

Understanding and Nurturing the Adolescent Brain: How to protect and enhance the teenage brain



What type of teenager are you? How impulsive are you? Would you try to do something outrageous? Would you try smoking or drinking alcohol?

While some teenagers might take outrageous risks such as ingesting dangerous substances (legal and otherwise), others pass through the teenage years smoothly and happily, without displaying any negative or risky behaviors. It is important to understand that there are specific changes taking place during adolescent brain development that influence decision-making and judgment. Therefore, it is important to enhance adolescent brain health and protect the teenage brain from harm. This includes eating healthy, participating in mental and physical activities, getting enough sleep, engaging in creative activities, practicing safety, managing emotions and avoiding drugs and alcohol.

Eating healthy

The rapid growth period during adolescence requires teenagers to consume the proper number of calories and nutrients necessary to nurture their minds and bodies. While the nutrient needs vary among teenagers and the amounts of food eaten differ from day to day, bear in mind that consuming healthy foods and beverages can help the brain to stay healthy. Because the heart and brain are linked to the same arteries that supply the body with blood, oxygen and nutrients, a brain healthy diet is also one that is good for the heart. Therefore diets and healthy eating habits should include fruits, vegetables, whole-grain and high-fiber foods, fat-free and low-fat dairy, beans, lean meats and foods rich in omega-3 fatty acids such as fish (salmon, fresh tuna, trout, sardines and herring) and various plant sources including nuts and seed oils (flax, chia and pumpkin seeds, walnuts and canola oil). In addition to lowering the risk of inflammation, arthritis, heart disease and cancer, omega-3 fatty acids play an important role in brain development because they help with brain memory and performance. They also help improve mood and protect the brain from depression and dementia.

Practicing mental/physical activities

Meditation and exercise positively affect the brain. Practicing yoga for example, can help teenagers become more disciplined. It helps to improve mood, promote

physical activity and reduce anxiety. Yoga can help a teenager be more creative and flexible. It also encourages self-reflection and awareness and helps to build resiliency and manage stress. Regularly



stimulating the brain with challenging activities (brain exercise) is also important. An active brain can enhance studying, learning new things and overall brain function. It is also linked with decreasing the risk of later life cognitive decline and dementia, including Alzheimer's disease. Similarly, physical activity is equally important as brain exercise. Exercising and practicing any kind of sport can enhance self-esteem, brain function and it can reduce the risk of mental problems such as depression and anxiety. Continuous physical activity also helps keep cognitive skills, such as thinking, learning and judgment, functioning over time. According to the CDC, children and adolescents are encouraged to engage in physical activity every day for at least 60 minutes. Such activity should include aerobic exercise and strength or resistance training with weights, machines or exercise bands. Before starting any type of physical activity, it is recommended to seek guidance from someone knowledgeable to help be sure exercises are being completed safely and properly.

Catching good zzzs

Sleep that occurs during the first half of the night is essential for brain development because the growth hormones are released. Learning and memory can be negatively affected in teenagers who are deprived of proper sleep. Quality sleep leads to a healthier brain and heart, in addition to a stronger immune system, which will help fight infections and illness. Sleep also enhances mood, helps prevent depression and contributes to a healthier metabolism and weight. To help teens sleep well, encourage a slowdown of evening activities, keep technology out of the bedroom and limit caffeine intake. According to the National Sleep Foundation, the recommended amount of sleep for adolescents is 8-10 hours per night.



Developing healthy relationships

Meaningful social connections and relationships are important for overall health, including the brain. The brain processes social acceptance by people similarly to other gratifying rewards such as receiving money or eating something pleasurable. Social acceptance can be rewarding as well as problematic for teenagers. Teenagers may feel the need to have friends and fit

in within a peer group, but it is essential to build and maintain healthy relationships within these groups. Friends must accept and respect each other, make each other better people and create a space where there are common interests. It is also important that teenagers make friends outside their peer group and participate in different social activities. Disagreements among friends should be settled peacefully and with respect. Friendships in which an individual feels sad, angry, scared, worried, controlled or disrespected should be reconsidered, as these are signs of an unhealthy friendship. Remember that respect, trust, honesty and communication are the core values of a healthy relationship.

Engaging in creative activities

Involvement in the arts exposes adolescents to numerous ways of experiencing the world, which in turn stimulates physical, social and emotional development. Studies demonstrate that individuals who participate actively in art-related classes can experience improvements in self-confidence, motivation and problem-solving skills, and are more engaged in learning activities. Being involved in the arts can also advance school-readiness, improve abstract geometry, increase reading proficiency skills, improve academic achievement and prevent risk behaviors such as juvenile delinquency. There is no need to be an “expert” when it comes to creativity and having fun. To get started, attend a music or art show or visit a museum or gallery. At school, seek various opportunities to get involved in art-related classes and extracurricular activities, such as music, painting, theatre, cooking, technology-education, debate and various clubs. There are also resources and apps online that can help you spark your creative self, such as Pinterest. Be bold, be creative!

Practicing safety

Risky behavior, bullying, inexperience with driving and various sports activities increase a teen’s risk for injury. The following tips can help reduce the risk of sports-related injuries: 1)

- Take a break from formal sport or physical activity at least one day a week to let the body rest; 2)
- Wear the appropriate protective equipment, such as helmets, mouth guards, eye protection and appropriate padding for neck, shoulders, elbows, chest, knees and shins; 3)
- Warm up and cool down with proper stretching exercises before and after any physical activity and 4)

- **Stay hydrated with water or other liquids before, during and after exercise or playing to avoid heat injury by decreasing or stopping exercise during high heat/humid days and making sure to wear loose-fitting clothing.**

Adolescents who engage in sexual risk behaviors (unprotected sex, unfamiliarity with the sexual partner, multiple sexual partners) are most likely to contract sexually transmitted diseases (STDs), Human Immunodeficiency Virus (HIV) and Human Papilloma Virus (HPV). Practicing safe sex includes using condoms consistently and a new condom each time there is intercourse or a sexual transaction; open communication regarding sexual history; setting sexual boundaries and obtaining factual information about STDs and the ways that you get them.

Texting while driving can cause car accidents with serious or deadly consequences. Indeed, typing and reading text messages while driving can diminish the ability to direct attention to the road, to respond to road traffic situations and to control a car within a road lane accurately. Constantly looking away from the roadway to read and type a text message or even play with the radio makes one less capable of detecting hazards or unexpected dangers which can increase the probability of getting into an accident. To prevent future vehicle accidents, always pay attention to the road and avoid the use of cellphones while driving. Parents and older siblings should model the behavior of not texting while driving to young drivers so that they can learn when it is appropriate to use cell phones. Remember that drivers who do not pay complete attention to the road and who have their hands away from the steering wheel are a safety threat for themselves, their passengers and other drivers.

Bullying refers to unwanted aggressive behaviors in which someone deliberately and continually harms another person. Bullying can be verbal, physical, sexual and/or emotional. Bullying can occur in person or through cellphones or computers (cyberbullying). Some examples of bullying behaviors include name calling, spreading rumors or gossip, physically or verbally attacking someone or intentionally excluding him/her from a group. The stress caused by bullying can negatively affect brain health. When bullied, a person is at increased risk of struggling with low self-esteem and feeling sad, lonely, anxious and depressed. As a result, there may be issues with health, school performance and changes with friends, peers or involvement with extracurricular activities and hobbies. Kids who bully others are more likely to engage in other violent or risky behavior, be more inclined to abuse alcohol and drugs, engage in early sexual activity and have problems in school and with delinquency.

Bullying should not be ignored and no one should assume it is their fault. According to stopbullying.gov, it is important to stop bullying on the spot. If a kid is too scared to speak up or does not feel safe, they should seek an adult who can stop the bullying on the spot. Adults can then work on separating kids, making sure everyone is safe, addressing medical or mental health needs, involving police or medical attention if weapons, violence or sexual abuse is involved. To feel safe into the future, kids should talk to a trusted adult, express their feelings, ask for help, think about what is posted and seen online and avoid places/events/activities where the bullying occurs.

Controlling your emotions: Self-management

The increase of testosterone in boys and girls during adolescence can inflame the amygdala, a small part of the brain that is associated with emotions, emotional behavior, motivation and pleasure-seeking. As a result, teenagers are more likely to react emotionally or out of pleasure. Part of being a teenager is learning how to manage emotions and recognize the consequences of decisions. Managing emotions includes being aware of how situations and people make you feel and being able to talk about it and practice acceptable reactions/ways to deal with the emotions. In regard to pleasure-seeking behavior, teenagers need to learn that while it may be fun to jump off a bridge into a lake, the consequence for doing so may be dangerous—that there could be a log under the water, it may be too high for landing safely or the current may be too fast to be able to swim to shore safety. Teenagers learn this through positive role models, rules, stability and consistency in discipline. Self managing refers to the ability to monitor and regulate emotions and work toward a positive goal. To self manage, step back, take a moment to think, examine emotions and decisions, and reflect about the possible consequences of those emotions and decisions in the future. It is about managing emotions instead of reacting to feelings. Regardless of the development of the brain, teens do have the power and ability to choose how to react to external situations or problems, and they will continue to learn over time and with maturity.

Avoiding drugs and alcohol

When teenagers engage in unhealthy behaviors such as drug and alcohol consumption, they are exposed to serious short and long-term effects on their brain and overall health. The bottom line---drugs change the way the brain works. Drugs are dangerous because they are addictive. They create pleasure, but with repeated use, the ability to feel such pleasure is reduced because a tolerance is being built. As a

result, the drugs are needed just to feel “normal” and before long, a person is addicted. Some teens think drugs like marijuana are not that serious. But even the short-term effects of marijuana use include problems with short-term memory and motor coordination, which can interfere with tasks of daily living, including decision-making and driving. The consumption of high dosages of marijuana can lead to paranoia and psychosis. Long-term effects include personality disorders, depressive symptoms and damage of the cognitive functioning as an adult. All of these problems



can lead to problems in school, at home and at work. Other drugs such as cocaine and amphetamines can also affect a teen’s control of impulses and decision-making, increasing the chances of risky behavior.

Heavy drinking has been associated with the incapacity to retrieve verbal and nonverbal information and with poor performance on school tests that demand attention skills. Binge drinking can actually kill teenage brain cells and cause permanent brain damage. Teenagers who drink alcohol tend to experience psychological distress, anxiety, depression and accident related injuries. Youth who drink at an early age are more likely to be involved with crime and delinquent activities. Teens practicing or being pressured to use drugs and/or alcohol should

look for help and support from parents, a trusted adult, teacher, school administrator or some other trusted source.

Better understanding the teenage brain can help protect it and make teenagers more aware of the importance of making appropriate decisions. Start protecting your brain today.

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