PHYSICAL LITERACY:
A MANUAL FOR COMMUNITY PARTNERS AND REHABILITATION SPECIALISTS

MAINEHEALTH
22 Bramhall Street, Portland, ME 04102
Low fitness is a greater mortality risk than smoking and diabetes combined.  

Physical activity is a powerful promoter of self-esteem and mental well-being in children and adolescents.

In children, one of the biggest predictors of attaining recommended activity levels throughout the lifespan is their ability to develop efficiency and confidence in their fundamental movement skills. Essentially, children who move well are going to move more. This is the foundation of “physical literacy,” and a key component to helping children and adolescents reap the physical, cognitive, and emotional benefits that come with appropriate levels of physical activity.

The Physical Literacy for All Youth in Maine (PLAY ME) work group has adapted a brief, validated tool for use in health care provider offices to screen for physical literacy that is validated in children 8-12 years old. This manual outlines the screening process and resources to help providers identify and assist children with low levels of physical literacy.

We welcome any suggestions and feedback you may have on this material and its implementation.

Physical Literacy for All Youth in Maine (PLAY ME) work group:

Co-chairs: Sarah C. Hoffman, DO  Michele LaBotz, MD

Members:
Jennifer Corbeil, PT, DPT, MHA
Carrie Gordon, MD
Christina Holt MD, MSc
Marin Johnson, MS
Emily Keller, MD, MPH
Victoria Rogers, MD

Funding: Division of Community Health and Preventive Medicine, Department of Family Medicine, Maine Medical Center, Portland, ME 04106

This program is supported by the Health Resources and Services Administration (HRSA) by Grant 18-008, D33HP31665: The Preventive Medicine Enhancement for Maine (PrevME project) of the U.S. Department of Health and Human Services (HHS). The contents are those of the author(s) and do not necessarily represent the official views of, nor an endorsement, by HRSA, HHS, or the U.S. Government. For more information, please visit HRSA.gov

PLAY ME logo courtesy Emily Keller MD MPH and used with permission
TABLE OF CONTENTS

Primary Screening Assessments and Protocols ................................................................. 6
Secondary Screen .................................................................................................................. 9
  Questionnaire .................................................................................................................... 11
  Activity Log ....................................................................................................................... 29
Motor Skills Assessment ..................................................................................................... 33
  Small Spaces .................................................................................................................... 38
  Large Spaces ................................................................................................................... 46
References ............................................................................................................................. 59
Appendix ............................................................................................................................... 60
  Primary Screening questions .......................................................................................... 61
  Request for school-based assessment ............................................................................ 69
  Home based program ...................................................................................................... 71
  Printable resources to give to families .......................................................................... 72
PHYSICAL LITERACY:  
THE CONCEPT AND RATIONALE FOR SCREENING IN HEALTH CARE

PLAY ME  
Physical Literacy For All Youth In Maine
PHYSICAL LITERACY: CONCEPT AND RATIONALE FOR SCREENING

- What is Physical Literacy?

The motivation, confidence, physical competence, knowledge and understanding that individuals develop in order to maintain physical activity at an appropriate level throughout life.\(^3\)

![Figure 1: The Core Domains of Physical Literacy](image)

Canadian Assessment of Physical Literacy Manual for Test Administration 2nd edition, 2017. Figure used with permission from the Healthy Active Living and Obesity Research Group, Ontario

It should be emphasized that the importance of physical literacy is inclusive of children and adolescents with physical and/or developmental disability. Although these children may experience some limits or restrictions on their activity, they gain particular benefit from optimizing development of motivation and confidence in their ability to participate in physical activity.
● Why screen for it?

From heart disease and obesity to depression and anxiety, we are increasingly aware of how physical activity helps support a healthy lifestyle. As language literacy helps children learn to read and write, physical literacy provides the building blocks that allow children to participate in healthy levels of physical activity. Physical literacy screening aims to identify children who may benefit from additional support to develop these essential skills.

PLAY ME was created to help health care providers easily screen for physical literacy and guide providers to resources that can perform a more detailed evaluation and intervention to help improve their patients’ physical literacy.

● Who should be screened?

**If you received a referral from a physician, the participant has been initially screened and now requires a secondary screen.**

**For participants without a referral and have not been screened by a physician, this secondary screen may be used for participants/patients you are working with where you have concerns about their physical literacy and/or motor development, or present with other conditions that place them at risk for lower physical literacy (e.g. overweight/obesity, attention deficit disorders, autism spectrum disorders). You may use these assessments to help further develop patients PT plan and improve physical literacy.**

Validated screening tools have been developed for children 8-12 years of age.

Much of the research to date around physical literacy and screening has been done by the Canadian Assessment of Physical Literacy (CAPL) group. They have created a comprehensive assessment that has been shown to accurately and reliably assess a broad spectrum of skills and abilities that help define the participant’s physical literacy in this age range. We have modified their program to allow for a quick screen in the health care provider’s office and created a program of secondary assessment and intervention that can be implemented in a variety of settings upon referral from the physician.
COMMUNICATING THE CONCEPT:

Many families will not be familiar with the concept of physical literacy and may benefit from some of the resources shown on pages 66 and 72-73 of this manual. There are many ways to introduce physical literacy assessments to families, several possible scripting strategies may include:

• When a child is referred to you from a health care provider’s office:
  • “Your doctor suggested we do a movement screen today to see if we can help your body move better. We will answer some questions and do some fun activities to see how things are going. After, we can decide what activities might help you have more fun with activity and get stronger.”

• Relate to injury
  • “Some people move a lot, but there are sometimes some things we can do to help their bodies move better. This often helps them enjoy moving their bodies more and help prevent injuries when being active.”
PHYSICAL LITERACY: SCREENING PROTOCOLS

PLAY ME
Physical Literacy For All Youth In Maine
SECONDARY SCREEN

- This is the next step for patients who have been referred from a health care provider office or is appropriate any time there are concerns about the physical literacy or motor development.
  - If there is inadequate time or space to do a full secondary screen as described below, then the 2-step screen may be an appropriate next step (refer to page 57 for more instructions on the 2-Step Primary Screening).

1. Questionnaire
   - Knowledge
   - Motivation
   - Confidence

2. Daily activity log for 7 days
   - Pedometer tracking (or smart device)
   - Daily log of activity

3. Assessment of functional motor skills
   - Variety of age-appropriate activity
   - Jump/throw/run/kick

Children who do not pass the initial screen are at higher risk for insufficient physical literacy and need referral for a more comprehensive assessment. The next step for these children is to determine the “best fit” for the secondary screening process.

The secondary screen can be performed in a variety of settings, depending upon patient needs, family resources and local expertise. These options may include:

- Suggest or continue with Physical therapy
  - Good choice for children with additional co-morbidities (i.e., recent or current musculoskeletal pain or injury, underlying neurologic or other systemic issues interfering with motor development, etc.)
  - Good choice for children with private or public insurance coverage

- Suggest school perform adaptive physical education assessment (see page 69 for details)
  - Good choice for children with pre-existing Individualized Educational Plans (IEPs) or 504 plans
  - Good choice for children with co-morbidities that make participation in a standard physical education class difficult (e.g. ADHD, ASD, morbid obesity, other significant physical, mental, or emotional impairment)

- Home program (see page 71 for details)
  - For those who are not able to pursue any of the above
SECONDARY SCREEN

The HALO group has developed training materials for the following assessments that are included in the CAPL-2 physical literacy assessment. Training videos can be found at: https://www.activehealthykids.org/capl-training-videos-english/

- 1) Questionnaire (pages 11-19). PDF versions (inc. Spanish, French and other languages) are available at: https://www.activehealthykids.org/capl-2-training-materials/
  - Questions include:
    - Motivation and confidence regarding physical activity
    - Fundamental knowledge and understanding of the benefits of physical activity
    - Subjective report of daily activity
  - Scoring and interpretation of questionnaire (pages 20-30)
- 2) Activity Log (page 31)
  - Pedometer tracking = ideal
  - Daily log of activity
  - Interpretation of Activity Log (page 36)
- 3) Motor skills assessment (page 37):
  PLEASE NOTE: There are 2 options provided for motor skill assessment depending upon space availability. The “large space” option is a CAPL-2 assessment and is best for facilities with at least 20 meters of unimpeded space available for testing. The “small space” option is a PLAY ME adaptation using validated measures for smaller facilities.
  - Small Spaces (page 38-45)
  - Large Spaces (pages 46-57)
SECONDARY SCREEN:

1) QUESTIONNAIRE

CAPL-2 Questionnaire

What Do You Think About Physical Activity?

When we ask you about physical activity, we mean when you are moving around, playing, or exercising. *Physical activity* is any activity that makes your heart beat faster or makes you get out of breath some of the time.

Why are we asking you these questions?

We want to know what kids, like you, think about physical activity, sports, and exercise.

Please Remember:

- There are no right or wrong answers! We only want to know what you think.
- If you do not know an answer, please write your best guess.
- There is no time limit, so please take all of the time you need.
What’s Most Like Me?

For each question, you have to read two sentences and then circle the sentence you think is MORE LIKE YOU.

Try the following SAMPLE QUESTION:

Some kids have one nose on their face BUT Other kids have three noses on their face

That shouldn’t be too hard for you to decide!

Once you have circled the sentence that is more like you, then you have to decide if it is REALLY TRUE for you or SORT OF TRUE for you.

Here is another sample question for you to try. Remember, to answer the question you need to do two things:

1) First, circle the sentence that is more like you.

2) Then, put a check in the correct box if it is REALLY TRUE or SORT OF TRUE for you.

THERE ARE NO RIGHT OR WRONG ANSWERS, JUST TELL US WHAT YOU THINK IS MOST LIKE YOU!

Sample Question #2

<table>
<thead>
<tr>
<th>Some kids like to play with computers</th>
<th>BUT</th>
<th>Other kids don’t like playing with computers</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ REALLY TRUE for me</td>
<td>☐ SORT OF TRUE for me</td>
<td>☐ REALLY TRUE for me</td>
</tr>
<tr>
<td>□ SORT OF TRUE for me</td>
<td>☐ REALLY TRUE for me</td>
<td>☐ SORT OF TRUE for me</td>
</tr>
</tbody>
</table>

Now you are ready to start filling in this form. Remember, in each box you need to circle what is most like you and then check a box for "really" or "sort of" true. Take your time and do the whole form carefully. If you have questions, just ask! If you think you are ready you can start now.

BE SURE TO FILL IN EACH PAGE!
What’s Most Like Me?

Some kids don’t like playing active games BUT Other kids really like playing active games
☐ REALLY TRUE for me   ☐ SORT OF TRUE for me   ☐ REALLY TRUE for me   ☐ SORT OF TRUE for me

Some kids are good at active games BUT Other kids find active games hard to play
☐ REALLY TRUE for me   ☐ SORT OF TRUE for me   ☐ REALLY TRUE for me   ☐ SORT OF TRUE for me

Some kids don’t have much fun playing sports BUT Other kids have a good time playing sports
☐ REALLY TRUE for me   ☐ SORT OF TRUE for me   ☐ REALLY TRUE for me   ☐ SORT OF TRUE for me

Some kids do well in most sports BUT Other kids feel they aren’t good at sports
☐ REALLY TRUE for me   ☐ SORT OF TRUE for me   ☐ REALLY TRUE for me   ☐ SORT OF TRUE for me

Some kids don’t like playing sports BUT Other kids really enjoy playing sports
☐ REALLY TRUE for me   ☐ SORT OF TRUE for me   ☐ REALLY TRUE for me   ☐ SORT OF TRUE for me

Some kids learn to play active games easily BUT Other kids find it hard learning to play active games
☐ REALLY TRUE for me   ☐ SORT OF TRUE for me   ☐ REALLY TRUE for me   ☐ SORT OF TRUE for me

Thank you for telling us which kids are most like you!

We just have a few more questions. Please turn to the next page.
Why are you active?

Boys and girls can be active by doing all sorts of things:

- Exercise (walking, keeping fit, or gym class)
- Playing outside or doing active things (like playing in the park)
- Sports (like soccer, tennis, hockey, dance or swimming)

Below are some reasons why you might be active.

Please read each sentence and tell us how true it is for you.

<table>
<thead>
<tr>
<th>I am active because...</th>
<th>Not true for me</th>
<th>Not really true for me</th>
<th>Sometimes true for me</th>
<th>Often true for me</th>
<th>Very true for me</th>
</tr>
</thead>
<tbody>
<tr>
<td>being active is fun</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I enjoy being active</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I like being active</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

How do you feel about being active?

The next section has some sentences describing how girls and boys feel about BEING ACTIVE and DOING ACTIVE THINGS (like active games, playing outside and doing sports).

Please read each sentence and tell us how much each sentence is like you.

<table>
<thead>
<tr>
<th>When it comes to playing active games, I think I am pretty good.</th>
<th>Not like me at all</th>
<th>Not really like me</th>
<th>Sometimes like me</th>
<th>Quite a lot like me</th>
<th>Really like me</th>
</tr>
</thead>
<tbody>
<tr>
<td>I think I do well at activities compared to other children</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>When it comes to being active, I have good skills.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
What do you know about physical activity?  
Please circle only one answer for each question

1. How many minutes each day should you and other children do physical activities that make your heart beat faster and make you breathe faster, like walking fast or running? Count the time you should be active at school and also when you are at home or in your neighborhood.

   a) 20 minutes  
   b) 30 minutes  
   c) 60 minutes or 1 hour  
   d) 120 minutes or 2 hours

2. There are many different kinds of fitness. One type is called endurance fitness, or aerobic fitness, or cardiorespiratory fitness.

   Cardiorespiratory fitness means:

   a) How well the muscles can push, pull or stretch  
   b) How well the heart can pump blood and the lungs can provide oxygen  
   c) Having a healthy weight for our height  
   d) Our ability to do sports that we like
3. Muscular strength or muscular endurance means:

   a) How well the muscles can push, pull, or stretch
   b) How well the heart can pump blood and the lungs can provide oxygen
   c) Having a healthy weight for our height
   d) Our ability to do sports that we like

4. If you wanted to GET BETTER AT A SPORT SKILL (like kicking and catching a ball), what would be the best thing to do?

   a) Read a book about kicking and catching a ball
   b) Wait until you get older
   c) Try exercising or becoming more active
   d) Watch a video, take a lesson, or have a coach teach you how to kick and catch
5. This story about Sally is missing some words. Choose from the words in the box to fill in the missing words in the story. Each word can only be used to fill one blank space in the story. There are more words than blank spaces, so not all words will be used.

Sally tries to be active every day. Running every day is good for her heart and her lungs. Sally thinks that physical activity is ________ and is also ________ for her. At her sports team’s practice she does more running to improve her _________. The team also does exercises like push-ups and sit-ups that increase her _________. When cooling down, she _________ to improve her flexibility and slow her heart rate. After exercising, she checks her heart rate which is also called a _________.

Fun Stretch Endurance Good
Pulse Breathing Bad Strength Sport
1. During the past week (7 days), on how many days were you physically active for a total of at least 60 minutes per day? Count all of the time you spent doing activities that increase your heart rate or made you breathe hard.
Tell us about yourself!
Please circle one number, or word, or choice for each question

What school grade are you in?
If you are not in school today, please circle the grade you will be in on the next day that you will go to school.

Kindergarten  1  2  3  4  5  6

Are you a:
Boy           Girl

What month is your birthday in?

Jan  Feb  Mar  Apr  May  Jun  Jul  Aug  Sep  Oct  Nov  Dec

How old are you?

5  6  7  8  9  10  11  12

Thank you for answering our questions!
😊
QUESTIONNAIRE RESULTS:

SCORING AND MESSAGING
The CAPL-2 questionnaire has 3 separate scoring categories outlined on the following pages.

1. Motivation and confidence: Assess a child’s interest in physical activity (i.e., “predilection”), and a child’s perception of competence with physical activity (i.e., “adequacy”).

2. Knowledge and understanding: Assess a child’s current understanding of fundamental information regarding physical activity.

3. Daily activity: Subjective report of daily physical activity

Each section is scored and messaged independently.
## Scoring Motivation and Confidence

The motivation and confidence domain assigns 7.5 points to each 3-item component of the assessment (2.5 points/item). The maximum possible score is 30 points.

**Scoring “Predilection” and “Adequacy” from the “What’s most like me?” items:**

- **Predilection score:** The predilection score for physical activity is determined based on the response to the following 3 questions:

<table>
<thead>
<tr>
<th>Really true for me</th>
<th>Sort of true for me</th>
<th>Really true for me</th>
<th>Sort of true for me</th>
</tr>
</thead>
<tbody>
<tr>
<td>Some don’t like playing active games</td>
<td>0.6</td>
<td>1.2</td>
<td>2.5</td>
</tr>
<tr>
<td>Some kids don’t have much fun playing sports</td>
<td>0.6</td>
<td>1.2</td>
<td>2.5</td>
</tr>
<tr>
<td>Some kids don’t like playing sports</td>
<td>0.6</td>
<td>1.2</td>
<td>2.5</td>
</tr>
</tbody>
</table>

  **Total Predilection score (sum of questions)**

  Predilection score (range 1.8 to 7.5) = sum of scores for the above questions

- **Adequacy score:** The self-competence score for physical activity is determined by the responses to the following 3 questions:

<table>
<thead>
<tr>
<th>Really true for me</th>
<th>Sort of true for me</th>
<th>Really true for me</th>
<th>Sort of true for me</th>
</tr>
</thead>
<tbody>
<tr>
<td>Some kids are good at active games</td>
<td>2.5</td>
<td>1.8</td>
<td>0.6</td>
</tr>
<tr>
<td>Some kids do well in most sports</td>
<td>2.5</td>
<td>1.8</td>
<td>0.6</td>
</tr>
<tr>
<td>Some kids learn to play active games easily</td>
<td>2.5</td>
<td>1.8</td>
<td>0.6</td>
</tr>
</tbody>
</table>

  **Total Adequacy score (sum of questions)**

  Adequacy score (range 1.8 to 7.5) = sum of scores for the above questions
**Intrinsic Motivation (from, Why are you active?)**

For all items, the scoring breakdown is:

- Not true for me = 0.5 points
- Not really true for me = 1.0 point
- Sometimes true for me = 1.5 points
- Often true for me = 2.0 points
- Very true for me = 2.5 points

**Physical Activity Competence (from, How do you feel about being active?)**

For all items, the scoring breakdown is:

- Not like me at all = 0.5 points
- Not really like me = 1.0 point
- Sometimes like me = 1.5 points
- Quite a lot like me = 2.0 points
- Really like me = 2.5 points
Calculating the Motivation and Confidence Domain Score

Predilection range 1.8 to 7.5 + Adequacy range 1.8 to 7.5 + Intrinsic Motivation range 1.5 to 7.5 + Competence range 1.5 to 7.5

= Motivation and Confidence domain score (30 points)

Interpreting the Motivation and Confidence Domain Score

<table>
<thead>
<tr>
<th></th>
<th>Beginning</th>
<th>Progressing</th>
<th>Achieving</th>
<th>Excelling</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Girls</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 years</td>
<td>&lt;16.2</td>
<td>16.2 to 22.3</td>
<td>22.4 to 24.8</td>
<td>&gt;24.8</td>
</tr>
<tr>
<td>9 years</td>
<td>&lt;16.2</td>
<td>16.2 to 22.5</td>
<td>22.6 to 24.8</td>
<td>&gt;24.8</td>
</tr>
<tr>
<td>10 years</td>
<td>&lt;16.2</td>
<td>16.2 to 22.5</td>
<td>22.6 to 24.8</td>
<td>&gt;24.8</td>
</tr>
<tr>
<td>11 years</td>
<td>&lt;16.2</td>
<td>16.2 to 22.5</td>
<td>22.6 to 25.0</td>
<td>&gt;25.0</td>
</tr>
<tr>
<td>12 years</td>
<td>&lt;16.3</td>
<td>16.3 to 22.5</td>
<td>22.6 to 25.0</td>
<td>&gt;25.0</td>
</tr>
<tr>
<td><strong>Boys</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 years</td>
<td>&lt;16.3</td>
<td>16.3 to 23.0</td>
<td>23.1 to 25.3</td>
<td>&gt;25.3</td>
</tr>
<tr>
<td>9 years</td>
<td>&lt;16.7</td>
<td>16.7 to 23.3</td>
<td>23.4 to 25.7</td>
<td>&gt;25.7</td>
</tr>
<tr>
<td>10 years</td>
<td>&lt;16.8</td>
<td>16.8 to 23.5</td>
<td>23.6 to 26.0</td>
<td>&gt;26.0</td>
</tr>
<tr>
<td>11 years</td>
<td>&lt;16.8</td>
<td>16.8 to 23.7</td>
<td>23.8 to 26.0</td>
<td>&gt;26.0</td>
</tr>
<tr>
<td>12 years</td>
<td>&lt;16.8</td>
<td>16.8 to 23.7</td>
<td>23.8 to 26.2</td>
<td>&gt;26.2</td>
</tr>
</tbody>
</table>

**Based on data collected on >10,000 Canadian children**
**Messaging the Motivation and Confidence Domain Score**

**Beginning:** You are beginning on your journey to have the motivation and confidence for physical activity that is needed for a physically active lifestyle. Have more fun and be healthier by trying to look for things you don’t like about physical activity and for things you do like about physical activity. Talk with your teacher, a family member or a friend about how you can do more of the things you like with physical activity, or how you can change the things that you do not like.

**Progressing:** You are progressing towards having the motivation and confidence needed for you to get the health benefits of physical activity. Your scores are similar to other children your age. Have more fun and be healthier by trying to do the things you like about physical activity. Ask a teacher, family member, or friend on how you can do more fun things with physical activity.

**Achieving:** You are achieving the recommended levels of motivation and confidence. This means that your scores are related to health benefits. Keep up the great work by looking for ways to make physical activity more fun and enjoyable!

** Excelling:** Congratulations, you are excellling at having the motivation and confidence for physical activity. That means that your score is related to a lot of health benefits. Keep up the great work!
**Scoring Knowledge and Understanding**

Each question has specific scoring criteria as follows:

**Q1:** How many minutes each day should you and other children do physical activities that make your heart beat faster and make you breathe faster, like walking fast or running? Count the time you should be active at school and also when you are at home or in your neighbourhood.

Correct answer = c: at least 60 minutes or 1 hour  
1 = correct answer, 0 = incorrect answer

**Q2:** There are many different kinds of fitness. One type is called endurance fitness or aerobic fitness or cardiorespiratory fitness. Cardiorespiratory fitness means

Correct answer = b: how well the heart can pump blood and the lungs can provide oxygen  
1 = correct answer, 0 = incorrect answer

**Q3:** Muscular strength or muscular endurance means…

Correct answer = a: how well the muscles can push, pull or stretch  
1 = correct answer, 0 = incorrect answer

**Q4:** If you wanted to GET BETTER AT A SPORT SKILL, like kicking or catching a ball, what would be the best thing to do?

Correct answer = d: watch a video, take a lesson or have a coach teach you how to kick and catch  
1 = correct answer, 0 = incorrect answer

**Q5:** Fill in the missing words

1 point for each correctly placed word (maximum of 6)
- 1st gap = ’fun’
- 2nd gap = ’good’
- 3rd gap = ’endurance’
- 4th gap = ’strength’
- 5th gap = ’stretches’
- 6th gap = ’pulse’
Calculating the Knowledge and Understanding Domain Score

The score for each of these 5 questions is summed to give a possible maximum total score of 10 for the knowledge and understanding domain.

Interpreting the Knowledge and Understanding Domain Score

<table>
<thead>
<tr>
<th></th>
<th>Beginning</th>
<th>Progressing</th>
<th>Achieving</th>
<th>Excelling</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Girls</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 years</td>
<td>&lt; 4.8</td>
<td>4.8 to 6.6</td>
<td>6.7 to 7.3</td>
<td>&gt; 7.3</td>
</tr>
<tr>
<td>9 years</td>
<td>&lt; 5.0</td>
<td>5.0 to 6.9</td>
<td>7.0 to 7.7</td>
<td>&gt; 7.7</td>
</tr>
<tr>
<td>10 years</td>
<td>&lt; 5.3</td>
<td>5.3 to 7.3</td>
<td>7.4 to 8.1</td>
<td>&gt; 8.1</td>
</tr>
<tr>
<td>11 years</td>
<td>&lt; 5.5</td>
<td>5.5 to 7.6</td>
<td>7.7 to 8.4</td>
<td>&gt; 8.4</td>
</tr>
<tr>
<td>12 years</td>
<td>&lt; 5.6</td>
<td>5.6 to 7.8</td>
<td>7.9 to 8.6</td>
<td>&gt; 8.6</td>
</tr>
<tr>
<td><strong>Boys</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 years</td>
<td>&lt; 4.4</td>
<td>4.4 to 6.4</td>
<td>6.5 to 7.2</td>
<td>&gt; 7.2</td>
</tr>
<tr>
<td>9 years</td>
<td>&lt; 4.7</td>
<td>4.7 to 6.8</td>
<td>6.9 to 7.6</td>
<td>&gt; 7.6</td>
</tr>
<tr>
<td>10 years</td>
<td>&lt; 5.0</td>
<td>5.0 to 7.2</td>
<td>7.3 to 8.1</td>
<td>&gt; 8.1</td>
</tr>
<tr>
<td>11 years</td>
<td>&lt; 5.2</td>
<td>5.2 to 7.5</td>
<td>7.6 to 8.4</td>
<td>&gt; 8.4</td>
</tr>
<tr>
<td>12 years</td>
<td>&lt; 5.3</td>
<td>5.3 to 7.6</td>
<td>7.7 to 8.5</td>
<td>&gt; 8.5</td>
</tr>
</tbody>
</table>

**Based on data collected on >10,000 Canadian children**
**Messaging the Knowledge and Understanding Domain Score**

**Beginning:** You are beginning your journey to have the knowledge and understanding of physical activity that you need for a physically active lifestyle. Have more fun and be healthier by trying to learn a bit more about physical activity. Talking more about physical activity with your teacher/coach, a family member or a friend may help you learn more about physical activity. Reading a book about physical activity may also help.

**Progressing:** You are progressing on your journey to gain knowledge about physical activity. Your scores are similar to other children your age. Have more fun and be healthier by increasing your knowledge and understanding of physical activity as much as possible. Some ways you can increase your knowledge is by talking about physical activity with your teacher/coach, a family member or a friend. You can also try reading a book about physical activity that may help you understand a bit more.

**Achieving:** You are achieving the recommended level of physical activity knowledge. That means your score is related to health benefits. Keep up the great work by increasing your knowledge of physical activity by asking questions of your teacher/coach, family members, or friends. You could also try reading a bit more about physical activity.

**Excelling:** Congratulations, you did a great job on the knowledge of physical activity test. This means that your score is related to substantial health benefits. Keep up the great work!
Calculating the Self-Perceived Moderate-to-Vigorous Physical Activity Score

<table>
<thead>
<tr>
<th>Boys and Girls (measures in # of days)</th>
<th>Number of days child reports at least 60 minutes of physical activity</th>
<th>Component score</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0 or 1 Day</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>2 Days</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>3 Days</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>4 Days</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>5 Days</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>6 or 7 Days</td>
<td>5</td>
</tr>
</tbody>
</table>

Interpreting the Self-Perceived Moderate-to-Vigorous Physical Activity Score

<table>
<thead>
<tr>
<th>Girls (measured in # of self-reported days)</th>
<th>Beginning</th>
<th>Progressing</th>
<th>Achieving</th>
<th>Excelling</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 years</td>
<td>&lt; 4</td>
<td>4</td>
<td>5 to 6</td>
<td>&gt; 6</td>
</tr>
<tr>
<td>9 years</td>
<td>&lt; 3</td>
<td>3 to 4</td>
<td>5 to 6</td>
<td>&gt; 6</td>
</tr>
<tr>
<td>10 years</td>
<td>&lt; 3</td>
<td>3 to 4</td>
<td>5 to 6</td>
<td>&gt; 6</td>
</tr>
<tr>
<td>11 years</td>
<td>&lt; 3</td>
<td>3 to 4</td>
<td>5 to 6</td>
<td>&gt; 6</td>
</tr>
<tr>
<td>12 years</td>
<td>&lt; 3</td>
<td>3 to 4</td>
<td>5 to 6</td>
<td>&gt; 6</td>
</tr>
</tbody>
</table>

Boys (measured in # of self-reported days)

<table>
<thead>
<tr>
<th></th>
<th>Beginning</th>
<th>Progressing</th>
<th>Achieving</th>
<th>Excelling</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 years</td>
<td>&lt; 4</td>
<td>4</td>
<td>5 to 6</td>
<td>&gt; 6</td>
</tr>
<tr>
<td>9 years</td>
<td>&lt; 4</td>
<td>4</td>
<td>5 to 6</td>
<td>&gt; 6</td>
</tr>
<tr>
<td>10 years</td>
<td>&lt; 4</td>
<td>4</td>
<td>5 to 6</td>
<td>&gt; 6</td>
</tr>
<tr>
<td>11 years</td>
<td>&lt; 4</td>
<td>4</td>
<td>5 to 6</td>
<td>&gt; 6</td>
</tr>
<tr>
<td>12 years</td>
<td>&lt; 4</td>
<td>4</td>
<td>5 to 6</td>
<td>&gt; 6</td>
</tr>
</tbody>
</table>

**Based on data collected on >10,000 Canadian children**
**Messaging** the Self-Perceived Moderate-to-Vigorous Physical Activity Score

**Beginning:** You are beginning your journey towards achieving at least 60 minutes of physical activity every day. Have more fun and be healthier by trying to get at least 60 minutes of physical activity every second day.

**Progressing:** You are progressing towards getting at least 60 minutes of physical activity every day. Your score is similar to other children your age. Have more fun and be healthier by trying to increase the amount you are physically active every week by 1-2 times a week.

**Achieving:** You are achieving at least 60 minutes of physical activity most days of the week. That means you are meeting the recommended guidelines for physical activity which are related to health benefits. Keep up the great work by trying to increase your activity each day so that you are achieving at least 60 minutes of activity each and every day.

**Excelling:** Congratulations, you are doing a great job at getting at least 60 minutes of physical activity every day! That means you are getting a lot of health benefits from your physically active lifestyle. Keep up the great work!
SECONDARY SCREEN:

2) **ACTIVITY LOG**

The goal of this step is to get an accurate assessment of the child’s daily activity level over 7 days. Ideally, this would be an objective measurement such as a pedometer or other smart device. If that is not available, recording physical activity in a daily log can substitute.

Options for tracking physical activity over 7 days:

1) Pedometer = IDEAL
   a) Record daily steps on tracking sheet ([page 32](#))
   b) Calculate average daily steps ([page 33](#))
   c) Use chart on [page 36](#) for interpretation

OR

2) Record daily activity
   a) Record time and intensity of activity ([page 34](#))
      i) Ex: Walking dog 15 minutes before school, PE class 1 hour during school, Swim lessons 30 minutes afterschool, etc.
   b) Convert daily minutes to step equivalent and calculate average ([page 35](#))
   c) Use chart on [page 36](#) for interpretation
**PEDOMETER TRACKING SHEET:**

<table>
<thead>
<tr>
<th>Day</th>
<th>Date</th>
<th>Wake up time in the morning</th>
<th>Bed time in the evening</th>
<th># of steps taken</th>
<th>Was the pedometer worn all day?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>☐ Yes, I never took it off</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>☐ No, how many hours missing:</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>☐ Yes, I never took it off</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>☐ No, how many hours missing:</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>☐ Yes, I never took it off</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>☐ No, how many hours missing:</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>☐ Yes, I never took it off</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>☐ No, how many hours missing:</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>☐ Yes, I never took it off</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>☐ No, how many hours missing:</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>☐ Yes, I never took it off</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>☐ No, how many hours missing:</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>☐ Yes, I never took it off</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>☐ No, how many hours missing:</td>
</tr>
</tbody>
</table>
Calculating the Daily Physical Activity Behaviour Score

The scoring of the pedometer data (i.e., daily step counts) follows published conventions (Larouche et al., 2011). The pedometer log is reviewed and the total number of steps performed each day is recorded. Days are identified as being a weekday (Monday to Friday) or weekend (Saturday/Sunday).

The pedometer step counts are reviewed to identify missing or erroneous data. A valid day of pedometer data meets the following criteria:

1. Between 1,000 and 30,000 steps per day (Pabayo et al., 2010; Tudor-Locke et al., 2009),

2. At least 10 hours of wear time per day according to the time recorded on the log sheet that the pedometer was put on and taken off (Colley et al., 2010; Eisenmann et al., 2007),

3. At least 3 valid days of pedometer measurements is required (Tudor-Locke et al., 2009).

Missing days

At least 4 days of pedometer step counts are required to calculate an average daily step count for the pedometer portion of the Daily Behaviour domain score. If there are 4 or more valid days of pedometer wear time, calculate the average daily step count using the available information.

If there are only 3 days with valid data, the step value for one additional day is randomly drawn from the 3 days. For example, Day 1 is equal to the number of steps on the first valid day. Day 2 is equal to the number of steps on the second valid day. Day 3 is equal to the number of steps on the third valid day. To determine the number of steps for the first day that is missing a valid step count, use a computer to choose a random number between 1 and 3. If a computer is not available, roll a die until the first number between 1 and 3 is shown on the die, and if the randomly selected number is “2”, for example, enter the number of steps taken on Day 2 into the missing day (Day 2 and Day 4 will now have the same number of steps).
## Physical Activity Tracking (without pedometer):

<table>
<thead>
<tr>
<th>Week of:</th>
<th>Before School/Morning</th>
<th>During School/Daytime</th>
<th>After School/Afternoon</th>
<th>Evening</th>
<th>Total Time (Minutes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tuesday</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wednesday</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thursday</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Friday</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Saturday</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sunday</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Write down any physical activity you do and how long that activity lasted and the intensity of the activity (low, medium, high).

- Low intensity activity: You can easily talk and could sing a song while doing the activity.
- Medium intensity activity: You can talk during the activity but are too out of breath to sing.
- High intensity activity: You are too out of breath to be able to say a couple of sentences or have a conversation

Ex: Walking dog 15 minutes before school (low), PE class 1 hour during school (med), swim lessons 30 minutes after school (med), etc.
CALCULATE THE STEP EQUIVALENT SCORE FROM DAILY ACTIVITY LOG

Daily minutes of activity can be converted to step equivalent using the following conversion factors:

-Low intensity activity:

Minutes activity × 60 steps/minute. = Daily step equivalent

-Medium intensity activity:

Minutes activity × 80 steps/minute. = Daily step equivalent

-High intensity activity:

Minutes activity × 100 steps/minute. = Daily step equivalent

Add up the step equivalents for each day, and then take the average of the days reported. This is the step count for the interpretation graph on page 36.
INTERPRETATION OF PHYSICAL ACTIVITY LOG/Pedometer:

Current physical activity guidelines for children 5-17 years of age recommend that at least 60 minutes of moderate-to-vigorous intensity physical activity (MVPA) should be accumulated every day. Colley et al. (2012) suggest that 12,000 steps per day is equivalent to at least 60 min of MVPA.

While HALO has chosen to proceed using these criteria, there are other published guidelines for targeting steps: the President’s Council on Physical Fitness and Sports (2005) recommends 13,000 steps for boys and 11,000 steps for girls; Tudor-Locke et al. (2004) recommends 12,000 steps for girls and 15,000 steps for boys. HALO continues to monitor physical activity levels of children 8 to 12 years of age and will adjust the scoring system in the future, if required.

<table>
<thead>
<tr>
<th>Girls (measured in number of daily steps)</th>
<th>Beginning</th>
<th>Progressing</th>
<th>Achieving</th>
<th>Excelling</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 years</td>
<td>&lt; 8,059</td>
<td>8,059 to 11,999</td>
<td>12,000 to 15,643</td>
<td>&gt; 15,643</td>
</tr>
<tr>
<td>9 years</td>
<td>&lt; 7,814</td>
<td>7,814 to 11,999</td>
<td>12,000 to 15,168</td>
<td>&gt; 15,168</td>
</tr>
<tr>
<td>10 years</td>
<td>&lt; 7,569</td>
<td>7,569 to 11,999</td>
<td>12,000 to 14,692</td>
<td>&gt; 14,692</td>
</tr>
<tr>
<td>11 years</td>
<td>&lt; 7,324</td>
<td>7,324 to 11,999</td>
<td>12,000 to 14,217</td>
<td>&gt; 14,217</td>
</tr>
<tr>
<td>12 years</td>
<td>&lt; 7,079</td>
<td>7,079 to 11,999</td>
<td>12,000 to 13,742</td>
<td>&gt; 13,742</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Boys (measured in number of daily steps)</th>
<th>Beginning</th>
<th>Progressing</th>
<th>Achieving</th>
<th>Excelling</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 years</td>
<td>&lt; 8,892</td>
<td>8,892 to 11,999</td>
<td>12,000 to 17,980</td>
<td>&gt; 17,980</td>
</tr>
<tr>
<td>9 years</td>
<td>&lt; 8,655</td>
<td>8,655 to 11,999</td>
<td>12,000 to 17,500</td>
<td>&gt; 17,500</td>
</tr>
<tr>
<td>10 years</td>
<td>&lt; 8,417</td>
<td>8,417 to 11,999</td>
<td>12,000 to 17,020</td>
<td>&gt; 17,020</td>
</tr>
<tr>
<td>11 years</td>
<td>&lt; 8,180</td>
<td>8,180 to 11,999</td>
<td>12,000 to 16,539</td>
<td>&gt; 16,539</td>
</tr>
<tr>
<td>12 years</td>
<td>&lt; 7,942</td>
<td>7,942 to 11,999</td>
<td>12,000 to 16,059</td>
<td>&gt; 16,059</td>
</tr>
</tbody>
</table>

*Based on data collected on > 10,000 Canadian children

Canadian Assessment of Physical Literacy - Second Edition

Manual for Test Administration

Daily Behaviour Domain

**Messaging the Physical Activity Behaviour Score**

**Beginning:** You are beginning the journey towards acquiring the daily physical activity behaviour needed to live a physically active lifestyle. Have more fun and be healthier by trying to increase your physical activity as much as possible. The more you move the better.

**Progressing:** You are progressing towards the daily physical activity behaviour needed to live a physically active lifestyle. Your daily physical activity behaviour score is similar to other children your age. Have more fun and be healthier by trying to increase your physical activity as much as possible.

**Achieving:** You have the daily physical activity behaviour needed to live a physically active lifestyle. That means you are gaining the health benefits from leading an active lifestyle. Keep up the great work by trying to be even more physically active. The more you move the better!

**Excelling:** Congratulations, you are doing a great job at being active every day. That means you are getting a lot of health benefits from your physically active lifestyle. Excellent work! Keep it up!
SECONDARY SCREEN:
3) **Motor Skills Assessment**

The tests in this section evaluate physical literacy; the ability to move, play and perform movements necessary to thrive in safe physical actions to maintain health. Fundamental movement skills (FMS) such as crawling, walking, running, throwing, catching, jumping, kicking, pushing, and pulling are primitive movements that represent physical literacy. These movements are learned and ingrained during early ages of childhood even prior to verbal communication. FMS can be organized into different buckets such as locomotor (e.g., run, skip, jump), object-control (e.g., throw, catch, kick), and stability (e.g., static balance) skills. These skills are the building blocks of movement that can be defined as motor coordination, motor skill proficiency, FMS, or motor ability. These are the base skills needed for sport-specific movements that are needed for participation in a variety of physical activities (games, sports, and recreational activities).

The goals of these tests should cover a spectrum of physical attributes such as aerobic/anaerobic conditioning, strength, agility, and coordination.

- **Choose one of two ways to assess Physical Competence:**
  - **Smaller Space Assessment** ([Page 38](#))
    - Ideal for facilities with less than 20 meters of unimpeded space available for testing
  - **Larger Space Assessment** ([Page 46](#))
    - A good option for community programs or rehabilitation specialists that have access to a gym or large open space
MOTOR SKILLS ASSESSMENT for SMALLER SPACES

- For facilities with less than 20 meters of unimpeded space for testing

This section is to assist in the execution of the PLAY ME Secondary Screen. The following tests will evaluate the fundamental movement skills of children screened. These tests are to be performed as instructed without modification. Discontinue a given test if pain is reported, this should be marked on the PLAY ME Secondary Screen score sheet as a score of zero. Record the score of each test on the PLAY ME Secondary Screen score sheet.

The tests will be separated into three categories (Energy System, Skill/Coordination, and Strength). Within each category, there may be multiple tests that will each be scored on a scale. These tests are to be performed after the instructions are read and any questions about the instructions are answered.

To complete the secondary screen, the tester will need:

- Stopwatch (GPS watch or fitness app may be used for the 6MWT if outside)
- 30 meters of unimpeded space, or a treadmill, or a space outside for the 6MWT
- Measuring tape
- Masking tape
- 3 cones
- Soccer ball
- 1kg Medicine Ball

Action lines, start lines should be approximately 1 meter long
MOTOR SKILLS ASSESSMENT for SMALLER SPACES

Energy System- Modified 6 min Walk Test

Objective: This test will evaluate the participant’s aerobic capacity/exercise endurance. Scoring is based on distance walked within the 6 min test.

- **Equipment Required**
  - Stopwatch
  - Measuring tape to measure distance walked
  - 30-meter stretch of unimpeded walkway
  - Athletic tape or two cones to mark distance that needs to be covered

- **Set-Up**
  - Place 2 tape lines or cones at 30 meters apart.
  - One line will be the Start Line the other the Turn Line

- **Instructions**
  - Participant starts behind the Start Line and will walk to the Turn Line and back as many times as possible in 6 min.
  - The Tester will start the timer once the participant starts walking and the test will end at 6min
  - Participant can take breaks as needed but the time will continue to run
  - Tester will keep count of how many laps are completed and calculate the total distance traveled at the end of the 6 min.
  - Time will be recorded on the score sheet

- **Score**

<table>
<thead>
<tr>
<th>Males Distance</th>
<th>Points</th>
<th>Females Distance</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 533 m</td>
<td>1</td>
<td>&lt; 552 m</td>
<td>1</td>
</tr>
<tr>
<td>534-602 m</td>
<td>2.5</td>
<td>553-605 m</td>
<td>2.5</td>
</tr>
<tr>
<td>603-671 m</td>
<td>5</td>
<td>606-658 m</td>
<td>5</td>
</tr>
<tr>
<td>672-740 m</td>
<td>7.5</td>
<td>659-711 m</td>
<td>7.5</td>
</tr>
<tr>
<td>&gt;741 m</td>
<td>10</td>
<td>&gt;712 m</td>
<td>10</td>
</tr>
</tbody>
</table>

**The 6 minute walk test can also be performed on a treadmill if the child is comfortable and has walked on a treadmill before. The child will self-select the speed (tester may adjust speed to ensure good effort and comfort) and walk for 6 minutes. The tester will record the distance logged on the treadmill.**

**This may be completed outside as well, and ensure that the child walks and does not run.**
MOTOR SKILLS ASSESSMENT for SMALLER SPACES

Throw, Kick and Catch

Objective: This test is to evaluate the motor skills required to throw, kick and catch.

- **Equipment Requirements**
  - Soccer ball
  - 3 Standard 18” cones
  - Tape measure
  - Athletic tape

- **Set Up**
  - Two lines will be marked out 5m apart
  - The line on which the participant stands will be called the “Action Line” the other line 5m away will be the “Target Line”
  - The Target Line will house cones for the throw and kick test as well as the thrower during the catch test
  - Place 3 cones touching each other on the Target Line

- **Instructions**
  - The participant will be given two practice attempts prior to starting the test.
  - The score of each test is recorded on the score sheet.
  - **Throw Test**
    - Participant will stand on the Action Line and throw the soccer ball at the 3 cones that are on the Target Line
    - Participant will have 3 attempts to hit the cones
    - Each successful hit will score a mark. 3 max points if all throws hit the cones which are to be reset after each attempt.
    - Score is recorded on score sheet
  - **Kick Test**
    - Participant will stand on the Action Line and kick the soccer ball at the 3 cones that are on the Target Line
    - Participant will have 3 attempts to hit the cones
    - Each successful hit will score a mark. Cones should be reset for each attempt. 3 max points if all kicks hit the cones.
  - **Catch Test**
    - Participant will stand on the Action Line and try and catch a pass from a thrower that is standing behind the Target Line
    - Participant will have 3 attempts to catch the pass
    - Each catch is recorded as a mark.

- **Score**:
  - <3 Marks hit = 1 point
  - 4-6 Marks hit = 2.5 points
  - 6-9 Marks hit = 5 points
MOTOR SKILLS ASSESSMENT for SMALLER SPACES

10x5m Shuttle Run

Objective: Assess change of direction ability, acceleration and anaerobic energy system.

- Equipment Required
  - Stopwatch
  - Two cones or Athletic Tape

- Set Up
  - Start Line 5m away from Turn Line
  - Start Line and Turn Line may be tape or pair of cones

- Instructions
  - Participant starts standing behind the Start Line
  - When the Tester says “Go” the time will begin
  - Participant will run toward the Turn Line
  - Participant is instructed to cross the line with at least one foot then turn and run back to the start line
  - They are instructed to run 10 lengths for a total of 50m
  - The time will end when they finish the 10th 5m run
  - The time will be recorded on the score sheet

- Score

<table>
<thead>
<tr>
<th>Time (s)</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 24.86</td>
<td>5</td>
</tr>
<tr>
<td>24.87 – 26.87</td>
<td>2.5</td>
</tr>
<tr>
<td>&gt;26.88</td>
<td>1</td>
</tr>
</tbody>
</table>
MOTOR SKILLS ASSESSMENT for SMALLER SPACES

Broad Jump Test

Objective: This test will evaluate the lower body power of the participant.

- **Equipment**
  - Tape Measure
  - Athletic tape

- **Set Up**
  - Lay down a piece of Athletic tape (Jump Line)

- **Instructions**
  - The participant will stand with both feet behind the Jump Line
  - Participant will jump forward with two feet as far as they can without losing their balance and/or landing using their hands
  - The Tester will measure from the Jump Line to the heels of the participant where they land
  - Participant will have two attempts and the longest jump will be recorded on the score sheet.
  - If participant is unable to jump without landing on their hands, they will receive a score of 1

- **Score**

<table>
<thead>
<tr>
<th>Males Distance (cm)</th>
<th>Points</th>
<th>Females Distance (cm)</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;128</td>
<td>1</td>
<td>&lt;113</td>
<td>1</td>
</tr>
<tr>
<td>129-157</td>
<td>2.5</td>
<td>114-138</td>
<td>2.5</td>
</tr>
<tr>
<td>&gt;158</td>
<td>5</td>
<td>&gt;139</td>
<td>5</td>
</tr>
</tbody>
</table>
MOTOR SKILLS ASSESSMENT for SMALLER SPACES

Stationary Medicine Ball Toss

Objective: This test will evaluate total body power.

- **Equipment**
  - Medicine ball 1 kg
  - Tape measure
  - Athletic tape

- **Set Up**
  - Place a tape line on the floor that the athlete will throw from

- **Instructions**
  - Participant will stand behind the tape line
  - Participant is instructed to hold the medicine ball with both hands in front of their chest
  - Participant is told to throw the ball using a chest pass as far as possible keeping both feet behind the line
  - Tester will mark the landing spot of the medicine ball with a piece of tape
  - Tester will have participant throw 3 times and mark the furthest throw on the score sheet

- **Score**

<table>
<thead>
<tr>
<th>Distance (cm)</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;304</td>
<td>1</td>
</tr>
<tr>
<td>305-355</td>
<td>2.5</td>
</tr>
<tr>
<td>&gt;356</td>
<td>5</td>
</tr>
</tbody>
</table>
# Motor Skills Assessment for Smaller Spaces

## PLAY ME Secondary Screen Score Sheet

<table>
<thead>
<tr>
<th>Test</th>
<th>Points</th>
<th>Beginner</th>
<th>Intermediate</th>
<th>Advanced</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 Min Walk</td>
<td>1-2.5</td>
<td>5-7.5</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Throw, Kick, Catch</td>
<td>1</td>
<td>2.5</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Shuttle Run 10x5m</td>
<td>1</td>
<td>2.5</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Broad Jump</td>
<td>1</td>
<td>2.5</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Medicine Ball Throw</td>
<td>1</td>
<td>2.5</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

**Total = /30**

### Secondary Screen Score Result:

<table>
<thead>
<tr>
<th>Beginner</th>
<th>Intermediate</th>
<th>Advanced</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-10</td>
<td>11-20</td>
<td>21-30</td>
</tr>
</tbody>
</table>
INTERPRETATION OF MOTOR SKILLS ASSESSMENT FOR SMALLER SPACES:

Beginner: Strongly consider a formal program such as physical therapy, one-on-one personal training, or other in-person intervention. If this is not possible, consider providing participants with the Beginner Program through Medbridge below.

Intermediate: Consider if a formal program with in-person training would be an appropriate fit. If unable/not appropriate, provide participant with Medbridge access code for Intermediate program below.

Advanced: No further intervention is needed. Consider providing reinforcement materials.

If you are a physical therapist, physical educator, personal trainer, athletic trainer or other provider who can work with children who screen as Beginner or Intermediate after the secondary screen, please feel free to create a program that is individualized for the child you are working with rather than using the exercises in the Medbridge link. However, if you would like to build off those exercises, they are accessible for your use as well. Periodic re-evaluation and check-ins should be done with someone at least every 8-12 weeks to ensure the child is making progress and does not have any questions. More frequent check-ins or re-evaluation would be preferable if possible.

Once you have completed the secondary screen for a child, please send the results of that screen to the referring provider to ensure the physician can stay informed and follow up appropriately with the child.

Exercise programs can be accessed through Medbridge at:

https://www.medbridgego.com/access_token

Access code: FY4XRRG3
CAPL-2 MOTOR SKILLS ASSESSMENT for LARGER SPACES

- For facilities with greater than 20 meters of unimpeded space for testing

Components:
- Plank Hold
- PACER test
- Agility Test
- FUN!!

Training videos for each of these components can be found at:
https://www.activehealthykids.org/capl-training-videos-english/

PLANK HOLD
- Timed plank hold while maintaining proper form
- Role of staff:
  - Assure proper form
  - Record plank hold time for each participant

(image courtesy of CAPL-2)
MOTOR SKILLS ASSESSMENT for LARGER SPACES

PACER TEST

- aka “Beep Test”
- Children run back and forth between cones 15-20 meters apart at increasing rates of speed until they are no longer able to continue
  - Time is measured by a pre-recorded series of beeps
- Role of staff
  - Inform participants when they are not reaching the cones in time
  - Record completed laps for each participant

(image courtesy of CAPL-2)
MOTOR SKILLS ASSESSMENT for LARGER SPACES

AGILITY TEST

Highly recommend viewing CAPL-2 training video before administering the Canadian Agility and Movement Skills Assessment (CAMSA) Agility test: https://www.activehealthykids.org/capl-training-videos-english/

Components include:
• “Obstacle course” to assess:
  • Hop/jump
  • Object control (throwing/catching/kicking)
  • Lateral movement
• Requires
  • 15 x 5 m open space
  • Hula hoops/cones/balls/floor tape/24” x 18” cardboard wall target
MOTOR SKILLS ASSESSMENT for LARGER SPACES

(image courtesy of CAPL-2)
### Instructions for the Participant

#### Script & actions for demonstrations

<table>
<thead>
<tr>
<th>Actions</th>
<th>Scripts</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Begin standing stationary in front of the right hand side yellow hoop.</td>
<td>&quot;When you are ready to go, I will say ready, set, go.&quot;</td>
</tr>
<tr>
<td>2. Complete three 2-foot jumps (in the illustration the jumps would be from the right yellow hoop to the right purple hoop to the right blue hoop and then out past the blue hoop). Run to cone #1 and then turn sideways to face appraiser #1.</td>
<td>&quot;When I say &quot;go&quot; you jump on both feet together through the hoops.&quot;</td>
</tr>
<tr>
<td>3. Slide sideways to cone #2 and touch the cone. Then reverse direction (remain facing the appraiser) to slide back to cone #1 and touch that cone.</td>
<td>&quot;The next part is sliding sideways. You should be facing this side so you can see the appraiser.&quot;</td>
</tr>
<tr>
<td>4. Start to run toward the throwing line, catch the ball as it is thrown by the appraiser, and throw it at the target at any point before the line.</td>
<td>&quot;After you finish sliding, I will throw the ball to you. Catch it and run up to the line and then throw it at the target before you cross the line.&quot;</td>
</tr>
<tr>
<td>5. Run across the line and around cone #2 to reach the outside of cone #3. Skip from cone #3 to cone #4 before running around cone #4 and going back to the hoops.</td>
<td>&quot;After you throw you go around the green cone and run to the outside of the red cone. When you come to the red cone skip all the way to the second red cone. Do your best athletic skipping. Skip around the red cone and then run back to the hoops.&quot;</td>
</tr>
<tr>
<td>6. After reaching cone #4 and making sure you go around it, you come to the hula hoops and begin 1-foot hopping in each hula hoop.</td>
<td>&quot;This time you have to land in all of the hoops by hopping on 1-foot. You can do the hoops in any order, but you have to land on the same foot in each hoop.&quot;</td>
</tr>
<tr>
<td>7. After landing in the last hoop, run to the kicking line and kick the ball toward the target.</td>
<td>&quot;After you land on 1-foot in the last hoop just run to the soccer ball and kick it between the 2 yellow cones. You don’t need to aim the ball at the target on the wall, which is just for the throwing. Once you kick the ball you are done.&quot;</td>
</tr>
</tbody>
</table>

(courtesy of CAPL-2)
# Instructions & keys

<table>
<thead>
<tr>
<th>Cueing instructions given by appraiser #1 during a child’s assessment</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. When child is standing in front of the right yellow hoop, ready to go</td>
<td>“Ready, set, go”</td>
</tr>
<tr>
<td>2. Immediately after saying “go”</td>
<td>“2-foot jumps”</td>
</tr>
<tr>
<td>3. As third jump is initiated</td>
<td>“Slide, touch the cone”</td>
</tr>
<tr>
<td>4. As they approach cone #2</td>
<td>“Slide, touch the cone”</td>
</tr>
<tr>
<td>5. As they approach cone #1</td>
<td>“Catch the ball”</td>
</tr>
<tr>
<td>6. After you have thrown the ball</td>
<td>“Run up to the line and throw the ball at the target”</td>
</tr>
<tr>
<td>7. Once the child has prepared to throw</td>
<td>“Round the cone”</td>
</tr>
<tr>
<td>8. Once the child has gone over the throwing line and is heading for cone #2</td>
<td>“Skip”</td>
</tr>
<tr>
<td>9. Once the child is halfway between cone #3 and #4</td>
<td>“Round the cone”</td>
</tr>
<tr>
<td>10. When the child is going around cone #4</td>
<td>“1-foot hops in each hoop”</td>
</tr>
<tr>
<td>11. As the final hop is completed</td>
<td>“Run and kick the ball between the cones”</td>
</tr>
</tbody>
</table>

(courtesy of CAPL-2)
Proper Form

1. Ensure that children are wearing appropriate footwear and shoe laces are tied.
2. Ensure that children waiting to perform the CAMSA do not interfere with the child being assessed (i.e., standing well back from the course, etc.).
3. Research indicates that at least 2 practice trials followed by two timed trials are necessary to ensure that a child’s score most accurately and reliably reflect motor competence during both timed/scored trials. If it is not possible to complete 4 trials per child (2 practices, 2 timed/scored) the motor performance score can be estimated from the second timed/scored trial (1 practice, 2 timed/scored).
4. Do not use the first timed/scored trial after only 1 practice trial as there is a significant learning effect on the CAMSA score when the child has completed the course fewer than 3 times.

How to Record the CAMSA Score

1. The time is recorded to the nearest 0.1 second by appraiser #1.
2. Motor skill performance score is recorded by appraiser #2 using the checklist.
3. 1 point is awarded for each skill performance criterion (total skill score is out of 14).
4. Where a criterion is not met, put an “X” in the corresponding box on the score sheet.
5. If the child’s performance of the CAMSA is affected by an outside influence (e.g., someone gets in the way, the appraiser’s throw is off target), the trial is not scored and a new trial is completed.

(courtesy of CAPL-2)
Key Evaluation Criteria for the CAMSA Score

Each skill performed during the CAMSA is evaluated using 1 or more criteria. Each skill criteria is scored as either performed (1 point), or not correctly performed (0 points). No partial points are provided.

2-foot jumping (2 points)
1. 3 consecutive jumps on 2-feet (1 point):
   Take off and land on both feet at the same time.
2. Both feet land together in each hoop and do not touch hoops (1 point):  
   Only 1 jump in each hoop (no extra small jumps upon landing).  
   Clean jump from 1 hoop to the next without touching the hoops.

Sliding (3 points)
1. Body and feet aligned sideways when sliding in one direction (1 point):  
   It does not matter which direction child travels in first,  
   Leading foot steps sideways, trailing foot brought to meet leading foot (side stepping),  
   Shoulders, hips and feet all aligned, facing 90 degrees to direction of travel.
   Only 1 point is awarded if the child slides in the same direction both times (i.e., turns 180 degrees and faces opposite way when reversing the sliding direction).
2. Body and feet aligned sideways when sliding in the opposite direction (1 point):  
   The child travels back to the first cone while facing the same direction as the initial slide,  
   Same scoring criteria apply as for #1 above.
3. Touches cone with low centre of gravity and athletic position (1 point):  
   Knees bent, Feet apart,  
   Whole body (i.e., centre of gravity) lowers to touch cone, not just hand, so that time is not lost by standing up or changing the sliding position,  
   If the child demonstrates low centre of gravity and athletic stance, but misses touching the cone, the point can still be awarded,  
   If presence of the motor skill is demonstrate once then point can be awarded (i.e., do not have to touch both cones with athletic stance to obtain the point).  
   Point is NOT awarded if the child touches the cone without an athletic stance (e.g., bends at the waist to touch cone but legs stay straight).

Catch (1 point)
1. Catches ball without trapping against the body (1 point):  
   Ball caught cleanly with either 1 or 2 hands,  
   No use of body to prevent ball from falling to the floor,  
   If ball is dropped under any circumstances, the point is still lost (e.g., even if the child drops the ball due to not anticipating the throw).  
   EXCEPTION: If the appraiser’s throw was inaccurate and was the sole cause of the ball being dropped, the attempt is voided and the child should start the CAMSA again from the beginning.

(courtesy of CAPL-2)
### Throw (2 points)
1. Uses overhand throw to hit target (1 point):
   - Ball hits target,
   - Arm comes from behind and hand goes over the shoulder,
   - Using a side arm throw would still obtain the point (e.g., baseball or cricket pitch style throws).
2. Transfer weight and rotates body to assist throw (1 point):
   - Arm and shoulders follow the path of the ball once ball has been released,
   - Body rotates at the hips and shoulders,
   - Legs slightly apart, and weight is transferred from hind leg to leading leg to assist throw,
   - Whole body remains under control and well balanced.

### 1-Foot Hop (2 points)
1. Lands on only 1-foot in each hoop (1 point):
   - Same foot in each hoop.
2. Hops only once in each hoop and does not touch hoops (1 point):
   - Does not touch any of the hoops,
   - No extra little hops to maintain balance between hoops.

### Kick (2 points)
1. Smooth approach to kick the ball between the cones (1 point):
   - Ball kicked between the cones or ball hits one of the cones,
   - Continuous running pattern, well judged timing of kick,
   - Rapid and smooth approach does not have to be interrupted in order to make contact with the ball.
2. Elongated stride on last stride before impact (1 point):
   - Non-kicking foot is deliberately planted to aid the accuracy of the kick,
   - Stride length of final step before the foot is planted is longer than previous steps during the approach to ball.

(courtesy of CAPL-2)
### CAMSA Score Sheet

**Test Location:**

**Test Date:**

**Appraiser #1:**

**Appraiser #2:**

<table>
<thead>
<tr>
<th>ID Number:</th>
<th>Time(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Two foot jumping</strong></td>
<td>3 two-foot jumps in and out of the yellow/purple/blue hoops</td>
</tr>
<tr>
<td></td>
<td>No extra jumps and no touching of hoops</td>
</tr>
<tr>
<td><strong>Sliding</strong></td>
<td>Body and feet are aligned sideways when sliding in one direction</td>
</tr>
<tr>
<td></td>
<td>Body and feet are aligned sideways when sliding in opposite direction</td>
</tr>
<tr>
<td></td>
<td>Touch cone with low centre of gravity and athletic position</td>
</tr>
<tr>
<td><strong>Catching</strong></td>
<td>Catches ball (no dropping or trapping)</td>
</tr>
<tr>
<td><strong>Throwing</strong></td>
<td>Uses overhand throw to hit target</td>
</tr>
<tr>
<td></td>
<td>Transfers weight and rotates body</td>
</tr>
<tr>
<td><strong>Skipping</strong></td>
<td>Correct hop-step pattern</td>
</tr>
<tr>
<td></td>
<td>Uses arms appropriately (alternates arms and legs, arm swinging for balance)</td>
</tr>
<tr>
<td><strong>One foot hopping</strong></td>
<td>Land on one foot in each hoop</td>
</tr>
<tr>
<td></td>
<td>Hops once in each hoop (no touching of hoops)</td>
</tr>
<tr>
<td><strong>Kicking</strong></td>
<td>Smooth approach to kick ball and hit target</td>
</tr>
<tr>
<td></td>
<td>Elongated stride on last stride before impact</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
</tr>
</tbody>
</table>

(courtesy of CAPL-2)
Scoring the CAMSA

Motor competence is assessed through performance on the CAMSA. Both a time score to complete the CAMSA (range 1 to 14) and a criterion-referenced assessment of skill performance (range 0 to 14) are assessed. The time and the skill score are assigned equal weighting, as the more physically literate child will be able to find the optimal balance between speed and accuracy. The CAMSA score is calculated in the same way for every child, regardless of the child’s age. However, the interpretation and category that the child’s score is subsequently aligned varies with the child’s age. Older children are expected to perform better than younger children, so a child’s raw score is expected to increase with age. As a result, older children must achieve a higher score to stay within the same interpretation category.

CAMSA skill score

The point distribution between skills performed is as follows:

1. 2-foot jump (range 0 to 2)
2. Sliding (range 0 to 3)
3. Catching (range 0 to 1)
4. Throwing (range 0 to 2)
5. Skipping (range 0 to 2)
6. 1-foot Hop (range 0 to 2)
7. Kicking (range 0 to 2)

The skill score is simply the total number of skills that were correctly performed, so the skill score will range from 0 to 14.

CAMSA time score

Using previously collected CAPL-2 data, time norms for the CAMSA performance time were calculated and then divided into 14 categories, each of which is assigned a numerical value. Faster times are assigned a higher value.

<table>
<thead>
<tr>
<th>Time (sec)</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 14</td>
<td>14</td>
</tr>
<tr>
<td>14 &lt; 15</td>
<td>13</td>
</tr>
<tr>
<td>15 &lt; 16</td>
<td>12</td>
</tr>
<tr>
<td>16 &lt; 17</td>
<td>11</td>
</tr>
<tr>
<td>17 &lt; 18</td>
<td>10</td>
</tr>
<tr>
<td>18 &lt; 19</td>
<td>9</td>
</tr>
<tr>
<td>19 &lt; 20</td>
<td>8</td>
</tr>
<tr>
<td>20 &lt; 21</td>
<td>7</td>
</tr>
<tr>
<td>21 &lt; 22</td>
<td>6</td>
</tr>
<tr>
<td>22 &lt; 24</td>
<td>5</td>
</tr>
<tr>
<td>24 &lt; 26</td>
<td>4</td>
</tr>
<tr>
<td>26 &lt; 28</td>
<td>3</td>
</tr>
<tr>
<td>28 &lt; 30</td>
<td>2</td>
</tr>
<tr>
<td>≥ 30</td>
<td>1</td>
</tr>
</tbody>
</table>

*Based on data collected on >10,000 Canadian children.

When calculating the overall CAMSA score, the time and skill score from the SAME trial should be used. The CAMSA total score is calculated as follows:

Calculating the Overall CAMSA Score

\[
\text{Total CAMSA Score} = \text{Time Score (range 1 to 14)} + \text{Skill Score (range 0 to 14)}
\]

**The highest overall CAMSA score, from either Trial 1 or Trial 2, should be used to interpret the child’s motor competence or to calculate a physical competence score.**

(courtesy of CAPL-2)
## Interpreting the CAMSA Score

<table>
<thead>
<tr>
<th></th>
<th>Beginning</th>
<th>Progressing</th>
<th>Achieving</th>
<th>Excelling</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Girls (combined time and skill score)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 years</td>
<td>&lt; 15</td>
<td>15 to 20</td>
<td>21</td>
<td>&gt; 21</td>
</tr>
<tr>
<td>9 years</td>
<td>&lt; 16</td>
<td>16 to 21</td>
<td>22</td>
<td>&gt; 22</td>
</tr>
<tr>
<td>10 years</td>
<td>&lt; 17</td>
<td>17 to 22</td>
<td>23</td>
<td>&gt; 23</td>
</tr>
<tr>
<td>11 years</td>
<td>&lt; 17</td>
<td>17 to 22</td>
<td>23 to 24</td>
<td>&gt; 24</td>
</tr>
<tr>
<td>12 years</td>
<td>&lt; 18</td>
<td>18 to 23</td>
<td>24 to 25</td>
<td>&gt; 25</td>
</tr>
<tr>
<td><strong>Boys (combined time and skill score)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 years</td>
<td>&lt; 16</td>
<td>16 to 21</td>
<td>22 to 23</td>
<td>&gt; 23</td>
</tr>
<tr>
<td>9 years</td>
<td>&lt; 17</td>
<td>17 to 22</td>
<td>23</td>
<td>&gt; 23</td>
</tr>
<tr>
<td>10 years</td>
<td>&lt; 17</td>
<td>17 to 22</td>
<td>23 to 24</td>
<td>&gt; 24</td>
</tr>
<tr>
<td>11 years</td>
<td>&lt; 18</td>
<td>18 to 23</td>
<td>24 to 25</td>
<td>&gt; 25</td>
</tr>
<tr>
<td>12 years</td>
<td>&lt; 18</td>
<td>18 to 24</td>
<td>25 to 26</td>
<td>&gt; 26</td>
</tr>
</tbody>
</table>

**Based on data collected on >10,000 Canadian children**

## Messaging the CAMSA Score

**Beginning:** You are beginning the journey towards achieving all the movement skills needed for a physically active lifestyle. Have more fun and be healthier by practicing skills one at a time like running, jumping, sliding, catching, throwing, skipping, hopping and kicking.

**Progressing:** You are progressing towards achieving all the movement skills needed for a physically active lifestyle. Your movement skill score is similar to other children your age. Have more fun and be healthier by practicing the following skills one at a time while running: jumping, sliding, catching, throwing, skipping, hopping and kicking.

**Achieving:** You are achieving the recommended guidelines for movement skills. That means your movement skill score is related to health benefits. Keep up the great work by practicing the following skills one after the other while running: jumping, sliding, catching, throwing, skipping, hopping and kicking.

**Excelling:** Congratulations, you are doing a great job at performing movement skills. That means your movement skill score is related to a lot of health benefits. Keep up the great work!

(courtesy of CAPL-2)
SECONDARY SCREEN:

What do you do next?

If Beginning, Progressing or Achieving → recommend finding ways to improve physical literacy skills

For rehabilitation specialists working 1:1, you can develop a program to target the areas that seem to need the most improvement

For group settings, finding ways to target areas that need improvement for the entire group for your regularly scheduled programming may help improve individual physical literacy skills

If Excelling → consider reinforcement strategies alone and provide feedback to primary care team if they were referred to you for physical literacy assessment

After referral from a primary care office for a secondary screen and mitigation process:

- Goal of primary care team follow-up in ~3-4 months
- Bidirectional communication with referral partner when able
PHYSICAL LITERACY FOR ALL YOUTH IN MAINE (PLAY ME)

PHYSICAL LITERACY REFERENCES


APPENDIX
PRIMARY SCREENING

(NOTE: the primary screen is typically done in provider offices rather than rehabilitation specialist or community partner locations. The preferable option for these settings is the secondary screen which can be found at page 9)

A brief 2-step physical literacy screening process has been validated by the Healthy Active Living and Obesity (HALO) research group for use in children 8-12 years old.\(^5\) This may be done if the physical component of the secondary screening assessments are not feasible (due to length, space and/or equipment).

Administering the screen does not require specialized training or equipment and includes:

Step 1. 2 Questions
- Asking about parent support for engagement in physical activity
- Can be administered to children either orally, written, or electronically
- Children should answer these questions without caregiver input

Step 2. Wall sit test (page 63)
- Empty wall space 2-3 feet wide
- Stopwatch, or other mechanism for recording time in seconds
- Patient clothing that allows hip and knee flexion to 90 degrees, and includes non-slip footwear or bare feet

Data on accuracy of this screening process for adequate physical literacy:\(^5\)
- Positive predictive value: 89%
- Negative predictive value: 67%
- Sensitivity: 72%
- Specificity: 86%
PRIMARY SCREEN QUESTIONS:

(Printable questions for patients on page 68)

INSTRUCTIONS:
We want to know how often your parents or guardians take you to play active games or sports or are active with you in a normal week.

Circle one answer for each question. There is no such thing as a right or wrong answer.

Ask us for help if you do not understand the questions. Take as much time as you need to answer:

During a normal week, how often do your parents take you to play games or sports?

Never  Not often  Sometimes  Often  Very Often

During a normal week, how often do your parents play active games or sports with you?

Never  Not often  Sometimes  Often  Very Often

INTERPRETATION:
Children who answer “Never,” “Not Often” or “Sometimes” on EITHER question:
- Continue screen with wall sit test on page 63.

Children who answer “Often” or “Very Often” to BOTH questions:
- Screening is complete, and provide reinforcement materials and resources on page 64.
PRIMARY SCREEN - INSTRUCTIONS FOR WALL SIT TESTING:

Equipment/Space Required:
- Empty wall where child can rest his or her back (approximately 2-3 feet in width required).
- Stopwatch that measures seconds.

Preparation of Child:
- Wear clothes that allow knees to bend to 90 degrees.
- Running shoes or non-slip shoes are recommended.
  *Note: Task cannot be done while wearing socks. Bare feet are acceptable if suitable shoes are not available.

How to Assess the Wall Sit
- Explain and demonstrate the wall sit
- Emphasize trying to hold the wall sit for as long as possible
- Start timing once the child is in the correct position
- Verbally encourage the child to continue as long as possible
- Stop timing when child can no longer maintain the correct position

Instructions for the Participants
1. Stand with your back up against the wall and keep your feet shoulder width apart.
2. Bend your knees and move your body downward until your legs are bent 90° at your hips and knees — pretend you are sitting on an imaginary chair.
3. Hang your arms freely at your side and maintain this position as long as possible.
4. We will stop timing as soon as your body is not in the proper position or when you stop trying.

RESULTS:
- If unable to maintain wall sit for at least 20 seconds, additional physical literacy assessment is indicated = HIGHER RISK (algorithm on page 67)
  Next step: perform secondary screening assessment if able (page 9)

- If able to maintain wall sit for 20 seconds or longer, then further physical literacy assessment NOT indicated = LOWER RISK (algorithm on page 67)
  Next step: provide reinforcement materials (page 64)
NEXT STEPS FOR CHILDREN WHO DO NOT REQUIRE A SECONDARY SCREEN (LOWER RISK)

Children who pass the 2-step physical literacy screen are likely to possess sufficient motor skills to successfully participate in healthy levels of physical activity and are considered LOWER RISK per our algorithm. However, no screening process is perfect, and some children who pass the screen may still be at risk for inadequate physical literacy.

In cases of provider concern, even if the screen is negative, referral for more in-depth evaluation may still be appropriate.

These may include children with:

- Repeat acute and/or chronic musculoskeletal injuries or complaints
- Concerns raised by parents or others regarding coordination or gait
- Insufficient self-motivation, confidence, or knowledge regarding physical activity
- Comorbidities that may increase risk, including: developmental and behavioral disabilities, obesity, neurologic conditions
- Families/caregivers with sedentary lifestyles
TALKING POINTS FOR PROVIDERS: For those children who pass the physical literacy screen, without other “red flags” for the provider regarding motor proficiency, then reinforcement and encouragement toward maintenance of healthy levels of physical activity as outlined below is appropriate:

- The World Health Organization recommends **60 minutes** of moderate-vigorous physical activity per day for children 5-17 years old
  - Moderate intensity means that children are slightly out of breath, but can still talk while active
  - If lack of time is identified as a barrier to meeting this goal, there is some emerging evidence that at least 20 minutes of vigorous physical activity daily may help children meet some of the same health outcome goals.

- Emphasize **continued involvement in a variety of physically active recreational activities** with the resources on page 66.
  - Parental physical activity (and early engagement in physical activity as a family) is the biggest predictor of healthy levels of physical activity throughout a child’s lifespan.
  - Activities should be **fun** for the child
  - Minimizing barriers and creating a routine are keys to developing an “activity habit.”
    - Close to home or school, easily accessible, and keep any needed clothing or equipment ready and in plain view

- Regular physical activity should be considered **part of disease treatment and prevention** for a number of health conditions (including but not limited to):
  - Hypertension and heart health
  - Anxiety
  - Diabetes and insulin resistance
  - Fatty liver
  - Depression
  - Dyslipidemia
  - Lowers mortality rates from breast, colorectal and prostate cancer
  - Improves mental function in individuals with dementia
  - Control the frequency and severity of asthma attacks
  - Obesity

- **Sports team involvement and special issues for children involved in organized sports:**
  - Lack of fun is the primary reason children drop out of sport
    - Emphasize the importance of “fun” during sport and physical activity for children
  - Children 8-12 years old should be engaging in a variety of physical activities. Specialization in a single sport should be discouraged before high school.
    - Overuse injury risk increases 4x in children who specialize early.
    - Dropout increases in children who specialize early. 70% of young athletes will drop out by the age of 13. (National Association of Youth Sports)
      - Girls drop out of sport at 6x the rate of boys
RESOURCES FOR ENHANCING PHYSICAL LITERACY AND ACTIVITY FOR MAINE CHILDREN

**Parent information guide regarding general principles of physical literacy:**

https://activeforlife.com/physical-literacy-2/

Practical tips on building physical literacy can be found at:

https://activeforlife.com/activities/

**Physical activity information for Maine families:**

https://mainebyfoot.com/find-your-next-walk/

A comprehensive list of trails throughout the state. Contains interesting information about the trails and geology/plants/wildlife

https://www.alltrails.com/us/maine

All Trails - Maine: Links to over 1000 hiking, biking, running trails across the state.

https://winterkids.org/kids-families/resources-for-parents/

Ideas for keeping kids physically active throughout Maine winters

https://fitmaine.com/

Dynamic website that highlights a variety of physical activities and related events throughout Maine

https://www.geocaching.com/play

A great way to integrate technology and screen time with physical activity

**General physical activity information:**

https://healthysportindex.com

Resource to help families choose the best sport for their child, taking into account physical activity, safety and psychosocial factors


The U.S. government’s introductory page on family physical activity. Contains a variety of links to different resources. Good ideas can be found at:

https://www.nhlbi.nih.gov/health/educational/wecan/get-active/getting-active.htm


For families who want detailed information on current Physical Activity Guidelines for Americans (Chapter 3 is focused on children and adolescents)
ALGORITHM FOR PHYSICAL LITERACY SCREENING AND REMEDIATION

COURTESY EMILY KELLER, MD MPH
**PHYSICAL LITERACY SCREENING QUESTIONS**

**INSTRUCTIONS:**

We want to know how often your parents or guardians take you to play active games or sports or are active with you in a normal week.

Circle one answer for each question. There is no such thing as a right or wrong answer.

Ask us for help if you do not understand the questions. Take as much time as you need to answer:

---

**During a normal week, how often do your parents take you to play games or sports?**

<table>
<thead>
<tr>
<th>Never</th>
<th>Not often</th>
<th>Sometimes</th>
<th>Often</th>
<th>Very Often</th>
</tr>
</thead>
</table>

**During a normal week, how often do your parents play active games or sports with you?**

<table>
<thead>
<tr>
<th>Never</th>
<th>Not often</th>
<th>Sometimes</th>
<th>Often</th>
<th>Very Often</th>
</tr>
</thead>
</table>
ADAPTED PHYSICAL EDUCATION

Children who require secondary screening may benefit from additional school-based support in physical education. Physical education is a critical part of a child’s overall education experience, but children with inadequate physical literacy often struggle in standard physical education class settings and may benefit from a school-based assessment to determine the need for appropriate accommodations in physical education.

This may be a good fit for students with:
- IEP or 504 plan already in place (see below)
- Autism, ADHD, learning disabilities, or significant mood disorders who may benefit from an IEP or 504
- Poorly controlled asthma or diabetes that limits physical activity
- Obesity that limits or impairs physical activity
- Any condition associated with deconditioning or that interferes with age-appropriate activity
- A physical literacy/activity program developed by a rehabilitation professional that needs to be incorporated into school-based programming

PARENT’S ROLES IN REQUESTING SERVICES:
Parents/caregivers are often not aware of their child’s rights to a school-based evaluation for the potential need for adapted physical education services and could be encouraged to request an “adapted physical education assessment” from the child’s school to determine eligibility for these services. This is usually done through the school’s special education teacher, or instruction strategist, and is without charge. Parents will then be asked to sign a consent for any assessment. It is important to note that the school may not agree that a child qualifies for an IEP or 504 and therefore it will be necessary to ensure the family contacts the provider office if services with Adapted PE or School-Based PT were denied so that an alternative resource can be pursued.

Definitions:

1. **Individualized Education Program (IEP) for physical education** - IEPs are most appropriate for children who meet disability criteria according to IDEA Sec 300.8 (see #3 below). Most common in this setting would include: autism, orthopedic disabilities, emotional impairments (such as significant anxiety or depression) and “other health impairments” that "impair strength, vitality, or alertness,” which may include ADHD, obesity, and asthma.

2. **504 Plan**: Adaptation of physical education class-based learning to accommodate the needs of the individual student (e.g. 504 plan) would be most appropriate for students who have unique needs for instruction in physical education, but **do not meet disability criteria for an IEP**.

3. **Definition of “child with a disability” according to the Individuals with Disability Education Act (IDEA)**: a child evaluated in accordance with §§300.304 through 300.311 as having an intellectual disability, a hearing impairment (including deafness), a speech or language impairment, a visual impairment (including blindness), a serious
emotional disturbance (referred to in this part as “emotional disturbance”), an orthopedic impairment, autism, traumatic brain injury, other health impairment, specific learning disability, deaf-blindness, or multiple disabilities, and who, by reason thereof, needs special education and related services.
Parents and caregivers can help improve their children’s literacy with home-based activities. This may be the option of choice for families that are not interested or able to pursue school- or clinic-based programming.

Most families are not going to be familiar with the concept of building physical literacy, and an introductory infographic developed by Active for Life (a Canadian Amateur Athletic Association) can be found here: [https://activeforlife.com/physical-literacy-2/](https://activeforlife.com/physical-literacy-2/)

Practical tips on building physical literacy for toddlers through pre-adolescents can be found at: [https://activeforlife.com/activities/](https://activeforlife.com/activities/)

A more structured program to develop physical literacy has been developed by a physical therapist in conjunction with an expert in strength and conditioning training. These are 6 exercises that should be performed 3 days/week. A video demonstration and detailed instructions on each exercise can be accessed at (copy and paste into your browser): [https://www.medbridgego.com/access_token](https://www.medbridgego.com/access_token)

Access code: FY4XRRG3
WHAT IS PHYSICAL LITERACY?

Physical literacy is when kids have developed the skills, confidence, and love of movement to be physically active for life.

Physical literacy begins when parents encourage movement in infancy... ...and can be a gift that is shared between generations.

$7-8\%$
Higher annual earnings

$40\%$
Higher test scores

Increased self-esteem and happiness

THE BENEFITS OF BEING PHYSICALLY ACTIVE*

* Adapted from Aspen Institute Sport for All - Play for Life: A Playbook to Get Every Kid in the Game

HOW IS PHYSICAL LITERACY DEVELOPED?

Kids develop physical literacy gradually through a variety of structured and unstructured activities. The nature of these activities changes as kids grow in age and ability.

0 - 3 years
Encourage early movement.

3 - 5 years
Expand on play, and keep it fun.

5 - 8 years
Increase the focus on fundamental movement skills.

8 - 12 years
Introduce more complex skills as kids are ready.

Learn more at: ActiveForLife.com
parent tips

Get Started! Eating Healthy and Moving More

Try one of these tips each week to eat healthy and move more!

Eat Healthy (ENERGY IN)

- Put berries or bananas on whole-grain cereal or oatmeal.
- Order a green salad instead of fries. Ask for fat-free or low-fat dressing “on the side” – and use only half of it.
- Drink water, fat-free or low-fat milk instead of regular soda or other sweetened drinks.
- Add flavor with herbs and spices, instead of salt.
- Use fat-free or low-fat mayo, sour cream, and salad dressings.
- Choose fruit for a snack or dessert.
- Grill, steam, or bake food.
- Don’t eat late at night.
- Use lean meats such as white meat chicken, lean ground turkey, or fish in place of beef or pork.
- When you eat out, choose an appetizer for your meal or share a main course.

Move More (ENERGY OUT)

- Take your dog on longer walks.
- Ride bikes after dinner.
- Park farther away from the store and walk.
- Use the stairs instead of the escalator.
- Dance with your children.
- Walk your kids to school or walk to work.
- Ask your kids to help with active chores around the house, like vacuuming or raking leaves.
- Sign your kids up for community sports or lessons.
- Walk along the sidelines at your kids’ sports events.
- Play ball at the park.
- Choose video games that get your kids moving, like dancing or fitness games.

We Can! is a program from the National Institutes of Health that offers resources for parents, caregivers and communities to help children 8-13 years old stay at a healthy weight through eating right, increasing physical activity, and reducing screen time.

To learn more, go to http://wecan.nhbi.nih.gov or call 1-866-35-WECAN.

We Can! Ways to Enhance Children’s Activity & Nutrition; We Can! and the We Can! logo are registered trademarks of the U.S. Department of Health & Human Services (DHHS).