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Eye On Prevention

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New Research on Adolescent Brain Development

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DO YOU EVER FEEL like you are on a roller coaster ride with your teenage son or daughter? One day everything seems fine and the next there are emotional outbursts, risk taking, rule breaking, etc.?

Until recently teen behavior was largely attributed to raging hormones. Recent research on the brain now sheds new light on what really goes on inside teens' brains.

Magnetic Resonance Imaging (MRI) has shown that the teen brain is a work in progress.[1] We used to think the brain was fully mature by the age of 10 or 12, but new findings indicate that this may not be true. While brain researchers are cautious about interpreting their results, here is some of what we know so far:

➤ The brain continues to develop (mature) in the teen years and even into the 20s.[2]

➤ The parts of the brain responsible for sensation seeking are really 'turning on.' Teens seek higher levels of novelty and stimulation to achieve the same feeling of pleasure as adults.[3]

➤ The part of the brain responsible for exercising judgment is still maturing—it's like turning on the engine of a car without a skilled driver at the wheel.[4]

➤ Adolescents rely heavily on the part of the brain associated with emotional and gut reactions. Research found that those under age 14 tend to misread facial and emotional signals, seeing anger and hostility where there is none. Hence, it's easy to see that a teen might rant, "My teacher hates me!"[5]

➤ Teens have less activity in the part of the brain that directs motivation. That's why it is hard to get them going on that all important homework assignment.[4]

➤ The gland at the base of the brain that regulates melatonin levels, the teen's biological time clock that signals nighttime, takes longer to rise in teens. Consequently the brain's program for starting nighttime is later. This affects a teenager going to bed and getting up on a 'reasonable' schedule.[4]

➤ The teen brain has more plasticity (the ability to be shaped and molded) than the adult brain. This appears to make the adolescent brain more vulnerable to the disruptive affects of alcohol and drugs.[6]

➤ Alcohol impairs learning and memory, specifically with establishing new memories. Abuse of alcohol by teens may have long-term negative effects on the make up of their brains.[7]

➤ Teens may be less sensitive to the effects of alcohol, which may allow teens to drink longer than adults. Teens also increase their risk of brain damage even if drinking the same amount of alcohol as adults.[6]

> Adolescents are more vulnerable than any other age group to developing nicotine, alcohol, and other drug addictions because the regions of the brain that govern impulse and motivation are not yet fully formed.[8]

What should a parent do?

Help your teens make up for what their brains lack by providing structure, organizing their time, guiding them through tough decisions (even when they resist) and applying those time-tested parental virtues: patience and love.[4]

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