

Hey, Kids!

Keep Those Peepers Moving!

Why Juggling Is Good for the Eyes

By Marybetts Sinclair

“In the United States and Europe, nearly one-third of children between the ages of seven and seventeen become myopic and need glasses to see properly, yet the evidence suggests that being nearsighted used to be very rare. Studies from all over the globe confirm that rates of myopia are less than three percent among hunter-gatherers and in populations that practice subsistence agriculture.... Of all the factors identified as causes of nearsightedness, the most common culprit is close work: intent focusing for long periods of time on nearby images such as sewing or words on a page.... A related but more important cause may be a lack of sufficiently intense and diverse visual stimuli during childhood and adolescence,” Daniel Lieberman, *The Story of the Human Body*.

Let's think about how many hours are spent focusing closely on screens nowadays. As Daniel Lieberman points out in his book, *The Story of the Human Body*, it may not actually be the gazing at the screen that is the problem, but what the person is not doing while that activity is going on. They are not shifting from near to far, and often they are not using their peripheral vision or building their eye-hand coordination either. Juggling, on the other hand, has much to offer in the way of developing vision. Perhaps this is why it is recommended by optometrists who work with kids and adults to improve visual function, occupational therapists who work with people with vision problems, and by teachers of natural vision improvement. PE teachers use ball games to improve eye-hand coordination and grace of movement. Sport optometrists use balls in



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exercises such as juggling and ball tossing to improve eye-hand-body coordination and peripheral awareness, which is especially important for ball-playing athletes. Even very small children can play vision-improving games with balls as they roll them back and forth across the floor. Juggling can work for all these purposes!

Juggling activates and heightens peripheral vision because when you are looking beyond the balls, fixating outwards, you are using your peripheral vision to see the balls. This trains your brain to use your peripheral vision and also stimulates accommodation.

In addition to improving hand-eye coordination, juggling helps kids reduce stress levels, increase attention span, offer an opportunity for



self-discipline, improve focus and clarity, and create motivation and confidence. We've even read of schools that incorporate juggling into their day and see improvements in reading and math.

If you learn together, especially learning to pass from one to another, your kids will also build teamwork, good sportsmanship, and communication skills. Heck, us parents could benefit from more of that too!

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Remember, the brain benefits most when it's challenged but not too challenged, so keep introducing new tricks as soon as the last one is mastered by everyone who is juggling together.

Research has also shown that **juggling for kids increases connections and growth of the brain**. (See www.oddball-juggling.com/juggling-and-the-brain.) In one study by German researchers twenty-four people who had never juggled were split into two groups. One group didn't do any juggling, but the second group practiced juggling for three months.

Each person from each group was given an MRI brain scan before and after juggling. The non-juggling group showed no difference, as expected, but the **jugglers showed bigger volume and higher density of grey matter** in the brain.

In a second study done in the United Kingdom on juggling and the brain, forty-eight volunteers practiced juggling for thirty minutes a day for six weeks, including a juggling lesson each week. Regardless of whether they mastered juggling in the six weeks or how well they were doing by the end of the six weeks, **each volunteer showed an increase in white matter** in several areas of the brain as well.

All of this means that juggling can increase your physical reflexes as well as your mental reflexes, getting you to think and act quicker. It heightens your peripheral vision, improves coordination and decreases clumsiness, and helps you to think ahead and anticipate cause-and-effect.

According to the study on juggling and the brain, "This provides, to the best of our knowledge, the first evidence for training-related changes in white-matter

structure in the healthy human adult brain."

Since children's brains are even more malleable, are still forming pathways, and are taking in information and growing more connections than adults, this might just mean all you young jugglers out there will not only learn faster, but grow your brains even bigger than those adults in the studies!

If juggling can increase the size and density of your brain and helps all these areas of our mind in just six weeks, think what it will do as you continue to master the skill over six months or several years!
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