections it needs for growth and later learning.
4. **Establish rituals and routine.** Teach your child to know when its time for bed by developing routines such as singing a song and pulling the curtains—daily routines and rituals associated with pleasurable feelings are reassuring for children.
5. **Encourage safe exploration and play.** As infants grow, they begin to explore the world beyond their caregivers. Parents should encourage this exploration. While many of us think of learning as simply acquiring facts, children actually learn through playing.
6. **Make television watching selective.** Watch television with your child, and talk about what you are viewing. Don’t use TV as a baby-sitter.
7. **Use discipline as an opportunity to teach.** In addition to consistent and loving adult supervision, teach your child limits. Never hit or shake a child.
8. **Recognize that each child is unique.** Children grow at different rates. Their ideas and feelings about themselves reflect, in large measure, parents’ and caregivers’ attitudes towards them.
9. **Choose quality, long-term child care and stay involved.** Frequently visit your child care provider and seek someone who responds warmly and responsively to your baby’s needs.
10. **Take care of yourself.**

*Adapted from the “I Am Your Child” Campaign*

### WHAT DOES IT ALL MEAN?

So, interactive caregiving is good for kids’ brains. Aside from good grades, what other aspects of a child’s life and lives of other people around her may be affected? In addition to enhancing brain development in ways that can be measured on intelligence scales, research shows that warm, responsive caregiving strengthens the biological systems that help a child handle her emotions and provides an “immunizing” bio-function against the effects of stress. A strong, secure bond between child and caregiver will help her withstand the ordinary stresses of life—today and in the future. Children who receive responsive care in the first year of life are less likely to respond to minor stresses by producing a steroid hormone called cortisol. This is important because cortisol affects the metabolism, immune system and brain, allowing the brain to actually become vulnerable to processes that destroy neurons and synapses. On occasions when the more nurtured children do produce cortisol in response to minor stresses they are able to turn it off more rapidly and efficiently than other children. Children who receive responsive care during their first year of life are also more likely to develop strong social skills, while those who receive erratic care tend to become dependent and anxious, and those receiving care characterized as unresponsive are more likely to keep other people at a distance emotionally. Early prevention/intervention through caregiving provides a strong foundation that helps a child be more healthy and resilient. It doesn’t keep a child’s life trouble-free, but it can help provide healthy mental and physical resources for responding to hard times. Widespread understanding and practice of strong early caregiving will benefit children throughout their lives. It will also benefit the families of today and tomorrow, educators, employers and taxpayers. Giving children the best footing possible in life ultimately benefits us all.

## Economic Impact Over Time

### The High Scope/Perry Preschool Program

There have been several studies designed to measure the long-range effects of enriched and interactive early caregiving. One of the longest, the High/Scope Perry Preschool Project in Ypsilanti Michigan began in 1963. Three- and four-year-old children attended an enriched preschool program for 2.5 hours a day, five days per week. The program not only provided interaction and attention to the children, but education and family support to the parents as well.

The study has followed 113 participants who were randomly assigned to the program or comparison group. So far, the participants have been tracked to 27 years of age and measured on a variety of social indicators, including utilization of special education services, juvenile delinquency and arrests, teen pregnancy, employment history and post-secondary education.

Based on the differences between the program and comparison groups by the time participants reached age 27, every \$1 invested in the program (\$14,400 per child) had yielded savings of \$7.16 in costs that might have been incurred if the program had not existed. These savings to taxpayers were from the following sources: reduced need for special education services, higher taxes paid by preschool program participants because they had higher earnings once they entered the workforce, savings in welfare assistance and savings of the criminal justice system and to potential victims of crimes. The economic return from the Perry Preschool program outperformed the stock market from 1963 to 1993.

#### Source:

Schweinhart, L.J., H.V. Barnes, and D.P. Weikart. 1993 *Significant benefits: The High/Scope Perry Preschool Study Through Age 27*. Monographs of the High/Scope Educational Research Foundation, No. 10. Ypsilanti, MI: High/Scope Press. [Adapted from printing in Shore, R. 1997 *Rethinking the Brain: New Insights into Early Development*. New York, New York: Families and Work Institute}

## Moving into Action:

### Campaigns and Resources on Early Childhood Development

Attention is beginning to focus on the issue of early brain development throughout the nation. In June of 1996 the Families and Work Institute, inspired by the exciting new technological breakthroughs and growing interest in sharing and exploring this area, convened a two-day, cross-discipline conference on Brain Development in Young Children. The report which came as a result of this conference was at the core of a symposium at the White House in April of 1997. In opening, the First Lady said, "At first glance, it may seem odd to hold a conference here at the White House devoted to talking about baby talk, but that discussion has never been more important." Later she recalled reading to her daughter, "We had no idea...that what we were doing was literally turning on the power in her brain, firing up the connections...." Professionals from widely different fields--from neurology to child psychology--as well as parents, caregivers and others are coming together not only with their own findings but also to connect and mobilize for the benefit of children and communities. Some of these opportunities to get involved are described in the next pages.

"Our increasingly technically and socially complex society cannot afford to continue to allow large numbers of children to miss out on the positive experiences they need in infancy and early childhood; the costs, in terms of lost intellectual potential and increased rates of emotional and behavioral problems, are too high. The new developments in brain research show us what children need; our challenge is to ensure that every child receives it."

From *Starting Smart*, a paper by the  
of the Ounce of Prevention Fund.

## EARLY CHILDHOOD DEVELOPMENT INITIATIVE

Currently, California Ballot Initiative 781, the State and County Early Childhood Development Program, is in the stage of gathering signatures in order to qualify for the November 1998 ballot. The initiative arose largely from the I Am Your Child campaign (see next page) and from the energy and support of Rob Reiner and the Reiner Foundation. Initiative 781 proposes funding for a variety of services specifically designed to promote the healthy development of young children, with the funds coming from a fifty-cent per pack cigarette tax. The proposed services include:

- Child care skills for parents and child care providers.
- Smoking cessation programs for pregnant women and parents of young children.
- Education on the avoidance of alcohol, tobacco and other drugs during pregnancy.
- Child development, health care and social services not provided by existing programs.
- Prenatal and postnatal maternal and infant nutrition services.

For more information on Initiative 781, including how to receive a Petition to qualify the initiative for the ballot (deadline for signatures is May 11, 1998), you can contact:

### California Children and Families Initiative

510 West Sixth Street #1002  
Los Angeles, CA 90014  
(213) 627-5140

## Let's Hear from You!

Prevention Tactics welcomes reader comments on topics presented. Call us at (916) 983-9506 or drop us a line by FAX at (916) 983-5738. You can also send email to [info@emt.org](mailto:info@emt.org).

This issue of Prevention Tactics can also be found online at the EMT website:

<http://www.emt.org>.

## WEEK OF THE YOUNG CHILD

Each April since 1971, the Week of the Young Child is sponsored by the National Association for the Education of Young Children (NAEYC). The designated week for 1998 is April 19-25, and the theme is "Early years are learning years...make them count!" The week is dedicated to ensuring that every child receives the type of early environment—at home, at child care, at school, and in the community—that will promote their early learning. You can read more about the Week of the Young Child Handbook and other resources, dates and events on the NAEYC website at <http://www/naeyc.org/default.htm> or contact:

National Association for the Education of Young Children  
1509 16<sup>th</sup> Street, N.W.  
Washington, DC 20036-1426  
Phone: (202)232-8777 (800)424-2460  
FAX: (202)328-1846  
Email: [institute@naevc.org](mailto:institute@naevc.org)

## I AM YOUR CHILD CAMPAIGN

A nationwide campaign called, "I Am Your Child" is currently underway to call attention to the importance of the first three years of children's lives. The official campaign launch in Washington D.C. was during the 1997 Week of the Young Child. During this week, ABC aired an hour-long special on the subject, and Newsweek magazine published a special edition.

The I Am Your Child campaign continues, and booklets and videos for new parents, as well as other materials, are available from I Am Your Child. For more information, visit their website at <http://www.iamyourchild.org/start.html> or contact:

### CALIFORNIA

#### Oakland Area

Kate Dowling (510) 238-5159

#### Los Angeles Area

Jan Brown (626) 397-1315

Kit Kollenberg (310) 206-3078

#### San Francisco Area

Patricia Siegal (415) 882-0234

Susan Hirsch-Simmons(415) 296-9249

### NATIONAL

1010 Wisconsin Avenue NW

Suite 800

Washington D.C. 20007

Phone:(202) 338-4385

FAX: (202) 338-2334



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## Internet Resources

For more information on parenting skills and child development, check out these additional web sites. They can provide good links to others as well:

Families and Work Institute

<http://www.familiesandworkinst.org>

ERIC Clearinghouse on Elementary and Early Childhood Education

<http://www.ericcece.org>

National Parent Information Network

<http://www.npin.org>

Children Now

<http://www.dnai.com/~children/>

National Families in Action

<http://www.emory.edu/NFIA>

Children, Youth and Family Consortium Electronic Clearinghouse

<http://www.cyfc.umn.edu>

We would like to thank the following organizations for allowing presentation of their materials in this forum:

Families and Work Institute  
I Am Your Child Campaign  
National Association for the Education  
of Young Children  
The Ounce of Prevention Fund

# PREVENTION Tactics

**The EMT Group, Inc.  
391 South Lexington Dr. Ste. 110  
Folsom, CA 95630**

**Tak-Tiks: the art or skill of  
employing available means to  
accomplish an end.**

*The following are some of the organizations been funded by the California Department of Alcohol and Drug Programs to provide technical assistance to community-based alcohol and other drug prevention, treatment and recovery programs. For more information or to request technical assistance, call any of the following organizations:*

**The EMT Group, Inc. (Prevention)  
(916) 983-9506**

**American Indian Training Institute, Inc.  
(916) 920-0731**

**American Society on Aging  
(415) 974-9642**

**California Hispanic Commission on  
Alcohol and Drug Abuse  
(916) 443-5473**

**California Women's Commission on  
Alcohol and Drug Dependencies  
(818) 376-0470**

**Pacific Research and Training Alliance  
(510) 465-0547**

Call the Resource Center at the Department of Alcohol and Drug Programs for a catalog of **FREE** publications and materials. 800 879-2772

