



## THE TEENAGE BRAIN: WHAT PARENTS NEED TO KNOW

*The teenage brain is not just an adult brain with fewer miles on it," says Frances E. Jensen, a professor of neurology. "It's a paradoxical time of development. These are people with very sharp brains, but they're not quite sure what to do with them."*

Thinking back on my children, working their way through middle school, I recall changes in them that felt abrupt. One night I read *Harry Potter* to my son, tucked him in and kissed him goodnight. The next morning, in walked a stranger, a lanky imposter rubbing his eyes, sullen when he answered my questions, if he answered them at all. The physical and behavioral changes in our teens are stunning, as hormones work their transformative magic. Yet so much of what differentiates a child from an adult is invisible to parents and teachers who daily try to make sense of this frustrating and amazing age.

In their newly released book, [The Teenage Brain: A Neuroscientist's Survival Guide to Raising Adolescents and Young Adults](#), Dr. Frances E. Jensen, and co-author Amy Ellis Nutt, discuss the extended sequence of development taking place inside the teen brain: "Children's brains continue to be molded by their environment, physiologically, well past their mid-twenties."

Dr. Jensen is a professor of neurology and the chair of the neurology department at the Perelman School of Medicine, University of Pennsylvania. She is also the mother of two young adult sons and, when she writes about parenting during the teen years, she brings both academic and parental authority: "Adolescents are not, in fact, an alien species, but just a misunderstood one." In her book that is filled with great parenting advice, she describes the central paradox about teen brains: "The teen brain offers major advantages on the one hand but unperceived and often unacknowledged vulnerabilities on their other."

We were lucky enough to interview Dr. Jensen and ask her about the challenges of parenting high school and college kids and how best to help them through these great growth years. Here are our questions and her answers:

### **1. Grown & Flown: Teens, especially boys, often become monosyllabic, refusing to elaborate or offer up much information. For parents, this can be scary. Do you have any suggestions?**

Frances Jensen: The more time you spend with your kids, the more desensitized they become to you and open up. Don't be that household where your kid comes home from school, gets a snack, and retreats into his bedroom with the door closed for the rest of the night. That is a pretty typical, sadly, modern family. Extract them for mealtime or some other family activities on a regular basis. You are interacting. Let them see you being you. They are watching you and let them see you make mistakes.

Being in the car together is wonderful because, blissfully for my sons, there is no eye contact. You are driving, they are in the passenger seat and you can start to have the conversations that would be uncomfortable face to face. In fact, one of my favorite parts of the college search process was going on trips with my kids and over a several hour car ride you would get to the bottom of a lot of "stuff."

Have a conversation with your kids about how they do not yet have very good split second judgement. I doubt there is a single teenager who hasn't had one or two events where parents have said to them afterward "Are you kidding? You are an A student, why did you do that?" It's not that teens can't reason through the question but they don't have access to split second reasoning in their frontal lobes like adults do. Their brain's activity isn't conducting fast enough for teens to say to themselves "Oh, I better not do this." They go for the risk and afterward realize that they shouldn't have done

that. Point out this weakness and ask them to try to think twice in the future.

Point out the downside of taking risks that can cause excess stress and injury to the brain. Give them the data and information facts rather than anger and orders. They love data! They are going through a stage and it is a natural stage. I talked to my sons about sad examples of DUI, deaths, suicide and I pointed out what went wrong. I would use these tragic examples in our community to tell them, "There by the grace of God goes you."

## **2. GF: What are the specific subjects that we need to discuss with our teens before they go to college and are out on their own?**

FJ:

- **Illicit drugs** – Cannabis can lower a teen's IQ if they are smoking on a daily basis.
- **Excessive alcohol** – tell them that they only have one brain and it is still growing. Binge drinking can cause cell death in a teen's brain at a level that would only cause intoxication in an adult.
- **Molly/Ecstasy** – there can be significant brain damage from these drugs which is especially true during the early 20's. Because the brain is changing and young adults have more receptors for the drugs, there is potential for severe damage.
- **Stress** – it can interfere with learning. With impulse control being weak in teens, they need to be careful about what they expose themselves to in terms of harmful situations which can cause stress.
- **Mental illness**– this is the time when depression, schizophrenia, and psychotic breaks can occur so you need to be connected with your kid so you are aware if you see signs. Discuss this with your college student so that if a friend has a problem they can recognize it and get help for them.
- **Learning machines** – college is the best time in their life to learn and their abilities will diminish over time. College is one of the last chances they can pull it off and memorize so easily so, carpe diem! It is a golden age for them. They will obviously have fun but tell your teen don't waste it. They can set themselves up for the future and turn themselves around. If they are a C student in high school they can become an A student in college. It is a fantastic time in life. This is a time when kids can work on strengths and weaknesses and they should recognize they have a power they won't have later in life. Biology suggests you have further to go to create yourself, which explains the late bloomer, especially in boys.

## **3. GF: While our kids are living under our roofs, we have a front row seat to observe their every change, both physical and behavioral. But after we drop them at their freshman dorm, that view is limited. How connected should be parents be during the college years?**

FJ: Err on the side of being fairly connected but not helicopter or bulldozer parents, which can create a child who has a sense of learned helplessness. Alienation is a problem if it grows from a bad relationship between parents and kids.

Being angry or misjudging your teen by projecting adult capacity on him or her and getting so angry that the parent-teen relationship degrades is a recipe for disaster in some cases. Don't be that parent. Recognize that your teen is going through a natural stage. They are not trying to be annoying all the time!

Try to stay connected. Be the parent who calls, shows up for the weekend, sends care packages. If I felt I was losing track of my child because he doesn't check in, I would be over at his college campus. I would make the effort, as embarrassing and goofy as you seem to them, you are making the effort and that is really important.

## **4. GF: Your book is loaded with the results from studies and graphical explanations of your points. You discuss the dangers of binge drinking on young brains. But if we only have a chance to tell our kids a few points about why NOT to overindulge in alcohol, what are those points?**

FJ:

- College is a big time to learn – society is asking them to use this time in their life to learn. There is synaptic plasticity but alcohol can undo the learning directly.
- Alcohol disrupts sleep patterns – sleep deprivation results in your inability to work at your potential. You are setting

yourself up for the worst week ahead when you binge drink on the weekend.

- Alcohol toxicity in kids can cause brain injury because a teen has more synapses which are more impacted than adults' brains are.
- Alcohol diminishes impulse control which can lead to extremely risky behavior like date rape and other heinous things.
- The same quantity of alcohol has a bigger effect on a kid than an adult. Teens are uniquely vulnerable to its effects.

**5.GF: You express frustration with the lack of teen brain research going out to parents and educators who can use it. What is the most compelling and simple message we can convey for you to draw parents into a longer discussion?**

FJ: The brain is the last organ in the body to mature which is done in the mid-twenties. It is more vulnerable in this window because of its underdeveloped state including frontal lobes (seat of judgement) which are not as accessible to teens as they are for adults.

Teens have a heightened ability to learn and synapses are functioning at higher levels which is excellent and explains why they can learn so much. However, addiction is another form of learning and they are more susceptible to negative effects of substances or stress. "Mind your brain!" How you treat it now will have lasting impact on the adult you are going to be. To the extent you can hold back on some of these risks, it is like paying it forward.



Frances E. Jensen, MD, is Professor and Chair of the Department of Neurology at the Perelman School of Medicine, University of Pennsylvania. Dr. Jensen has researched brain development from the neonatal period through adulthood. She was Professor of Neurology at Harvard Medical School, Director of Translational Neuroscience and Director of Epilepsy Research at Boston Children's Hospital, and Senior Neurologist at Boston Children's and Brigham and Women's Hospitals. She lectures widely about the teen brain at science museums, TEDMED, and high schools.