

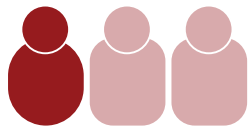
LUXOR

INNOVATIVE WORKSPACE PRODUCT SOLUTIONS

Solving Childhood Epidemics with **Educational Standing Desks**

Introduction

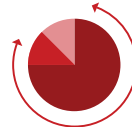
At present day, our kids are fatter, more hyperactive, less physically active, and academically weaker than ever before.¹ One in every 3 children is overweight in America today, and 1 in 6 of all kids is obese.² These children are at high risk for chronic diseases such as diabetes, cardiovascular disorders, hypertension, osteoarthritis, stroke, cancer, and premature death.³ Though many factors account for the decline in our children's health, an examination into the average adolescent life reveals that they spend 75% – 90% of their waking hours completely immobile.⁴ Of the 14 to 16 hours a child is awake, about half of their time is spent at school.⁵ Unfortunately, schools add to the inactive lifestyle due to the elimination of physical education programs and recess.⁶ Therefore, after the 7 to 9 hours spent sitting in a classroom, these sluggish hours compile with sedentary afterschool activities such as homework, television, internet browsing, and video games, causing kids to spend the vast majority of their days wholly inactive, lethargic, and struggling with numerous behavioral and health issues.



1-in-3 CHILDREN
IS OVERWEIGHT



1-in-6
CHILDREN IS
OBESE



ADOLESCENTS
ARE IMMOBILE **75–90%**
OF WAKING HOURS



**TELEVISION &
VIDEO GAMES**
WORSEN INACTIVITY

This new way of life is wreaking havoc on the well-being of children and dampening a hope of bright and active futures. As a result, schools and educators are turning to a proven solution for obesity, indolent lifestyles, and poor attention spans: student standing desks.

¹ Chatlani, Shalina. "Are Modern Standards Breeding a Decline in Cultural Literacy?" EducationDive.com, www.educationdive.com/news/are-modern-standards-breeding-a-decline-in-cultural-literacy/421401/.

² "White House Task Force on Childhood Obesity Report to the President." Letsmove.gov, www.letsmove.gov/white-house-task-force-childhood-obesity-report-president.

³ Wendel, M., Benden, M., Zhao, H., Jeffrey, C. "Stand-Biased Versus Seated Classrooms and Childhood Obesity." American Journal of Public Health, vol. 106, no. 10, 2016, pp.1849-1854.

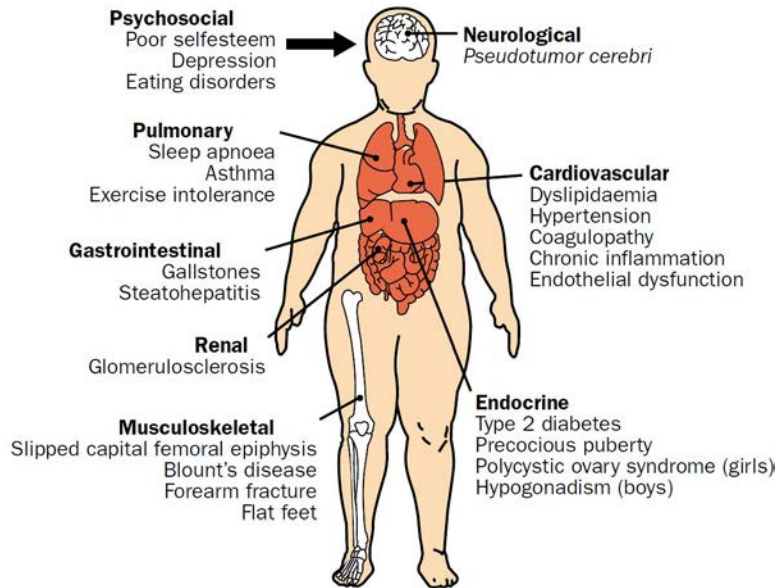
⁴ Peters, Adele. "Should Your Kid's School Have Standing Desks? These Crossfitters Think So." FastCoExist, www.fastcoexist.com/3045201/should-your-kids-school-have-standing-desks-these-crossfitters-think-so.

⁵ Wendel, M., Benden, M., Zhao, H., Jeffrey, C. "Stand-Biased Versus Seated Classrooms and Childhood Obesity." American Journal of Public Health.

⁶ Jensen, Eric. Teaching with the Brain in Mind. Alexandria, VA: Association for Supervision and Curriculum Development, 1998. Print.

Obesity Epidemic

COMPLICATIONS OF CHILDHOOD OBESITY



Childhood obesity lowers the quality of life in day-to-day activities, but it also dooms many to an adulthood that is crippled with disease, hardship, and overwhelming health obstacles. The rise in overweight and obese children has tripled in the past three decades⁷ and needs radical solutions to intervene in this growing trend. As previously mentioned, overweight children are at high risk for chronic illnesses such as diabetes, cardiovascular disease, hypertension, osteoarthritis, stroke, cancer, and premature death. With the current trend of failing adolescent health, this generation is projected to have a shorter lifespan than their parents.⁸ This is in spite of cutting-edge medical advancements and technology; instead of our young generation thriving with the wealth of modern-day wisdom, they are regressing to a drastic rise in preventable diseases directly correlated to a minimal movement lifestyle.

Source: Chaliotis, Keila. "Childhood Obesity." *Health & Fitness Talk*. www.healthandfittestalk.com/childhood-obesity/

In addition to poor physical health, obesity is proven to take an incredible psychological toll on children. Numerous studies have found that obese children are more likely to report clinical depression, feelings of overall sadness, loneliness, and nervousness. One particular study even concluded that obese children have a similar quality of life as children diagnosed with cancer.⁹ This generation's quality of life is rapidly declining by every measure.

Numerous factors contribute to this pandemic, such as a home's socioeconomic and education level, the consumption of processed foods and snacks, and the rise of stationary afterschool activities. However, parents and educators alike are eager to help solve the problem while children are physically within their classrooms. Standing desks have grown in popularity in the workplace due to evidence of the destruction to our bodies caused by 8-hour work days of continual sitting.

⁷ "The Epidemic of Childhood Obesity – Learn the Facts." Letsmove.gov, www.letsmove.gov/learn-facts/epidemic-childhood-obesity.

⁸ "White House Task Force on Childhood Obesity Report to the President." Letsmove.gov.

⁹ "White House Task Force on Childhood Obesity Report to the President." Letsmove.gov.

“Sitting is more dangerous than smoking, kills more people than HIV, and is more treacherous than parachuting. We are sitting ourselves to death.”

-Dr. James Levine,
Mayo Clinic

To quote a doctor committed to researching the adverse effects of sitting in the office, “Sitting is more dangerous than smoking, kills more people than HIV, and is more treacherous than parachuting. We are sitting ourselves to death.”¹⁰ Research shows that sitting, regardless of regular exercise, causes heart damage and disease, diabetes, colon, breast, lung, uterine and endometrial cancers, poor digestion, brain damage, severe spine, neck, and hip pain, muscle degeneration, weak bones, poor blood flow and varicose veins, and reduced life expectancy, to name a few consequences.¹¹ And now, education and research have caught on that continual sitting is just as, if not more, harmful to young people within the classroom.

Part of the solution is found by simply placing children on their feet and allowing movement throughout lessons and class time. A two-year long study in an elementary school concluded that kids in standing classrooms burn 300 more calories per week than traditional classrooms. That number almost doubles with overweight children burning 575 more calories.¹² Further, studies have reiterated the basic benefits of standing in the classroom, citing that it improves overall arterial function and circulation.¹³ This one small change within schools causes a tremendous shift for children’s health, especially those who require the greatest intervention.

¹⁰ Quote: Dr. James Levine. “Sitting is the New Smoking: Ways a Sedentary Lifestyle is Killing You.” Huffington Post, www.huffingtonpost.com/the-active-times/sitting-is-the-new-smokin_b_5890006.html.

¹¹ Mercola, Joseph. Interview with Dr. Levine. “Why Your Chair is Killing You, and what you can do about it.” Mercola.com, fitness.mercola.com/sites/fitness/archive/2015/05/08/sitting-too-long.aspx.

¹² DeNisco, Alison. “A New Twist On Concentration: Standing While They Work.” District Administration 50.9 (2014): 24.

¹³ “California School Becomes First to Lose Chairs for Standing Desks.” CBS News, www.cbsnews.com/news/vallecito-elementary-school-in-northern-california-brings-standing-desks-into-the-classroom/.

ADHD/Behavior Issues

Prolonged sitting and inactivity is a detrimental contributing factor to overweight children, but it is equally torturous to students with excessive energy. Managing inattentive children is an age-old difficulty, but it has significantly worsened in recent years. Today, 11% of children ages 4 to 17 are diagnosed with ADHD,¹⁴ a 42% increase in the past 8 years.¹⁵ In addition to children with diagnosed disabilities, typical school-aged children also greatly struggle to sit still due to the elimination of physical activity in school. In the previously mentioned two-year study on standing desks in the classroom, the authors immediately identified that schools and teachers focus less on physical activity because of the pressure to perform well on standardized tests.¹⁶ The strain on teachers and students alike has created unengaged children who lack proper energy outlets, resulting in the difficulty, and at times, inability, to sit and focus during the day.

With numbers of ADHD children and restless students rising, a transformation of the standard sitting classroom is imperative. One psychology professor and researcher further explains that ADHD children naturally fidget and become restless when they are required to specifically process and store information,¹⁷ for example, during an instruction or reading time at school. Therefore, in recent years, teachers have sought out avenues to help children engage and release energy. Extensive studies prove that student standing desks naturally eliminate many behavioral issues and offer immediate results for children with ADHD. Teachers across the country emphasize that kids who are generally disturbing other children and acting out have naturally adjusted their behavior during classroom times as a result of standing desks.¹⁸ In fact, researchers found that standing desks give students a 12% greater on-task engagement rate (measured by classroom involvement such as raising hands and contributing to class discussion).¹⁹ Standing desks cannot lower ADHD statistics, but they can tremendously aid a class's attention span and academic involvement by channeling energy through positive outlets.

Boys and girls display very different ADHD symptoms

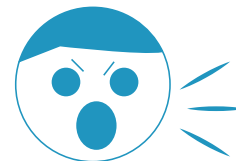
Boys' symptoms are obvious and "external":

Impulsivity or "acting out"

Hyperactivity, such as running and hitting

Lack of focus, including inattentiveness

Physical aggression



Girls' symptoms are less obvious, and more "internal":

Being withdrawn

Low self-esteem and anxiety

Impairment in attention that may lead to difficulty with academic achievement

Inattentiveness or a tendency to "daydream"

Verbal aggression: teasing, taunting, or namecalling



Source: Bueno, Tony. "ADHD by the Numbers: Facts, Statistics, and You." HealthLine, www.healthline.com/health/adhd/facts-statistics-infographic#6

¹⁴ "Attention-Deficit/Hyperactivity Disorder (ADHD)." Centers of Disease Control and Prevention, www.cdc.gov/ncbddd/adhd/data.html.

¹⁵ Krucik, George. "ADHD by the Numbers: Facts, Statistics, and You." Healthline, www.healthline.com/health/adhd/facts-statistics-infographic.

¹⁶ Wendel, M., Benden, M., Zhao, H., Jeffrey, C. "Stand-Biased Versus Seated Classrooms and Childhood Obesity." American Journal of Public Health.

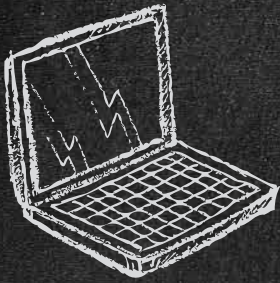
¹⁷ Bright, Rebecca. "Kids Who Can't Sit Still." National Education Association, www.nea.org/tools/47003.htm.

¹⁸ Peters, Adele. "Should Your Kid's School Have Standing Desks? These Crossfitters Think So." FastCoExist.

¹⁹ Wallace, Kelly. "Forget 'Sit Down!' Students now standing up to learn." CNN News, www.cnn.com/2015/12/10/health/standing-desks-impact-health-education/.

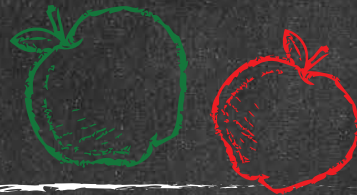
Today's Assignment: STAND UP

kids can spend 75% - 90% of their day sedentary



your heart beats 10X slower while you sit, thickening your blood and potentially leading to clots

1 in 3 kids is overweight



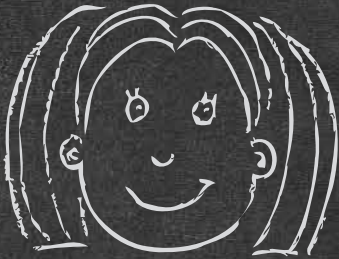
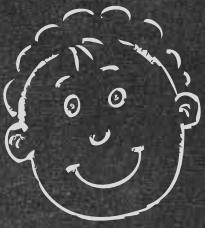
overweight children have an increased risk of chronic diseases, including diabetes, hypertension, osteoarthritis, stroke, cancer, and premature death.



1 in every 10 kids is diagnosed with ADHD

many schools and teachers spend little time on physical activities due to program cuts and pressure on standardized testing

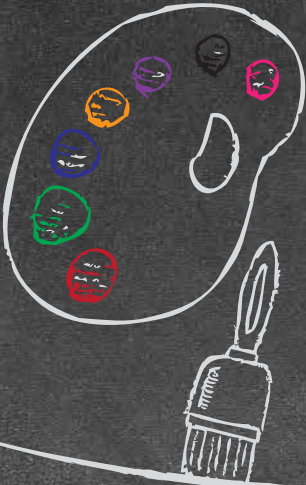




kids burn 300x more calories per week
with standing desks than children in
traditional classrooms



obese children burn 575x more
calories standing than sitting



movement sends endorphins to the brain, increasing
innovation, creativity, and productivity

overall arterial function
and



standing improves

circulation



standing desks increase engagement rates by
12%, particularly helping those with
excessive energy

Luxor continuously aspires to better our users' environments through innovative technology and designs – all while offering our product lines as affordable options for everyday users. Standing student desks are the embodiment of this desire as they touch on an at-large problem in America and provide a direct and immediate solution. It is predicted that schools will transition classrooms to standing desks during the next five years; Luxor wants to be one of the pioneers to aid this occurrence to optimize health and create an efficient learning environment.

LUXOR

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1-800-323-4656

customerservice@luxorfurn.com

www.LuxorFurn.com