Module 03
Physical Activity
Regular physical activity (PA) is a key contributor to health for children and youth. The evidence for the positive health benefits of physical activity is plentiful, and most people realize the importance of physical activity and exercise for reducing cardiovascular risk and improving other measures of health.\textsuperscript{1,2,3} Physical activity can help to increase energy, improve sleep, and contribute to better performance. It is also necessary for normal growth and development for children and youth with effects on aerobic capacity, muscle strength, bone and connective tissue growth, as well as agility.\textsuperscript{3,4} Physical activity, along with diet and sleep, are all modifiable risk factors for chronic disease.

There is evidence to suggest the use of physical activity and exercise as a strategy to promote health in a variety of mental health conditions.\textsuperscript{5} In some cases, being physically active is especially important to help prevent complications from taking certain types of medications (e.g. second generation antipsychotic [SGA] medications). However, for children and youth with mental health challenges, their condition may make being physically active difficult. For example, children with depression can feel too tired or unmotivated to be active, or some children may have difficulty interacting with others in team sports.

The American Academy of Sports Medicine found that nearly two thirds of patients would be more interested in exercise to stay healthy if their health care practitioner had advised them and given them resources.\textsuperscript{7}

This module is comprised of the following sections:

\textbf{SECTION 1:} Key Messages and Frequently Asked Questions

\textbf{SECTION 2:} Discussing Physical Activity with Children and Youth

\textbf{SECTION 3:} Addressing Challenges to Physical Activity

\textbf{SECTION 4:} Medications and their Effect on Physical Activity

\textbf{SECTION 5:} Resources and Handouts
Fitness levels of Canadian children and youth have declined significantly between 1981 and 2009 as reported by the Canadian Health Measures Survey.\(^6\)

The benefits associated with being physically active are not always motivating factors for children, in particular those with mental health concerns. Challenges to engaging in physical activity need to be addressed individually in order to assist children, youth and families to begin or maintain a healthy lifestyle including physical activity.

This module will provide you with information and tools to give exercise and physical activity advice, and address specific obstacles children and youth with mental health challenges may have to being physically active.
Although most people are aware that physical activity/exercise has benefits or have been told they “should exercise”, many do not know what to do, or how to get started. Here are some frequently asked questions with suggestions for answering.

Q: **WHAT IS THE DIFFERENCE BETWEEN PHYSICAL ACTIVITY AND EXERCISE?**
A: Although physical activity and exercise are often used interchangeably, they do have different definitions. Physical activity is any movement of the body that results in using energy. Exercise is a subset of physical activity. Generally, it has structure, is planned, is repetitive and has a specific purpose or objective. Objectives may include improving fitness, physical performance or health.

Q: **HOW MUCH IS ENOUGH?**
A: The Public Health Agency of Canada (PHAC) and the Canadian Society for Exercise Physiology (CSEP) have provided guidelines encouraging children and youth to be physically active for a minimum of 60 minutes per day at moderate to vigorous intensity. These guidelines are based on studies showing increased levels of physical activity lead to greater health benefits. The guidelines have been recently changed from 60-90 minutes of physical activity to a minimum of 60 minutes and up to several hours of at least moderate intensity activity. This change describes minimal standards for the amount of physical activity children and youth should be getting most days of the week. The CSEP Guidelines for both children and youth can be found at the back of this module. In addition, guidelines for the early years (0-4 years) are also available from: www.csep.ca/guidelines

Individual goals and starting points are most important in determining how much activity is enough. If a young person’s activity baseline is low, it can be overwhelming to be told to be physically active for 60 minutes. Inactive youth need an incremental approach to achieve the minimum of 60 minutes of moderate to vigorous physical activity (MVPA) per day.

Activity logs can be helpful when trying to determine present baseline of activity. Activity logs can be found at: www.physicalactivityline.com
Q: DO I NEED TO BE ACTIVE EVERYDAY?
A: PHAC and CSEP recommend 60 minutes or more of moderate to vigorous physical activity on most days of the week for children and youth. Being realistic and looking at the child or youth’s starting point can help to determine how many days they should be active; this is dependant on the type of activity and what their individual goals are. For example, with resistance training rest days are essential; benefit to muscle as well as bone is seen in training programs in as little as 2 times per week. Additional information on different types of physical activity can be found in the resource section (look under ‘Public Health Agency of Canada’).

Q: CAN I EXERCISE TOO MUCH?
A: In general, more exercise is usually considered better. However, some people engage in extreme levels of exercise. In those with body image problems or eating disorders, exercise addiction can lead to a dependence on exercise as much as dieting. Too heavy a focus on weight loss through exercise can lead to an obsessive attitude towards exercise. Excessive exercisers tend to have negative body images and weight preoccupation. Exercise addiction can also be seen in those with obsessive-compulsive disorder (OCD) and bipolar disorder. Encouraging a realistic progression of exercise/activity is important, as is avoiding overtraining (for example, in one particular sport) which can lead to injury.

If you suspect over-exercising which may be related to an eating disorder, obsessive-compulsive disorder or bipolar disorder, resources can be found at: keltymentalhealth.ca

Q: DO I STILL NEED TO BE PHYSICALLY ACTIVE IF I’M NOT OVERWEIGHT?
A: Reasons for being physically active go well beyond maintaining a healthy weight. The evidence indicates that physical activity appears to reduce the risk of chronic conditions, including cardiovascular disease, stroke, hypertension, breast cancer, colon cancer, type II diabetes and osteoporosis. Physical activity contributes to an individual’s overall fitness and for children it can provide immediate benefits to growth and development (for example, bone building and muscle strength). Fit individuals who are obese have a lower risk of all-cause mortality than do unfit normal-
Encourage children, youth and families to think beyond exercise for weight loss and think more about it in terms of increased energy, improved sleep, and better performance.

Exercise should be fun, not a punishment or a consequence.

**TIPS FROM FAMILIES:**
Talk with your child or youth about physical activity — start with their ideas. Ask your child to list their favourite activities and anything new they would like to try.

*The Guide to Healthy Living for Families, developed by The F.O.R.C.E. Society for Kids’ Mental Health*

weight or lean individuals.\(^{10,11}\) In fact, studies have demonstrated clear health gains without weight loss.\(^{12,13}\) This is especially true in children, as they are still growing. Unfortunately the preoccupation with weight sometimes causes some people to view other benefits as lesser. Encourage children, youth and families to think beyond exercise for weight loss and think more about it in terms of increased energy, improved sleep, and better performance.

**Q. WHAT IS THE BEST TYPE OF PHYSICAL ACTIVITY?**

A: Physical activity needs to be fun, stimulating and rewarding for the child or youth. The best type of activity is determined by individual goals as well as likes and interests. If there are specific medical/health goals, guidelines (including frequency, intensity, type and time) for addressing these specific goals can be found in the following articles: *Evidence based physical activity for school-age youth*\(^3\) and *Systematic review of the health benefits of physical activity and fitness in school age youth.*\(^4\) In addition, recommendations for a physical activity strategy in children and adolescents at risk for metabolic syndrome can be found in this article: *Physical activity as the main therapeutic tool for metabolic syndrome in childhood.*\(^{25}\)

Children should play and explore all types of movement as soon as they are able in order to encourage physical literacy (fundamental movement skills which lay the foundation for future skills) throughout life. This creates a base for being able to engage in more structured activities later in life.\(^{14}\)

Ideally, we want to encourage activity that is well rounded which includes cardiovascular or aerobic conditioning, muscular strength and endurance, flexibility as well as balance and agility (refer to Section 2 for definitions of terms). Additionally, a handout can be found at the back of this module with a list of different activities families can try.

**Q: WEIGHT TRAINING AND YOUTH: IS IT SAFE?**

A: According to the CSEP, weight training for children and adolescents is considered safe if performed in proper posture, using appropriate equipment and with supervision. To make improvements, rest days are needed in between bouts of resistance exercise.\(^{15}\)
Q. HOW MUCH SCREEN TIME SHOULD BE ALLOWED DAILY?
A: The Canadian Pediatric Society recommends a maximum of 2 hours per day of screen time for children and youth. Limiting sedentary behaviour to less than 2 hours per day can lead to increased physical activity and health. The CSEP has recently introduced sedentary behaviour guidelines, which can be found at the back of this module. See below for some suggestions on how to help families decrease screen time.

Ideas To Help Decrease Screen Time:

• Start with determining how much time the child spends in front of a screen, and try to incrementally decrease this time by 10%. For instance, 2 hours = 120 minutes, so screen time should be decreased by 12 min total. Take 6 min off every hour and get up and move around.

• Ask children how they would like to use their screen time specifically.

• Avoid having a television in the child’s bedroom (see Module 5 for sleep effects).

• Keep the computer in a family area.

• Create a contract with kids: build in breaks for activity with screen time; again, it is not all or none.

• Have stickers on the remote control with commercial break activity ideas.

• If kids do play video games, try to opt for the active type; although not a replacement for getting active play it could be a bridging activity.
Q. WHY DOES IT HURT WHEN I START EXERCISING?
A: The body is responding to an additional “stress” placed upon it when we exercise. We are challenging both the cardiovascular and musculoskeletal system to varying degrees when we begin to exercise. In fact, this stressing of the systems is necessary in order to make fitness and health gains. It is important to note that the exercise should be gradual in nature to allow the adaptations to occur without causing injury. Warming up our bodies by engaging in light activity prior to heavier exercise or activity allows all systems to prepare for the stress we are going to put upon them.

Delayed onset muscle soreness often accompanies the starting of an exercise program. Adequate rest and recovery are essential as is engaging in different types of activities. Families and young people should be aware of proper training protocols which include gradual progression of exercise, including warm up and cool down components in the activity, and stretching when muscles are warm.

Q: WHAT CAN I DO TO PREVENT INJURIES?
A: In general, sports/athletic injuries fall into 2 main categories – overuse and acute. Overuse injuries are generally preventable with early detection and by maintaining or improving flexibility and strength, employing gradual and progressive training methods, as well as by using proper body mechanics. Acute injuries can be prevented through a combination of the above, along with ensuring proper warm up prior to play, cool down after play, and by taking the information below into consideration.

Much of what is recommended in general for injury prevention is also recommended for those with mental health challenges. See the Safe Kids Canada website (www.safekids.ca) for injury prevention suggestions.
Children and youth with mental health challenges may be at greater risk of sustaining injuries than those without mental health challenges.\textsuperscript{22,23} The reasons for this can include:

- Impulsivity, hyperactivity and inattention
- Decreased judgment in recognizing a potentially dangerous situation
- Being overweight, as the child/youth may be more prone to injuries (e.g. disc or joint injuries)
- Tics, which can lead to overuse or acute injuries
- Difficulty or inability to function independently
- Developmental coordination disorder or motor difficulties

For those with mental health challenges specific concerns could be addressed by:

- Ensuring developmentally appropriate activities
- Individualized programming
- Ensuring adequate protective equipment at all times
- Clearly stating and enforcing safety rules, as well as reminding children of rules at appropriate times
- Providing adequate supervision to address behavioural concerns, especially in unfamiliar or high risk situations

Additional injury prevention resources can be found in the ‘Resources and Handouts’ section at the back of this module.
This section discusses some ways to discuss physical activity with children and youth, how to assess baseline using the FITT principle, and some definitions of physical activity terminology that can be useful when talking with families.

Discussing the benefits of physical activity may seem important to you; however it may not be what engages children and youth to make changes. Discussing what is important to the family is essential in determining whether they are ready to make changes. In addition, psychosocial factors may influence the ability of the child and family to be physically active (e.g. bullying, socio-economic status), and should be identified and discussed with the family to ensure that goals are realistic and appropriate. SMART goal setting (Specific, Measurable, Action Plan, Realistic, and Timely) can be used to help families break down their long term plan into small achievable goals to reach a specific target. For more information and tools for SMART goal setting, see Module 1.

It is important to acknowledge that it can be difficult to start or maintain being physically active. Encouragement and praise for what the child or youth is already doing well can help to build rapport with the family, and motivate the young person to start or continue.

Assessing Where the Young Person is at: The FITT Principle

The FITT Principle

| Frequency | Intensity | Time | Type of Activity |

Being able to provide advice on physical activity and exercise starts with assessing where the child or youth is at currently. Determining baseline gives us the information we need to be able to support families in making changes, if changes are needed. It also provides an opportunity to recognize and acknowledge what the young person is doing well and their efforts. In order to do this we need to ask questions about the types of activity as well as the frequency, intensity and amount of time the child or youth spends in activity, using the FITT Principle.

The FITT principle can be used to assess baseline as well as to prescribe exercise. Exercise prescription is used in helping to meet specific objectives of the child / youth. If you are unsure about prescribing exercise refer to a physiotherapist, exercise specialist or kinesiologist in your community.
The four components of the FITT principle include:

**FREQUENCY**
How often the activity is performed. Frequency is generally expressed in sessions, episodes, or bouts per week.

**INTENSITY**
How hard a person works to do the activity. Intensity refers to the rate at which the activity is being performed (e.g. how fast you are going) or the amount of effort required to perform an activity or exercise (e.g. 7/10 on a Rate of Perceived Exertion [RPE] scale). See below for more information on RPE.

**RATE OF PERCEIVED EXERTION (RPE)**
When using RPE, ask the child or youth to think about how hard he/she is working (it is not about how hard the exercise is). Remind the child/youth that there is no right or wrong answer; you can ask them to be honest with how they are feeling. Each point on the 10 point scale has a descriptor, allowing the user to rate their subjective effort of activity or exercise being performed. The words give a rough idea of how some people describe how hard they are working:

<table>
<thead>
<tr>
<th>Rating of exertion</th>
<th>Subjective feeling</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 (Rest)</td>
<td>Nothing at all</td>
</tr>
<tr>
<td>1 (Light)</td>
<td>Very light</td>
</tr>
<tr>
<td>2</td>
<td>Light</td>
</tr>
<tr>
<td>3</td>
<td></td>
</tr>
<tr>
<td>4 (Moderate)</td>
<td>Moderate</td>
</tr>
<tr>
<td>5</td>
<td>Somewhat hard</td>
</tr>
<tr>
<td>6</td>
<td>Hard</td>
</tr>
<tr>
<td>7 (Vigorous)</td>
<td>Very hard</td>
</tr>
<tr>
<td>8</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Very, very hard</td>
</tr>
<tr>
<td>10 (Maximum)</td>
<td>Maximal</td>
</tr>
</tbody>
</table>
The intensity one should work at is determined by their individual goal. The general guidelines suggest working at moderate to vigorous intensity (i.e. 4-8/10) for a minimum of 60 minutes per day.

**TIME**
The length of time in which an activity or exercise is performed, generally expressed in minutes.

**TYPE**
The type or kind of physical activity can take many forms, for instance: aerobic, strength, flexibility, or balance.

Here is an example of a simple table you could use to compare where the child/youth is currently at (baseline) and what they will be working towards. Remember that this should be a slow and gradual progression, and current efforts should be acknowledged.

<table>
<thead>
<tr>
<th></th>
<th>Present</th>
<th>Prescription*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency</td>
<td></td>
<td>Most days of week, preferably daily</td>
</tr>
<tr>
<td>Intensity</td>
<td></td>
<td>Moderate to vigorous</td>
</tr>
<tr>
<td>Time</td>
<td></td>
<td>60 min of accumulated activity</td>
</tr>
<tr>
<td>Type</td>
<td></td>
<td>Whatever you find enjoyable</td>
</tr>
</tbody>
</table>

*Note that this prescription is guideline based and not individual*

For additional information, see the resource section (under ‘Canadian Society of Exercise Physiology’ and ‘Public Health Agency of Canada’).
The following are definitions which may assist you in discussing physical activity with families. Depending on their concerns, you may be providing general advice on physical activity, or giving more specific “exercise prescription” for a specific condition. See Section 1 (Key Messages and FAQs: ‘What is the best type of physical activity?’) for more information on giving specific advice. For a glossary of physical activity terms refer to: http://www.csep.ca/CMFiles/Guidelines/PAGuidelinesGlossary_E.pdf

**PHYSICAL ACTIVITY**
Any movement of the body that results in using energy.

**FITNESS**
A trait or measure that reflects a combination of activity behaviours, genetics and overall health of organ systems. It is important to note genetics and training both contribute to fitness level. Being more physically active can contribute to one’s fitness as long as the activity is of appropriate duration and intensity.

**EXERCISE**
A subset of physical activity that is generally a structured activity. Exercise can be prescriptive. It can be used as a treatment or intervention to be followed, which can be effective in assisting to mitigate health problems. Those children/youth with mental health concerns can also have co-morbid conditions.

**CARDIOVASCULAR EXERCISE (CV)**
Any physical activity or exercise which significantly increases heart rate (HR). Cardiovascular exercise is often referred to as “cardio” or “aerobic” or “endurance”. Activities range from walking and gardening to running, bicycling, jumping rope, and swimming.
FLEXIBILITY EXERCISE
This type of exercise involves taking a muscle through range to increase or maintain its length and increase joint mobility. This helps keep us moving better and can help to prevent injuries in the long term. This includes stretching activities, and activities such as yoga.

RESISTANCE TRAINING/STRENGTH TRAINING/WEIGHT LIFTING
Any activity that involves working against resistance, force or gravity (e.g. weights, bands, or your own body weight).

MUSCULAR STRENGTH AND ENDURANCE
Overlap between muscle strength and CV. Some activities need both, for example running on a treadmill or hiking can be limited by CV or by local muscular fatigue (legs too tired to go on versus shortness of breath).

OVERLOAD PRINCIPLE
In order for any muscle (including the heart) to get stronger it must be “overloaded” or worked against a greater load than normal. It is the basis for improving physical fitness. The concept is based on “overloading” the muscles by working them more than they are used to, challenging the tissues to do more and breaking down the muscle in order to rebuild stronger than previous.
Individual, social and environmental factors can all play a role in the ability to be physically active. Children and youth with mental health and substance use concerns have unique challenges to engaging in physical activity. This section discusses some of the challenges families have identified and provides suggestions for how to face these challenges.

### Addressing Challenges to Physical Activity

#### Common Challenges to Being Physically Active

<table>
<thead>
<tr>
<th>Challenge</th>
<th>Tips on how to discuss challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of energy</td>
<td>• Difficult to overcome, but short bursts of activity can be a start versus an all or none approach</td>
</tr>
<tr>
<td></td>
<td>• Let the family know that you need to expend energy to gain energy</td>
</tr>
<tr>
<td>Child/youth does not want to go outside</td>
<td>• Indoor activities can be a good start, such as exercise videos, TV/screen time breaks, Wii Fit, dancing, or weights. Although active video gaming is a good way to replace a completely sedentary activity, it is not a replacement for getting outside - encourage using this as a bridging activity</td>
</tr>
<tr>
<td>Pain or sore muscles</td>
<td>• Acknowledge what they are experiencing</td>
</tr>
<tr>
<td></td>
<td>• See a health professional in the area to assess for specifics of why; a comprehensive physical assessment can assure them the tissues in the affected area are not damaged</td>
</tr>
<tr>
<td></td>
<td>• Educate as to how stronger muscles function better, and can lead to less soreness</td>
</tr>
<tr>
<td></td>
<td>• Encourage progressive increases versus too much too soon so muscles can accommodate to change; remind child/youth that balance of activity and rest is essential</td>
</tr>
<tr>
<td></td>
<td>• Poor sleep can also be part of muscle soreness</td>
</tr>
</tbody>
</table>

The following chart lists common challenges that families encounter and tips on how to discuss overcoming these challenges. The *Guide to Healthy Living for Families* provides some additional tips identified by families. This guide can be found online at: keltymentalhealth.ca/toolkits
## Section 3: Addressing Challenges to Physical Activity

<table>
<thead>
<tr>
<th>Challenge</th>
<th>Tips on how to discuss challenges</th>
</tr>
</thead>
</table>
| Other children refuse to include or tease     | • Find resources in the community where there is more acceptance (e.g. Community Link program in Vancouver)  
• Identify who can be a motivator/mentor       |                                                                                                                                                                                                                                  |
|                                                | • Enlist help from friends with older children or uncles/aunts etc. that have an interest in an activity that may interest your child, e.g. church groups, boys and girl clubs   |                                                                                                                                                                                                                                  |
|                                                | • Consider alternatives to PE classes; suggestion to get credit for other types of activity (e.g. Tae Kwon Do for a PE credit if won’t or can’t participate – child may need a medical note) |                                                                                                                                                                                                                                  |
| Limited social skills                         | • Social support may be important to produce increases in physical activity  
• Parents can help get them started        |                                                                                                                                                                                                                                  |
|                                                | • Community based programs to pair up kids with a buddy, e.g. Big Brothers/Big Sisters/Best Buddies program                                                                                     |                                                                                                                                                                                                                                  |
| Weight gain makes physical activity more      | • Non weight bearing activities would be the best place to start, e.g. bike (stationary or road), water exercises, resistance training  
• Remember when baseline is low to begin with, don’t actually need to do much to start |                                                                                                                                                                                                                                  |
| difficult                                      |                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                  |
| Financial constraints                         | • Try suggesting used equipment or free, low cost activities  
• Explore funding through community groups     |                                                                                                                                                                                                                                  |
|                                                | • Active transport – walking is easy and free, but most kids don’t find it fun. They might be more interested in rollerblading, biking, skateboarding, etc.  
• Programs such as JUMP START, Kidsport BC, Federal Child Fitness Tax Credit |                                                                                                                                                                                                                                  |
| Physical injury/weakness/high or low tone/coordination/physical literacy/developmental coordination disorder (DCD)/sensory issues | • Assessment by a health care professional to deal with injuries and physical barriers (occupational therapy or physiotherapy)  
• Independent exercise programs can be set up by local physiotherapists (sometimes hospital coverage/MSP/extended benefits)  
• Suggesting activities that focus on balance or coordination  
• With DCD, team sports may not be motivating; focusing on more individual, non-competitive sports or small group activities may be more appropriate  
• With all children, need to think about their individual goals and preferences  
• Remind families that not everyone likes or enjoys the same activities, or even repeating the same activities |                                                                                                                                                                                                                                  |
### Challenge

<table>
<thead>
<tr>
<th>Has not found an activity they like yet</th>
</tr>
</thead>
</table>

#### Tips on how to discuss challenges

- **Exposure** – families need to both encourage and expose children to different activities without pushing them into activities in which they have no interest.
- Young people who do not like traditional “sports” may need to focus on alternative types of activities; some school PE programs are recognizing this and providing alternative type programs.
- Free play, recreational sports and individual training plans provide options for children who are not interested in competitive or team sports.
- See the handout at the back of this module for a list of many different activities families could try.
Mental Health Challenges and Physical Activity

With mental health concerns, there are a number of factors that can impact the ability of the child or youth to participate in physical activity OR physical activity can have effects on mental health concerns. The table below outlines common findings in children and youth with their specific mental health concern.

<table>
<thead>
<tr>
<th>Condition/Concern</th>
<th>Summary of evidence and recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>General mental health</td>
<td>• Association between sport and improved mental health[^31]</td>
</tr>
<tr>
<td>Alcohol use</td>
<td>• Increased fracture risk, decreased bone building, bone loss or lower bone density - may be a consideration if prescribing exercise</td>
</tr>
<tr>
<td>Autism spectrum disorder</td>
<td>• Rehab of gross motor skill through structured and repetitive physical activities (rehab/physiotherapy/occupational therapy)</td>
</tr>
<tr>
<td></td>
<td>• Assist in the development of strength, coordination and normal movement patterns</td>
</tr>
<tr>
<td></td>
<td>• Adapted physical education[^17]</td>
</tr>
<tr>
<td>Anxiety</td>
<td>• Exercise decreases reported anxiety scores in healthy children when compared to no intervention; type of exercise/high low intensity is not specified; small effects seen; unclear of effects for those in treatment[^3,16]</td>
</tr>
<tr>
<td>Depression</td>
<td>• Exercise decreases reported depression scores when compared to no intervention; type of exercise/high or low intensity is not specified[^16,18]</td>
</tr>
<tr>
<td></td>
<td>• Generally effects are noted with aerobic type exercise[^3,16]</td>
</tr>
<tr>
<td>Low self esteem</td>
<td>• Positive short term effects on self esteem in children and youth who exercise (as part of comprehensive intervention)[^19]</td>
</tr>
<tr>
<td>Schizophrenia</td>
<td>• Regular exercise has health effects on both physical and mental measures; need more research on types of exercise[^20]</td>
</tr>
<tr>
<td></td>
<td>• Higher incidence of obesity/other conditions and of inactivity within this population[^1]</td>
</tr>
<tr>
<td></td>
<td>• Incidence of obesity may be compounded by the side effects of antipsychotic medications (see Section 4: Medication for more information)</td>
</tr>
</tbody>
</table>
Medications and their Effects on Physical Activity

Many medications used to address mental health concerns can produce unwanted physical effects for children and youth. Be aware and advise families of the side effects of these medications, as they can have significant effects on the child or youth which can continue into adulthood. A few classes of medications have more severe metabolic implications and are described below. Other medications may affect physiological responses such as heart rate. For a list of common psychiatric medications and general side effects, see the Commonly Used Psychiatric Medications Monitoring Guide for Children and Adolescents, available as a link from Module 6.

SECOND GENERATION ANTIPSYCHOTICS
(e.g. Aripiprazole, clozapine, olanzapine, paliperidone, quetiapine, risperidone, ziprasidone):
Children and youth treated with second generation antipsychotic (SGA) medications are at greater risk for developing lipid and glucose abnormalities, weight gain, hypertension, and metabolic syndrome when compared to those not taking these medications. Lifestyle interventions, including increased physical activity, may assist in preventing problems related to SGA use and assist in improving overall health, without necessarily decreasing weight. Several intervention studies performed in obese children and adolescents showed the efficacy of physical activity on metabolic syndrome parameters.25

NOTE: SGAs may also be known as or referred to as atypical antipsychotics (AAPs) by some health professionals and families.
Resources and Handouts

In this section, you will find resources that may be helpful to both yourself as well as to the families you see in your daily practice. At the end of this section, you will find some tools and handouts. Some of these tools will be useful for you to use with the children and youth you see (e.g. assessment tools), while others can be given to children, youth or parents/caregivers as a handout.

Online Resources

FOR PROFESSIONALS

<table>
<thead>
<tr>
<th>GENERAL RESOURCES</th>
<th>Details</th>
<th>Web Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canadian Pediatric Society</td>
<td>• Healthy active living resources, posters, and quick reference sheets&lt;br&gt;• Prescription for healthy active kids&lt;br&gt;• Position papers (e.g. Healthy active living: Physical activity guidelines for children and adolescents)</td>
<td><a href="http://www.cps.ca/documents/position/physical-activity-guidelines">www.cps.ca/documents/position/physical-activity-guidelines</a></td>
</tr>
<tr>
<td>Canadian Society for Exercise Physiology</td>
<td>• Physical activity and sedentary behaviour guidelines for children and youth (also found at the back of this module)&lt;br&gt;• Position statements and knowledge translation articles</td>
<td><a href="http://www.cse.ca/guidelines">www.cse.ca/guidelines</a> (under publications)</td>
</tr>
</tbody>
</table>
## FOR FAMILIES

### GENERAL RESOURCES

<table>
<thead>
<tr>
<th>Organization</th>
<th>Details</th>
<th>Web Address</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Tips to get active (tip sheets for different age groups)</td>
<td><a href="http://www.phac-aspc.gc.ca/hp-ps/hl-mvs/pa-ap/04paap-eng.php">www.phac-aspc.gc.ca/hp-ps/hl-mvs/pa-ap/04paap-eng.php</a></td>
</tr>
<tr>
<td>Participaction</td>
<td>• Tips for parents on how to get their kids active</td>
<td><a href="http://www.participaction.com">www.participaction.com</a></td>
</tr>
<tr>
<td></td>
<td>• Fun tips and pedometer chart</td>
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</tr>
<tr>
<td></td>
<td>• After school activity guide</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Physical activity tracker</td>
<td></td>
</tr>
<tr>
<td>Kidnetic</td>
<td>• Website geared to kids</td>
<td><a href="http://www.kidnetic.com">www.kidnetic.com</a></td>
</tr>
<tr>
<td></td>
<td>• Interactive games and challenges to learn about healthy food and activity</td>
<td></td>
</tr>
<tr>
<td><a href="http://www.healthyfamiliesbc.ca">www.healthyfamiliesbc.ca</a></td>
<td>• Physical activity articles and resources</td>
<td><a href="http://www.healthyfamiliesbc.ca">www.healthyfamiliesbc.ca</a></td>
</tr>
<tr>
<td>Physical Activity Line</td>
<td>• Free resource for practical and trusted physical activity information</td>
<td><a href="http://www.physicalactivityline.com/">www.physicalactivityline.com/</a></td>
</tr>
<tr>
<td>Sustainable Childhood Obesity</td>
<td>• Program aimed at linking families in some B.C. communities to develop an obesity prevention action plan</td>
<td><a href="http://www.childhood-obesity-prevention.org/about-scope/faqs">www.childhood-obesity-prevention.org/about-scope/faqs</a></td>
</tr>
<tr>
<td>Prevention Through Community</td>
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<tr>
<td>Engagement (SCOPE)</td>
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### ACCESSING PROFESSIONALS

<table>
<thead>
<tr>
<th>Organization</th>
<th>Details</th>
<th>Web Address</th>
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<tbody>
<tr>
<td>BC Physiotherapy Association</td>
<td>• To find a physiotherapist in your community (B.C.)</td>
<td><a href="http://www.bcphysio.org">www.bcphysio.org</a></td>
</tr>
<tr>
<td>BC Society of Occupational Therapists</td>
<td>• To find an occupational therapist in your community (B.C.) (Click on “Use OT finder”)</td>
<td><a href="http://www.bcsot.org">www.bcsot.org</a></td>
</tr>
<tr>
<td>Canadian Association of Occupational Therapists</td>
<td>• To find an occupational therapist in your community (Canada)</td>
<td><a href="http://www.caot.ca">www.caot.ca</a></td>
</tr>
<tr>
<td>Organization</td>
<td>Details</td>
<td>Web Address</td>
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<td>-------------------------------------------</td>
<td>-----------------------------------------------------</td>
<td>------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>About Kids Health (Hospital for Sick Children)</td>
<td>• Information on ADHD and injuries</td>
<td><a href="http://www.aboutkidshealth.ca/En/ResourceCentres/ADHD/AboutADHD/Pages/ADHDandInjury.aspx">www.aboutkidshealth.ca/En/ResourceCentres/ADHD/AboutADHD/Pages/ADHDandInjury.aspx</a></td>
</tr>
<tr>
<td>CanChild</td>
<td>• Information on developmental coordination disorder (DCD)</td>
<td>dcd.canchild.ca</td>
</tr>
<tr>
<td>Safe Kids Canada</td>
<td>• General safety/injury prevention tips</td>
<td><a href="http://www.safekidscanada.ca">www.safekidscanada.ca</a></td>
</tr>
<tr>
<td>BC Children’s Hospital</td>
<td>• Information about BCCH’s Safe Start program</td>
<td><a href="http://www.bcchildrens.ca/KidsTeensFam/ChildSafety/SafeStart/default.htm">www.bcchildrens.ca/KidsTeensFam/ChildSafety/SafeStart/default.htm</a></td>
</tr>
</tbody>
</table>
References

Tools and Handouts
Exercise Prescription

Four components make up exercise prescription, which make up the FITT Principle:

<table>
<thead>
<tr>
<th>FREQUENCY</th>
<th>INTENSITY</th>
<th>TIME</th>
<th>TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>How often you exercise?</td>
<td>How hard you exercise?</td>
<td>How long you exercise?</td>
<td>What kind of exercise?</td>
</tr>
<tr>
<td>You should try to engage in some form of physical activity on most, preferably all days of the week. Resistance training however should not be on consecutive days.</td>
<td>You can gauge how hard you work by using: • The “Talk Test”– you should be able to say 2 sentences when exercising, you should not be able to sing. • Rate of Perceived Exertion (RPE) (see below).</td>
<td>Depends on your starting point. Trying to build up to 60 minutes (minimum) of activity on each day; this can be broken up into smaller bits of time.</td>
<td>Any type of activity you enjoy. Try to include activities that get your heart beating, your muscles working, and maintain your flexibility.</td>
</tr>
</tbody>
</table>

Rate of Perceived Exertion (RPE) Scale (How hard did I work?)

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nothing at all</td>
<td>Very easy/light</td>
<td>Moderate</td>
<td>Somewhat hard</td>
<td>Hard</td>
<td>Very hard</td>
<td>Very, very hard</td>
<td>Maximal</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>COMPONENTS OF FITNESS</th>
<th>EXAMPLES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiovascular/Aerobic</td>
<td></td>
</tr>
<tr>
<td>Flexibility</td>
<td></td>
</tr>
<tr>
<td>Muscular strength and endurance</td>
<td></td>
</tr>
<tr>
<td>Balance</td>
<td></td>
</tr>
</tbody>
</table>
Exercise Prescription (cont...)

### Benefits/Costs Of Exercise

Try listing the pros and cons of starting regular exercise and of remaining inactive. There is no right or wrong answer.

<table>
<thead>
<tr>
<th>REGULAR EXERCISE</th>
<th>INACTIVITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pros</td>
<td>Pros</td>
</tr>
<tr>
<td>Cons</td>
<td>Cons</td>
</tr>
</tbody>
</table>

**Example:**

<table>
<thead>
<tr>
<th>REGULAR EXERCISE</th>
<th>INACTIVITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pros</td>
<td>Pros</td>
</tr>
<tr>
<td>Cons</td>
<td>Cons</td>
</tr>
</tbody>
</table>

- Pros
  - more energy
  - feel better
  - sleep better

- Cons
  - have to buy equipment/shoes
  - worried about health

List solutions:

- 
- 
- 

---

**NAME**

**DATE**

**EXERCISE TYPE**

**EXERCISE TIME**
- WARM UP
- EXERCISE
- COOL DOWN

**EXERCISE FREQUENCY**

**INTENSITY**
- RPE
- TARGET HR

**HOW TO PROGRESS**
How Much Time do you Spend...?
Time Comparison Activity for Children and Youth

Colour in how many minutes you spend every day in front of a screen
(for example: your TV, computer, or phone)
Each clock is one hour (60 min.)

Total Time: ______________________
(The maximum recommended amount of screen time per day is 2 hours)

Colour in how many minutes you spend every day being active
(for example: playing outside, walking to school, or even doing chores around the house)
Each clock is one hour (60 min.)

Total Time: ______________________
(The minimum recommended amount of physical activity per day is 60 minutes and up to several hours)
### Time Comparison Activity for Children and Youth (cont...)

<table>
<thead>
<tr>
<th>Compare</th>
<th>How many minutes do you spend in front of a screen?</th>
<th>How many minutes do you spend being physically active?</th>
</tr>
</thead>
</table>

#### Ways I can decrease my screen time:

1. 
2. 
3. 

Some ideas you could try:

1. Think about how you would like to use your screen time – would you rather play a computer game or watch a TV show? Choose 1 or 2 you really like.
2. TVs and computers in bedrooms can be distracting – try moving them to another part of the house.
3. Every 30 minutes in front of a screen, take a 5 minute break.
4. Be active during commercial breaks – try doing jumping jacks, or walking around the house. This time adds up!

#### Ways I can increase my physical activity:

1. 
2. 
3. 

Some ideas you could try:

1. The best activity is one that you enjoy doing – think about what you like to do.
2. Try skateboarding, walking, taking your scooter or riding your bike to school once or twice a week.
3. Put on some music and dance around your living room.
4. Challenge your parents to a race or competition.
5. Household chores, like making your bed, also count.
Ideas for being active, playing and having fun with your family

Kids will be more likely to think being active is fun if you show them that it is fun and that it feels good. Think about activity as something you do together as a family.

Play at the playground:
Try “follow the leader”. Let your child lead or have them copy you:

› Climbing on monkey bars
› Crawling through tunnels
› Up and down the slide
› Running and touching all the fences
› Balancing and walking across logs

Try doing one minute intervals of activities, such as:

• Skipping rope  • Hula Hoop
• Throwing a ball at a target
• Core exercises  • Squats or lunges
• Bouncing a basketball
• Band/weight exercises
• Jogging on the spot

Set up an obstacle course:

› Brainstorm with your kids about what you want to put into your obstacle course
› Think about ways to move: step, walk, creep (on all fours), crawl (on belly), roll, somersault, jump, hop, leap, run, etc.
› Think about things in your house that you can use, such as: couches, chairs, tables, mattresses, plastic hoops, big blocks, gym mats, cushions, mattresses, telephone books, rope, etc.
Play in the house:

› Try taking different exercise videos out of the library. Look for ones geared to your child's/youth's age, such as:
  — Yoga, Pilates or Hip hop dance
  — Silly movement songs/dancing for younger children

› Keep exercise equipment like free weights (or try using 2 soup cans) or exercise balls in an area you can see them. You can use them during T.V. commercials or when you take built in breaks

› Adapt outdoor games to inside (e.g. games with balloons or soft balls)

Try outdoor activities:

› Biking
› Swimming
› Rock climbing
› In line skating
› Kayaking
› Walking or hiking
› Scootering
› Street hockey
› Skiing

› Playing tag
› Hopscotch
› Mini golf
› Snow shoeing
› Tobogganing/tubing
› Skipping rope
› Running through the sprinkler

Work activity into your day:

› Ride your bike, walk, or scooter to school, the park, etc.
› Help carrying groceries or taking out the garbage/recycling
› Rake the lawn, help with gardening and planting, shovel snow
› Take the dog for a walk or run
› Take the stairs instead of the elevator
› Try to work 10,000 steps into your day (can use a pedometer to track steps)
› Get off the bus a stop early and walk the rest of the way

Rainy day activities:

Be prepared for the rain; have rain gear ready and you can still do a lot, even if you are getting wet. But if you really can’t be outside:

› Bowling
› Ice skating or indoor climbing
› Open gyms at community centre
› Put on music and dance around your living room
› Try a drop in dance or yoga class

Other activities:

› Take part in a charity walk/run and train for it as a family (many community centres offer training programs)
› Attend community events
› Have a friendly competition with your kids (e.g. jumping rope)
› Use parties as a way to promote activities (like skating or bowling)
Canadian Physical Activity Guidelines

FOR CHILDREN - 5 – 11 YEARS

Guidelines

For health benefits, children aged 5-11 years should accumulate at least 60 minutes of moderate- to vigorous-intensity physical activity daily. This should include:

- Vigorous-intensity activities at least 3 days per week.
- Activities that strengthen muscle and bone at least 3 days per week.
- More daily physical activity provides greater health benefits.

Let’s Talk Intensity!

Moderate-intensity physical activities will cause children to sweat a little and to breathe harder. Activities like:

- Bike riding
- Playground activities

Vigorous-intensity physical activities will cause children to sweat and be ‘out of breath’. Activities like:

- Running
- Swimming

Being active for at least 60 minutes daily can help children:

- Improve their health
- Do better in school
- Improve their fitness
- Grow stronger
- Have fun playing with friends
- Feel happier
- Maintain a healthy body weight
- Improve their self-confidence
- Learn new skills

Parents and caregivers can help to plan their child’s daily activity. Kids can:

☑ Play tag – or freeze-tag!
☑ Go to the playground after school.
☑ Walk, bike, rollerblade or skateboard to school.
☑ Play an active game at recess.
☑ Go sledding in the park on the weekend.
☑ Go “puddle hopping” on a rainy day.

60 minutes a day.
You can help your child get there!

Source: Canadian Physical Activity Guidelines, © 2011.
Used with permission from the Canadian Society for Exercise Physiology, www.csep.ca/guidelines
Canadian Sedentary Behaviour Guidelines

FOR CHILDREN - 5 – 11 YEARS

Guidelines

For health benefits, children aged 5–11 years should minimize the time they spend being sedentary each day. This may be achieved by

- Limiting recreational screen time to no more than 2 hours per day; lower levels are associated with additional health benefits.
- Limiting sedentary (motorized) transport, extended sitting and time spent indoors throughout the day.

The lowdown on the slowdown: what counts as being sedentary?

Sedentary behaviour is time when children are doing very little physical movement. Some examples are:

- Sitting for long periods
- Using motorized transportation (such as a bus or a car)
- Watching television
- Playing passive video games
- Playing on the computer

Spending less time being sedentary can help children:

- Maintain a healthy body weight
- Do better in school
- Improve their self-confidence
- Have more fun with their friends
- Improve their fitness
- Have more time to learn new skills

Cutting down on sitting down. Help children swap sedentary time with active time!

<table>
<thead>
<tr>
<th>Wake Up</th>
<th>Drive to School</th>
<th>School</th>
<th>After School</th>
<th>Physical Activity</th>
<th>Leisure Time</th>
<th>Bed Time</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="clock.png" alt="Alarm" /></td>
<td><img src="no_car.png" alt="No Car" /></td>
<td><img src="student.png" alt="Student" /></td>
<td><img src="no_computer.png" alt="No Computer" /></td>
<td><img src="active_play.png" alt="Active Play" /></td>
<td><img src="no_tv.png" alt="No TV" /></td>
<td><img src="sleep.png" alt="Sleep" /></td>
</tr>
</tbody>
</table>

**Active Transportation**
Instead of driving, walk to school with a group of kids from the neighbourhood.

**Active Play**
Limit after school TV watching. Plan time outdoors instead!

**Active Family Time**
Instead of video games in the evening, introduce the family to a new active game.

There is no time like right now for children to get up and get moving!

Source: Canadian Sedentary Behaviour Guidelines for Children and Youth, © 2011.
Used with permission from the Canadian Society for Exercise Physiology, www.csep.ca/guidelines
Let’s Talk Intensity!

Moderate-intensity physical activities will cause teens to sweat a little and to breathe harder. Activities like:

• Skating
• Bike riding

Vigorous-intensity physical activities will cause teens to sweat and be ‘out of breath’. Activities like:

• Running
• Rollerblading

Now is the time. 60 minutes a day can make a difference.

Parents and caregivers can help to plan their teen’s daily activity. Teens can:

☑ Walk, bike, rollerblade or skateboard to school.
☑ Go to a gym on the weekend.
☑ Do a fitness class after school.

☑ Get the neighbours together for a game of pick-up basketball, or hockey after dinner.
☑ Play a sport such as basketball, hockey, soccer, martial arts, swimming, tennis, golf, skiing, snowboarding,…

For health benefits, youth aged 12-17 years should accumulate at least 60 minutes of moderate- to vigorous-intensity physical activity daily. This should include:

- Vigorous-intensity activities at least 3 days per week.
- Activities that strengthen muscle and bone at least 3 days per week.
- More daily physical activity provides greater health benefits.

Being active for at least **60 minutes** daily can help teens:

- Improve their health
- Do better in school
- Improve their fitness
- Grow stronger
- Have fun playing with friends
- Feel happier
- Maintain a healthy body weight
- Improve their self-confidence
- Learn new skills

Source: Canadian Physical Activity Guidelines, © 2011.
Used with permission from the Canadian Society for Exercise Physiology, www.csep.ca/guidelines
The lowdown on the slowdown: what counts as being sedentary?

Sedentary behaviour is time when teens are doing very little physical movement. Some examples are:

- Sitting for long periods
- Using motorized transportation (such as a bus or a car)
- Watching television
- Playing passive video games
- Playing on the computer

For health benefits, youth aged 12–17 years should minimize the time they spend being sedentary each day. This may be achieved by

- Limiting recreational screen time to no more than 2 hours per day; lower levels are associated with additional health benefits.
- Limiting sedentary (motorized) transport, extended sitting and time spent indoors throughout the day.

Spending less time being sedentary can help teens:

- Maintain a healthy body weight
- Improve their self-confidence
- Do better in school
- Improve their fitness
- Have more fun with their friends
- Have more time to learn new skills

Cutting down on sitting down. Help teens swap sedentary time with active time!

<table>
<thead>
<tr>
<th>Wake Up</th>
<th>Drive to School</th>
<th>School</th>
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<th>Physical Activity</th>
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<tbody>
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<td>⬆️</td>
<td>⬙️</td>
<td>🏃️</td>
<td>🧘️</td>
<td>🛌️</td>
</tr>
</tbody>
</table>

- **Active Transportation**: Instead of driving or taking the bus, teens can walk or bike to school with a group of friends from the neighbourhood.
- **Active Play**: Limit after school video-gaming. Help teens to plan active time around the home or outdoors instead.
- **Active Family Time**: Teens can visit friends instead of texting them. Go for a walk or a bike ride with mom or dad after dinner, or offer to walk the neighbour’s dog.

Now is the time for teens to get up and get moving!

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