



# PEN Notes: Fact Sheet #26

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## What in the World Are They Thinking? (Adolescent Brain Growth)

At one time or another, most parents of adolescents and teenagers have asked themselves “What in the world is he (or she) thinking?” in reference to behaviors or decisions of their middle-school or early-high-school aged child. New research suggests that the risk-taking behaviors, impulsiveness, and questionable decision making seen in this age range may be due to their still-developing brains. Adolescent and teenage behavior is not simply a matter of willful stubbornness or determination to drive their parents and teachers crazy. Early studies blamed increased hormone levels flooding the body for the often unpredictable, hotheaded, and immature conduct of pre-teens and teens. Hormones probably play a big role in a child’s behavior, but recent studies show that the brain undergoes a growth spurt at adolescence which has a big impact on a child’s behavior and thinking. Scientists have found that an area of the brain called the prefrontal cortex “the part of the brain in charge of executive functions, like planning, organizing, setting priorities, making sound judgments, anticipating consequences, controlling impulses, and calming unruly emotions, is the *last part of the brain to mature*. In teens, the prefrontal cortex is ‘asleep at the wheel’.” (Source: Pat Crum, DeVos Children’s Hospital, Grand Rapids, MI)



## What Can Parents Do to Help Their Teens?

- Adjust your expectations of teens. The brains of teens simply are not as fully developed as the brains of adults, so teens cannot think like adults even though they may physically *look* like adults.
- Predict that teens will “think” with their emotions more than they will think with their brains and use common sense. They may favor short-term benefits over long-term results.
- Help them think through problems, consider their options, and make reasonable decisions.
- Guide your teen, but avoid making all of his/her decisions. Discuss choices and consequences during calm and stress-free times to help prepare your teen for the times when he/she will need to make on-the-spot decisions.
- Supervise your teen and stay involved in his/her activities, but become more of a “consultant” than a “manager”.
- Respect the emerging abilities of your teen, but do not give free rein for him to be totally on his own just yet—his ability to make sound decisions is still developing. Teens still need their parents’ guidance even though they don’t think they do!



“To understand how adolescence, at times, can seem to combine the worst aspects of adulthood and childhood—confronting us with big, strong, intelligent people who may sometimes act like two-year-olds—we must consider some very different aspects of adolescent brain development.” It used to be thought that the structure of the brain was complete in adolescence, but new technology (magnetic resonance imaging, MRI) has made it possible to show that the teen brain is still a “work in progress”, far from mature, until well into a person’s 20’s. The development of the teen brain involves an enormous overproduction of connections between brain cells. Surplus connections mean that teens cannot keep track of multiple thoughts. By about age 18, the connections which are “hardwired” by experience are kept and the rest are trimmed away. This trimming increases the power and efficiency of brain function. Teens are creating their own brains, in a way. Whatever they choose to learn or experience will be hardwired and kept.

(Sources: [The Dana Forum on Brain Science](#), Vol. 5, 2003; Pat Crum, DeVos Children’s Hospital, Grand Rapids, MI)

## How Can Parents Aid in the Brain Growth of Their Adolescents?

- ✓ Encourage adolescents and teens to try many different activities, sports, and hobbies to find out what they are really interested in and have natural ability to do.
- ✓ Spend quality time with children of this age, but realize that they also need time to themselves and time with their friends. You are the parent, the guide and mentor, not the buddy or pal.
- ✓ Be a good listener and be available. Distracted or absent parents are not very helpful to adolescents and teens who want and need to discuss concerns or problems with adults.
- ✓ Allow your adolescent or teen to take advantage of the help and support of other responsible adults (teachers, coaches, aunts, uncles, grandparents, etc.), too. Young people may have several suitable role models in addition to their own parents.
- ✓ Invest a lot of time and energy into



- nurturing a comfortable relationship with your teens or adolescents. They will learn patterns of appropriate adult behavior, self-restraint, good judgment, and consideration for others as they spend time with kind and caring parents.
- ✓ Be patient. Understand that “this, too, shall pass” and your adolescent/teen will become a thinking, caring, sensitive, capable adult just like you did.
- ✓ Realize that this is a time when your child is vulnerable. Talk to him/her about the destructive short-term and long-term consequences of drug, alcohol, and tobacco use, and sexual activity or experimentation. Give them the facts, but try not to lecture.
- ✓ Try to direct your teen’s attention to the many options available to him/her. Provide as many opportunities as you can to give your teen a variety of life experiences. All the choices that are possible can be considered, and then he/she can start focusing on his/her life’s path.

It’s unfair to expect adolescents and teens to have adult levels of thinking, reasoning, and behaving before their brains are finished being built. Adolescents undergo remarkable brain growth leading them to the eventual maturity that we would expect them to have in their late teens and early twenties. The more technical and more advanced the studies of brain development become, the more they lead us back to some very basic beliefs of child-rearing: spend loving, quality time with your children. The brain is largely wired for social interaction and for bonding with loving parents and caregivers.