

Physical Activity and Mental Health in Children and Youth: Information for Parents and Caregivers

Summary: As parents, we want our children to be the healthiest they can be, but this is not easy given the pressures of modern life. The good news is that physical activity is a powerful way to improve our children's and youth's well-being. There are many nudges that parents can do to build more physical activity into their day-to-day routines. For example, 1) we can make our transportation more active, e.g. walking and biking to the corner store instead of driving; 2) when driving, we can park further away; 3) lifestyle changes we can make include going out for a family walk after dinner, as opposed to watching TV.

A's Story: "She used to love being outside!"

A. is a 10-year-old girl who used to enjoy playing outdoors with friends but has become increasingly withdrawn in recent years. Her mother is concerned that her daughter appears anxious. A.'s parents' divorce and her academic struggles have contributed to her anxiety. Instead of socializing, she spends most of her time alone in her room, immersed in digital screens for comfort. Despite her parents' efforts, A. finds it challenging to break free from her anxiety and engage in other activities. What advice would you give her mom?

Introduction

Bad news

As parents and caregivers, we all want our children and youth to grow up as healthy as possible. It's not easy, because with all the stresses of modern society, many children and youth face various mental health challenges.

The good news

Studies confirm that moving with our kids, ideally outside, is a powerful way to help our children and youth with mental health.

Humans Need to Move

Throughout most of human history, humans spent most of their time moving around outside. It is estimated that our hunter-gatherer ancestors moved perhaps 10-15 kilometers a day. As a result, our brains and bodies require physical activity (and nature) to grow, develop and function at their best.

Unfortunately, in modern society, we tend to live a sedentary lifestyle, spending several hours a day inactive (in

front of a screen, sitting on a chair or couch, sitting in a vehicle). As a result, the lack of nature and physical activity may be contributing to many of the physical and mental health problems that we are seeing.

What is Physical Activity?

Physical activity means anytime we move our bodies. It includes:

- Physical activity that we do as part of our day-to-day, such as
 - Walking to daycare or school
 - Walking up and down the stairs rather than taking elevators
 - Walking or biking to the corner store together
- Activities we do on purpose for fitness and activities you can do with your child, such as going for
 - Running
 - Swimming
 - Figure skating
 - Family bike rides
 - Family walks
 - Ball games such as catch, soccer or basketball
- Team activities such as soccer, basketball, gymnastics
- Sport
 - Activities that your child can participate on their own or with your supervision such as

How Does Physical Activity Help Mental Health?

Low-intensity movement on a day-to-day basis encourages our body to have neurotrophic or growth factors, which builds brain cells in key brain areas such as the hippocampus, thus helping to improve moods.

High-intensity exercise releases the body's feel-good chemicals known as endorphins, which lead to the "runner's high" that runners talk about.

What are the Benefits of Physical Activity for Mental Health?

There are many physical and mental benefits to being active, such as:

Improved physical health

- Healthier cardiovascular system (thus less chance of heart disease, high blood pressure and diabetes)
- Healthier overall fitness (less chance of being overweight)
- Stronger bones

Improved brain health

- Better sleep
- Better focus and concentration.

Improved emotional health

- Better mood (which protects against depression and anxiety)
- Increased self-acceptance (and self-esteem) about your child's body

Improved social health

- Being active outside the home helps your children and the family have more chances to meet friends and connect with others in the neighbourhood.

Which is Better, Indoor or Outdoor Activities?

Studies have compared the positive effects of

a) Indoor physical activity (e.g. running on a treadmill) vs. b) Outdoor (“green”) activities (e.g. running outside)

Studies confirm that outdoor or “green” exercise is the best. When people get outside, they have the benefits of being in nature (e.g. sunlight, fresh air, etc.) and naturally move more than when they are inside.

What if the weather is bad outside?

- There is an old Swedish saying that there is no bad weather, just bad clothing.

Is it too cold?

- Try to get warmer clothing.

Is it too wet?

- Try to get waterproof clothing, e.g. rain jacket and rain pants.

Studies show that the mental health benefits of being outside are the same, whether you are outside on a sunny day or a rainy/cloudy day.

How Much Physical Activity Do Children/Youth Need Daily?

For adults, it is recommended:

- That they be active at least 30-minutes a day (Participation, 2023).
- Note that the 30-minutes a day doesn’t have to be all at once; it could be divided up, such as three 10-minute walks, or two 15-minute walks, etc.

For children/youth, it is recommended:

- At least 60-minutes a day of moderate to vigorous physical activity (Participation, 2023).
 - Examples include aerobic activities (e.g. going for a walk, aerobics, treadmill, biking).
 - Structured (e.g. yoga, stretching)
 - Unstructured (e.g. chores, playground time).
- A few hours of light physical activity.
 - Structured (e.g. yoga, stretching)
 - Unstructured (e.g. chores, playground time).
- At least 3-days a week of vigorous physical activities, and muscle and bone strengthening activities
 - E.g. soccer, swimming, biking

What about Sedentary Time?

Studies show limiting the time being sedentary is important.

It is accepted that children/youth may have to sit at school in class.

However, outside of school, recommendations for children/youth are that

- Outside of school hours, sedentary time is limited to 2- hrs a day (Participation, 2023).

Examples of sedentary time include:

- Screen time and other activities characterized by minimal physical movement, such as:
 - Extended periods of sitting while engaging in screen-based activities, e.g. watching television, playing video games or using computers
 - Motorized transportation, e.g. sitting in a car
 - Note that riding on a bus or train is considered active transportation, as public transit riders usually

have to walk much more than riding in one's own private car.

Parents can help their children reduce sedentary time by:

- Turn off the television completely
- Hide the remote so viewers must get up to change the channel
- Unplug the video and computer games (or activating parental controls to limit daily use)
- Reduce the number of TVs in the home: take the TV out of the kitchen or bedroom
- Create a television watching or computer use schedule to keep track of screen time.

Parent Strategies: General Recommendations

As an adult or parent, be a role model for being physically active.

- Are you pretty active yourself as a parent or adult?
- If so, then wonderful.
- If not, no worries. This is a wonderful chance for you to become more physically active which helps both you and your family.
- For more information, please see "Physical Activity and Mental Health in Adults."

Getting started

- Start low -- even a few minutes a day.
- Accept that in the beginning, physical activity may not be that enjoyable for your child.
- If the idea of a 60-minute walk every day is too much for your child, then consider getting smaller bursts such as 10-minutes bursts of activity. For example, instead of a 60-min. walk daily; one could have three twenty-minute walks.

Beginning of the Day

- Consider encouraging your children to go on a morning walk around the block before going to school, as many people feel more energetic at the beginning of the day.

Commuting to School

- Active transportation. Consider biking or walking to school if it's safe and feasible. Walking is a great way to incorporate physical activity into their daily routine while providing opportunities for fresh air and social interactions with friends who live nearby.
- Biking is an excellent cardiovascular exercise and can be a fun way for children to get to school if they are old enough and confident in riding a bike.
- Park and walk: If you drive your child to school, consider parking a few blocks away from the school and walking the remaining distance. This allows your child to incorporate some physical activity into their commute.

At School

- Have your child participate in Physical Education (PE) classes: Make the most of structured physical activities and sports sessions during PE classes to keep your body active and healthy.
- Encourage your child to take active breaks: Incorporate short bursts of physical movement between classes or study sessions. Stand up, stretch, or take a brisk walk to re-energize the mind and body.
- Choose Active Games During Leisure Time: Instead of spending free time indoors, play active games like basketball, soccer, or tag during recess or lunch breaks.

After School

- Bike or walk for short trips in the neighborhood after school.
- If you drive somewhere with your child, park farther away in the parking lot, or a few blocks away, to make you walk more together.
- Encourage your child to participate in after-school sports, whether it's soccer, basketball, swimming, or

track and field, participating in sports is a fun way to stay active and socialize with friends!

- Limit screen time: minimize sedentary activities for your child, such as watching TV, playing video games, or scrolling through social media after school. Instead, prioritize activities that involve movement and physical exertion.

Active chores

- Encourage your children to stay active by engaging in chores alongside them. Rather than relying solely on machines, participate in activities like washing dishes, cleaning the car, walking the dog, assisting with gardening, taking out the garbage or recycling, and more.

Recreational activities

- Does your child like group activities?
 - If so, then consider options such as
 - Soccer
 - Basketball
 - Hockey
- Does your child prefer individual sports?
 - If so, then consider options such as:
 - Gymnastics
 - Swimming
 - Tennis
- When doing a physical activity, make it about having fun, and being outside or with others, rather than about winning and being better than others.

Limit “easy” sources of reward chemicals for the brain

- Limit your child’s (recreational) screen time. Too many of us watch too much TV. The problem with screens is that they are addictive, as they provide our hunter-gatherer brains with easy dopamine and adrenaline (reward chemicals), with little to no effort.
- When the brain becomes accustomed to easy dopamine and adrenaline, it becomes harder for anyone to want to do active activities. After all, why work for your adrenaline and dopamine if you can get it for little effort? Have your child watch less TV, and they will naturally find more active ways to fill their time.
- Is your child watching TV? Try having them stand instead of sitting.

Lifestyle strategies to help

Is your child finding it hard to get active?

- Ensure your child is eating a well-balanced healthy diet.
- Ensure that your child is getting enough sleep (American Academy of Sleep Medicine, 2016)
 - **Infants (4-12 months):** 12-16 hours of sleep per day, including naps.
 - **Toddlers (1-2 years):** 11-14 hours of sleep per day, including naps.
 - **Preschoolers (3-5 years):** 10-13 hours of sleep per day, including naps.
 - **School-age children (6-12 years):** 9-12 hours of sleep per day.
 - **Teenagers (13-18 years):** 8-10 hours of sleep per day

Parent Strategies: What If My Child is Depressed or Anxious?

Does your child have trouble with depression, anxiety or stress?

- If so, then this is even more reason to start moving.

Studies on depression show that doing at least 30 minutes a day for at least 3-5 days a week can significantly help with mood and anxiety, with effects seen as early as two weeks after becoming more active.

Studies have shown that for people with mild to moderate depression, exercise is as effective as medications, with fewer side effects.

Example of a Family Schedule

For some families, life is pretty hectic and it is hard to find time in the family schedule for physical activity. It can help to write out the schedule, and then deliberately schedule in times for physical activity.

7:30 AM	Wake up Morning routines
8:30 AM	Active transportation • Biking, walking to school or taking the school bus, OR Driving to school (and parking farther away)
8:30 – 3:30 PM	School
3:30 PM	Active transportation • Biking, walking to school or taking the school bus, OR Driving to school (and parking farther away)
4 PM	Arrive home from school Free time • Playing outside BEFORE being allowed any screen time
6 PM	Dinner Followed by helping parents clean up
7 PM	Family dog walk

A's Story, Part 2

Recognizing the importance of incorporating more physical activity into A.'s daily routine, Mrs. Smith, A.'s mom, devises creative strategies to make their commute to school more active.

First, Mrs. Smith opts for walking as the primary mode of transportation to school. Together, they explore a safe route with sidewalks, crosswalks, and minimal traffic. On days when walking isn't feasible due to time constraints or inclement weather, Mrs. Smith encourages A. to ride her bike or scooter to school. This alternative mode of transportation not only provides a fun and active way to travel but also ensures they arrive at school promptly. By consistently implementing these strategies, A. experiences a significant increase in physical activity. She eagerly anticipates their active commutes, enjoying the opportunity to spend quality time with her mom while engaging in fun and healthy activities.

As a result of Mrs. Smith's proactive approach, A. enjoys improved physical fitness. A. benefits from enhanced mood, self-confidence, and overall well-being. Their active commutes become cherished moments of connection and empowerment, reinforcing positive habits that will serve A. well throughout her life.

Family Action Plan

What are some things that we can do as a family, to be more physically active:

- 1.
- 2.
- 3.

When are good times for you to be active?

Any little changes you could make in your current routine to be a bit more active?

- Examples: walk or cycle with your child to the local corner store instead of driving; taking the stairs instead of the elevator; parking farther away and then allowing your children to walk to school; hiding the remote so your child must get up to change the channel.

Template for Your Family Schedule

For some families, life is pretty hectic and it is hard to find time in the family schedule for physical activity. It can help to write out the schedule, and then deliberately schedule in times for physical activity.

When To See Your Doctor

Is your child still having struggles getting active? See your doctor to see if any medical issues are getting in the way of your child's physical activity.

For More Information

Videos

Suzuki, W. (2018). TED Talk: The brain-changing benefits of exercise [Video]. Retrieved from <https://www.youtube.com/watch?v=BHY0FxzoKZE>

Readings

ParticipACTION has information for individuals and parents on how to be more physically active.
<https://www.participaction.com/>

"Psychology Works" Fact Sheet: Physical Activity, Mental Health and Motivation

https://cpa.ca/docs/File/Publications/FactSheets/PsychologyWorksFactSheet_PhysicalActivity_MentalHealth_Motivation.pdf

Canadian 24-hr Movement Guidelines from the Canadian Society for Exercise Physiology
<https://csepguidelines.ca/>

References

Paruthi, S., Brooks, L. J., D'Ambrosio, C., Hall, W. A., Kotagal, S., Lloyd, R. M., Malow, B. A., Maski, K., Nichols, C.,

Quan, S. F., Rosen, C. L., Troester, M. M., & Wise, M. S. (2016). Recommended amount of sleep for pediatric populations: A consensus statement of the American Academy of Sleep Medicine. *Journal of Clinical Sleep Medicine*, 12(06), 785–786. <https://doi.org/10.5664/jcsm.5866>
Canadian Fitness and Lifestyle Research Institute
<https://www.cflri.ca/>

Physical Activity Guidelines for Americans, 2nd ed, Office of Disease Prevention and Health Promotion, Retrieved Dec 22, 2018 from <https://health.gov/paguidelines/second-edition/report/>

Mammen G, et al.: Physical Activity and the Prevention of Depression, *American Journal of Preventive Medicine*, Nov 13, 2013, 45(5): 649-657.

Lawlor DA, Hopker SW. The effectiveness of exercise as an intervention in the management of depression: systematic review and meta-regression analysis of randomised controlled trials. *BMJ* 2001; 322: 1-8.

Warburton DE, Nicol CW, Bredin SS. Health benefits of physical activity: the evidence. *CMAJ* 2006; 174: 801-809.

Ellis P, Royal Australian and New Zealand College of Psychiatrists Clinical Practice Guidelines Team for Depression. Australian and New Zealand clinical practice guidelines for the treatment of depression. *Australian and New Zealand Journal of Psychiatry* 2004; 38: 389-407.

Children and youth: Ages 5-17 - participation. Participation. (n.d.). <https://www.participation.com...> L et al.: The Benefits of Exercise for the Clinically Depressed. *Prim Care Companion J Clin Psychiatry*. 2004; 6(3): 104-111. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC474733/>

About this Article

Written by the health professionals at the University of Ottawa.

Special thanks to all the following contributors for this article:

- David Le Nguyen, uOttawa medical student, class of 2024, for contributing to the article.
- Competing interests: None declared.

Disclaimer

Information in this pamphlet is offered “as is” and is meant only to provide general information that supplements, but does not replace, the information from a health professional. Always contact a qualified health professional for further information in your specific situation or circumstance.

Creative Commons License

You are free to copy and distribute this material in its entirety as long as: 1) this material is not used in any way that suggests we endorse you or your use of the material, 2) this material is not used for commercial purposes (non-commercial), 3) this material is not altered in any way (no derivative works). View full license at <http://creativecommons.org/licenses/by-nc-nd/2.5/ca/>