

HAVING FUN WHILE HELPING YOUR

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Play Together



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AS A PARENT OF A CHILD WHO HAS ADHD,

you are probably all too familiar with the struggle to find the right treatment option for your young one. Researching all the options available may lead to even more questions than answers: Which treatment will work for *my* child? Which will be ineffective? Which treatments are safe? Which ones involve risk? My child may be kind of squirmy and inattentive, but does he really need treatment?

Parents asking these questions may be relieved to hear that there are enjoyable activities they can do *with* their children to help them develop skills that will lead to better functioning in life.

Causes and common treatment approaches

ADHD is one of the most common childhood neuropsychiatric disorders, with a prevalence rate assumed to be around four to eight percent among school-aged children in North America. It typically emerges during early childhood, and for many, ADHD results in significant social, academic, and vocational difficulties that persist well into adulthood. While we do not know the precise *cause* of ADHD, which might not be the same for everyone with the disorder, we *do* know that both genes and environment play important roles. Recent data suggest that so-called “gene-by-environment interactions” result in delayed and/or diminished brain growth, which seems to underlie the inattentive, impulsive and hyperactive behaviors characteristic of ADHD.

You probably already know about the medications and psychosocial interventions available for your child. These interventions decrease the symptoms of ADHD, improve academic performance, and reduce the frequency and severity of commonly associated disruptive behaviors such as oppositionality and aggression. However, they also have several limitations.

Medications can have a variety of unwanted side effects and some parents may feel uncomfortable administering drugs to their children on a daily basis. Therapeutic interventions such as parent management training and other behavior management programs are expensive and need to be maintained continuously and rigorously to be effective. And even when they are effective, for many children, neither medication nor psychosocial interventions ever really normalize behavior.

Medications and behavioral interventions are also lacking when considering long-term outcomes. As soon as children stop these treatments, their behavior typically reverts back to how it was before treatment began. Therefore, it's alarming that the vast majority of people suffering from ADHD won't receive treatment for the disorder for the rest of their lives. The compliance rate for medications in people who suffer from ADHD is very low: Only about twenty percent of people continue to take medications a year after they started.

Playing and exercise can help

New evidence suggests that exercise and play may also be powerful tools for improving the symptoms of ADHD. Several studies have

provided evidence that enriching children’s environment through play can serve an important role in cognitive and social skills development by facilitating neural development.

It has long been known that the environment in which one lives affects one’s brain development. Recent studies, mostly with animals, have provided unequivocal evidence that living in more stimulating environmental conditions not only increases physical brain development, but also improves learning and behavior. Emerging evidence indicates that the same applies to humans as well: Cognitive stimulation, particularly when started at an early age, can facilitate children’s brain development and in turn have a substantial impact on learning and behavior. Furthermore, these effects may not be limited to early childhood. Other studies have shown that cognitive stimulation, social stimulation, and physical exercise may even delay the onset of dementia and other neurodegenerative diseases.

Physical exercise has also been found to be effective in stimulating brain growth in animals and to increase brain activation in children. This is particularly true for aerobic exercise (high energy activities that increase breathing and heart rate), as opposed to strength-building exercise. Investigators have found that children who had better aerobic fitness had greater volumes in some brain regions and did better on tasks requiring attention and inhibitory control, as well as some types of memory. And let’s not forget the many health benefits that go along with exercise, such as decreased risk of diabetes, cancer, obesity, and heart disease.

There are many fun exercise options you can choose from, especially during these warm

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months. You and your child can go bike riding, rollerblading, swimming, jogging, play tag, or just dance.

Stuck inside? There are a number of indoor alternatives as well, such as building your own obstacle course out of hula hoops, pillows, jump ropes, and other objects around the house. Don’t be afraid to use your creativity to come up with other fun exercise activities. For the creatively challenged, try coming up with ideas *with* your child; it will be a good collaborative project and there’s a good chance he or she will have lots of great ideas. These original activities may very well end up being more fun for your child than the standard ones that he or she has already learned. Especially for those of you who have a hyperactive child, exercise is a great activity choice. It is both a positive outlet for your child’s excess energy and a way to improve body coordination and control.

Play also has a very important function in facilitating the development of social skills. Children who engage in socially interactive play (playing together with others) learn how to read other people’s intentions, how to take turns, how to regulate their emotions and behavior, and the give and take nature of healthy relationships. Children can apply these acquired social skills to their lives in order to improve their interactions with other people.

Making sense of the science

What these studies tell us is that play and exercise can be used to stimulate brain growth in areas that are often underdeveloped in children with ADHD. The idea is similar to weightlifting. When we consistently use heavier and heavier weights, our muscles grow bigger and stronger. Our brains respond the same way to cognitive stimulation. The more they are exercised, the “stronger” they become. Therefore, it’s likely that the severity of your child’s disorder can be diminished by encouraging the playing of specific types of games and exercises which stimulate the growth and development of specific brain areas.

What kind of games should I encourage?

Although all games that require your child to think are valuable tools, most research has focused on the effects of building working memory (the purposeful remembering and manipulation of new information) in children with ADHD. Studies have found that training working memory can be helpful in improving children’s cognitive functioning and reducing ADHD-related behavioral problems. The idea again is that the more one practices, the stronger, and more efficient the working memory “muscle” becomes. You can practice this type of memory in your children by playing memory games with cards or pictures (match two from a group of cards or pictures by remembering their location after they are turned face-down), or “I’m Going on a Picnic” (take turns adding on to a list of items to take to a picnic by repeating all of the previously stated items before adding a new one; to make it more difficult, the order can be reversed).

Similarly, evidence suggests that activities targeted towards other skill areas aside from working memory are also helpful. The Training Executive, Attention, and Motor Skills (TEAMS) Study is an early intervention for children with ADHD whose goal is to encourage neural and cognitive development with games in several different skill areas:



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working memory; inhibiting one's own behavior; visual and spatial awareness; planning; and body movement, control and coordination.

Many common children's games involve one or more of these skill sets. Freeze dance, for example, requires the ability to abruptly stop one's own body movement. Building blocks helps children develop visual-spatial awareness, particularly when they are required to work out the placement of particular blocks in order to copy a block design from a picture. Hopscotch requires children to control their body while jumping, and all sorts of games with balls involve the implementation of complex motor and coordination skills.

Trying to pick games from various skill sets to play with your child may be a bit overwhelming, but try not to overthink it. Keep in mind that as long as your child enjoys playing the games with you, you're on the right track. The enjoyment of playing the games will lead to an increased desire in your child to keep playing them. This is crucial for continued success. The more your child enjoys these games, the more he or she will play them with you and others, and the greater the improvement in skill development will be. In addition, the more your child plays games, the less television he or she will watch. This is one big advantage that games and exercise have over other interventions: They are naturally fun. Instead of having to remind and encourage your children to take medication daily or go to treatment, they will be asking you to play brain-building games. Imagine an intervention for ADHD that is not only painless, but fun!

Once you begin to play these directed games frequently at home, you may very well find an improvement in the interaction between you and your child. Quality time between parents and children can be extremely beneficial in both the short- and long-term. Your child will value the positive attention you give him or her, and the shared time can improve your relationship. Also, unlike current ADHD treatments, in which the positive effects disappear when the treatment

ends, the beneficial effects of play and exercise are likely to be more long-lasting, for two reasons. First, if the activities are truly fun, the child will *want* to continue with them, hopefully instilling a lifelong desire for cognitively challenging games (e.g., checkers, chess, many card games, crossword puzzles) and physical exercise (e.g., running, biking, hiking). Secondly, if it is true, as evidence suggests, that these activities enhance brain development, it is reasonable to assume that the associated behavioral changes will be more enduring and perhaps even permanent.

When playing these games with your child, you should regularly take note of his or her performance and enthusiasm. If you find that your child is progressing rapidly, soon the game will no longer be challenging. This doesn't necessarily mean that you need to abandon it. Instead, try to come up with creative ways to increase its

difficulty. For example, for the matching game, increase the number of cards over time, or scatter their placement. You should also frequently praise your child not only for his or her performance, but also for effort.

Once you incorporate all these techniques into your child's play time you might find that his or her behavior improves. Or you might discover that the two of you have been getting along much better than usual. Either way, you will quickly discover the important benefits of this type of engagement with your child. Also keep in mind, depending upon the needs of your child, this type of intervention does not have to be instead of other more standard treatments, but can be applied in addition to them.

Happy playing!

Try to block out at least half an hour each day so that your child can consistently build these brain "muscles." A body builder who only lifts weights for a couple of minutes each week will not see much improvement. He must be consistent in his workout. Luckily, playing these games will be much more enjoyable than pumping iron at the gym.

Now you have the necessary tools to build your child's brain, so put this magazine down. Take advantage of the warm weather and give it a try. Go outside. Play a game. Improve your child's life. **A**

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