

PERFOrmance and FITness battery for children: **PERF-FIT**

INSTRUCTION MANUAL

Item description



Version 2.5
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Project in collaboration with the University of Cape Town (Department of Health and Rehabilitation Sciences Faculty of Health Sciences), North-West University (Physical Activity, Sport and Recreation (PhASRec), Faculty of Health Sciences, Potchefstroom Campus, Potchefstroom, South Africa).

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The PERF-FIT test battery is accessible at no cost for the user groups it was developed for (low-resource communities). Also test kits (materials and manual) are available at cost price or can be developed by the users based on description of the developer. A training module is available online after request to bouwiensmits@hotmail.com.

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Introduction

Norm referenced, standardized, motor and fitness assessments for children with motor deficits in low resourced communities are lacking, limiting early detection and quantification of prevalence estimates in these settings. Low resourced communities provide suboptimal conditions for child development and are often associated with the lack of motor learning experiences. Moreover, opportunities for motor acquisition and appropriate sports-oriented practices are unavailable, leading to lower fitness levels. It is therefore important to develop cost-efficient tools that can be used to characterize neuro-motor fitness and to investigate potential factors that are associated with poor motor skills during critical childhood developmental periods. A good set of tools for the evaluation of motor skills and the identification of atypical or delayed motor development is therefore crucial for low resourced communities.

Currently none of the available motor or anaerobic fitness tests have norms for developing countries and/or low resourced communities. Importantly, even without appropriate norms, most test equipment is very expensive for therapists working in low resourced areas. Despite the development and validation of numerous field test batteries for testing motor performance, the application of agility, speed and power assessment as part of contemporary motor performance measurement has received little attention especially in young children (5-12-year-old children). We therefore decided it was important to develop a new motor and fitness test suitable for these circumstances.

Content

The PERF-FIT is a test developed to measure *motor skill related physical fitness* in children aged between 5-12 (elementary school age) in low resourced areas. The test has two subscales: a *PERFormance part; Motor skill subscale* (5 Skill Item Series) and a *FITness part; Agility and Power subscale* (5 items) (see table 1)

Table 1 Test items of the PERF-FIT

Agility and Power Subscale
Agility (3); Running, Stepping, Side jump.
Explosive Power (2): Lower extremity=Long jump; Upper extremity=Overhead Throw
Motor Skill Performance Subscale
Bounce and Catch and (5) Throw and Catch (5)
Balance: Static (2 left and 2 right) and Dynamic (3)
Jumping (4), hopping (4 left and 4 right),

Subscale 1:

Agility and Power

This subscale contains 5 items intended to measure aspects of anaerobic capacity (explosive power, running and agility): Long jump, Overhand throw (bag and ball), Running, Stepping, Side jump. All the power and agility items are done by children of all age groups with **always 2 test trials** independent of the score obtained. Children get at least 15 seconds rest between those two test trials.

Subscale 2:

Motor Skill Performance

This subscale contains 5 series of tasks with increasing difficulty, which are called *Skill Item Series (SIS)*.

Skill Item Series (SIS)

- A. Bounce and catch (5 items)
- B. Throw and catch (5 items)
- C. Balance (2 static balance and 3 dynamic balance items for each leg)
- D. Jump (4 items)
- E. Hopping (4 items for each leg)

For the *Skill Item Series* all children start at the easiest level of the series. If they perform the first trial without any mistakes, **a second trial** isn't needed. Instead, they proceed to next level of the task. **If a child does not obtain a maximum score in the first test trial, they proceed to a second trial.** If the child does not score **more than** half of the maximum points in either of the 2 test trials for a specific SIS item, then that series is discontinued. So the rest of that series is not tested in that child, except for the two **static balance** (Hug Knee and Grasp Foot) items, that are always administered.

Figure 1 Equipment needed



Guidelines for the administration of the PERF-FIT test

For each item listed, the standardized instruction, equipment and scoring are described in this manual. It is important to set up the testing area before the start of the test session and collect the equipment needed. Because the test requires maximal performance and exertion, it is essential that the child is and stays well motivated and not tired or annoyed at the start or during the test session. Try to make testing as much fun as possible but keep in mind that it is a **test** performance. Explain that items will become increasingly more challenging if they do very well.

If available, the child should wear clothes and shoes suitable for exercise; if no sport clothes are available school uniforms and uniform shoes can be used. Barefoot is also an option if the shoes of the child are not suited for running (like rain boots, flip-flops) and/or the child walks barefoot frequently (and prefers it to wearing shoes). Be sure the ground/surface is free of sharp objects that may hurt the feet. The type of foot ware (sports shoes/regular shoes/sandals/boots) a child wears or if they are barefoot during the tests needs to be recorded. It is important that the test be conducted the same way as the first time.

Practice

With each test item the child gets an opportunity to become familiar with the task and procedures. Testers should use the provided instructions and **externally focused** cues. Body part related instruction is sometimes described in this manual, so **the tester** understands the task. However, avoid giving detailed position or joint angle instruction to the child. For example, instead of saying “extend your hips” you could say, “stand tall”. For most of the tasks, the instructions for the children are written from that perspective. If you feel that a child doesn’t understand the instructions such as: “left” and “right”, “as far as possible” or “as fast as possible”, try other ways of communicating. For example, you can use color bands on opposite extremities. Just tell “move orange to orange”

The PERF-FIT is a motor performance test not a comprehension test. However, the number of practice repetitions should be limited to avoid fatigue. Give rest between items and minimum rest times are pointed out per item. If needed, split the test up into two sessions, but don’t break up the test between items of the same *Skill Item Series*. Make sure to explain on your record sheet, the reason(s) why you assessed the child in 2 or more sessions.

Fatigue and rest

To better manage fatigue and alternate between more and less fatiguing items, follow the recommended order of administering the tests for the items and rest periods for the full test procedure:

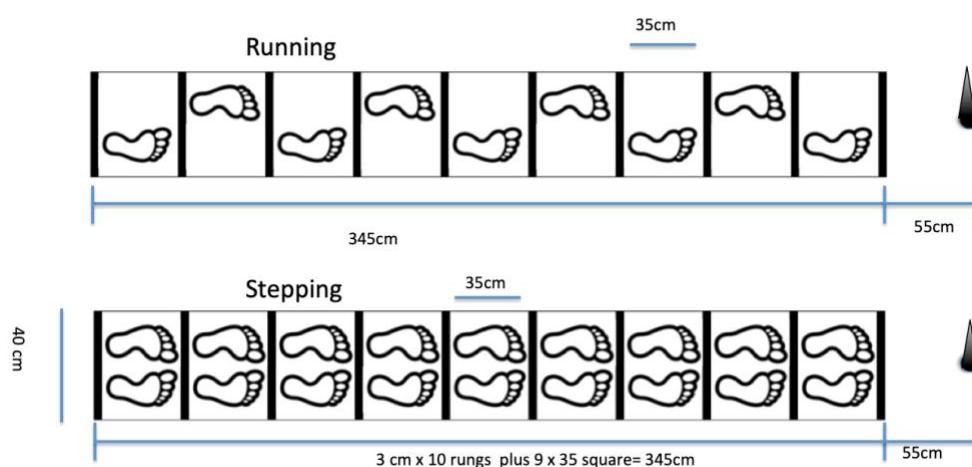
- Two slow practice trials of the running item in the agility ladder are given as general warming-up for the test.
- Running: Give a minimum 15s rest between the 2 test trials.
- Stepping: Give a minimum 15s rest between the 2 test trials
- Side jump: Give a minimum 15s between the 2 test trials

- Long jump: Give a minimum 15s between the 2 test trials
- Throw sandbag: Give a minimum 15s between the 2 test trials
- Series Bounce and Catch: no rest needed
- Series Throw and Catch: no rest needed
- Series Hug Knee: Preferred leg first, no rest needed
- Series Grasp Foot: Preferred leg first, no rest needed
- Series Pick-up cans: Preferred leg first, no rest needed
- Series Jumping: 4 items (Give a minimum 15s between each of the 4 items)
- Series Hopping: 4 items (alternate right and left leg and minimum 15s between the items performed with the same leg)

General information about the test set up

The Running, Stepping and Side Jump, and the Balance, Jumping and Hopping Skill Item Series are performed using the agility ladder (Figure 2). The agility ladder consists of an off-the-shelf, 4-meter (or approximately 13 foot) agility ladder. The size of the squares is adapted by moving the 10 cross bars or rungs (which are 3 cm wide) and they are fixed at the right distances; so that all the 9 squares have equal sizes (35 cm between the **inside of each rung**). Stretch the agility ladder out on the floor and adjust if needed. Measure the size of the squares if the rungs of your ladder can move! When storing the agility ladder make sure that rungs are flat, so don't tie them together in the middle.

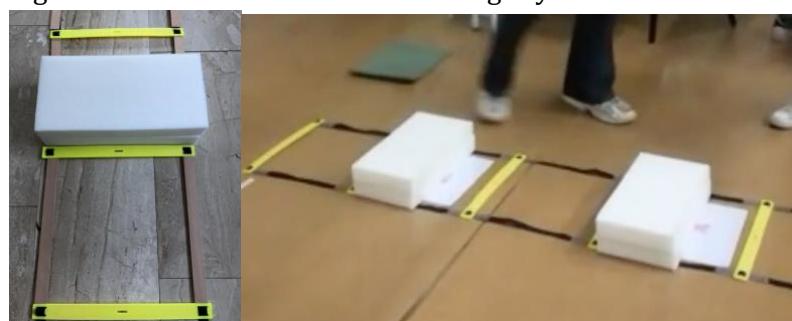
Figure 2. Agility ladder set up for running and stepping items.



The Long Jump and Overhand Throw are best done on a softer landing surface. If the bag or ball is thrown in sand or on non-sliding surface the distance is easier to measure.

For “Bounce and catch” and “Throw and catch” Skill Item Series the child needs a free space to move a few steps if needed to catch the ball. For the Bounce and catch the floor surface should be firm so that the ball bounces. Test the bouncing of the ball on the chosen terrain before the test, especially for the young children who cannot bounce well: if the ball is dropped at face height of the child, it should bounce up at least hip height. Look for an even surface to bounce on. If a ball makes an unpredictable curve after a bounce caused by the surface, give the child an extra bounce (don't count it as the child's mistake).

Figure 3. Position of the foams in the agility ladder.



For the jumping and hopping items, find a non-slippery surface. Print the 4 red crosses on thick paper (example at the end of this manual) and prepare 12 pieces of foam of 40cm x 20 cm x 5 cm. The red crosses are in placed in square 2, 4, 6 and 8. The front side of the foam should be placed against the inside of the rung of square 2, 4, 6, and 8 on top of the red crosses; So closest to where the child starts the jumping and hopping (Figure 3). More instructions are described per item in this manual.

Agility and Power test items

Scores subtest Power and Agility

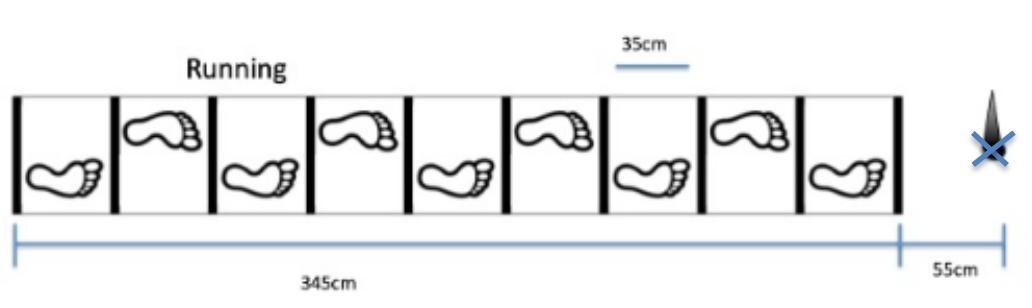
1. Running in agility ladder 2 trials (Time in 0.01 s and number of mistakes)
2. Stepping in agility ladder 2 trials (Time in 0.01 s and number of mistakes)
3. Side jumps 2 trials (Number of correct jumps in 15 seconds)
4. Long Jump 2 trials (Distance in cm)
5. Throwing for distance: sandbag 2 trials (Distance in cm)

Item 1. Running in Agility Ladder

Equipment

- Agility ladder
- PET bottle of 500 ml filled with water at 50 cm distance of last bar of agility ladder (see X in Figure 4). Total distance between the **outside of the first bar and back of the bottle** should be **4 meter**. Mark the position of the bottle on the floor, so you can put it back on the same spot if the bottle falls.

Figure 4. Set-up of the Agility ladder with PET bottle for Running



Task

The child starts with both feet **behind** the starting line (see Fig. X): in front of the first bar of the agility ladder. At a starting signal the child runs, putting one foot in each square, then runs around the bottle and runs back through the ladder till the end (Time ends when two feet are over the starting line and on the floor).

General instructions for the child

You are going to run as fast as possible **but in the squares, so don't step on the bars**, around the bottle and back. "I'll say ready steady GO! and you start running. I'll stop the timer when you are back over the starting line with both feet on the floor. I'll show you. Did I step on any of the bars?". "Now you can practice this". "Are you ready to try it now?"

Scoring

The practice trial is not done at full speed but as warming up and to see if the child understands the task. Time is recorded in 0.01 seconds. 2 Trials. Rest time between the 2 test trials is at least 15seconds.

Count and record the number of mistakes. A mistake is counted if

- 1) the child steps on a bar, or
- 2) steps outside the square with 1 foot or,
- 3) makes the wrong running pattern (for instance 2 feet in 1 square or skipping a square), or
- 4) loses their balance (but can correct it without falling or putting a hand on the floor).

If the child falls, or at any time is with **2 feet outside the ladder**, stop the trial and score **FAIL**.

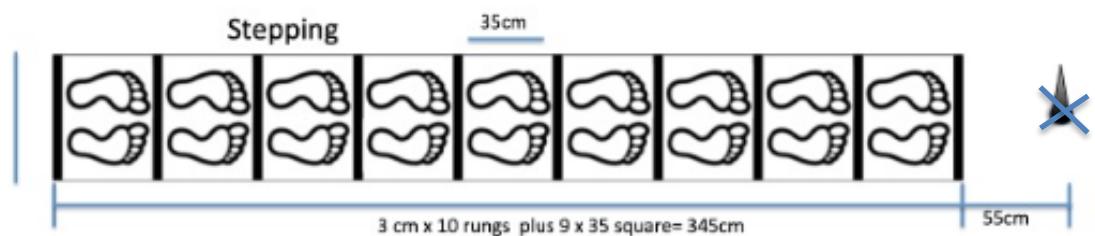
If 3 or more mistakes or a FAIL are made, an extra (third) trial is given. Half a second per mistake is added to the time score of the best trial.

Item 2. Stepping in Agility Ladder

Equipment

- Agility ladder
- PET bottle of 500 ml filled with water at about 50cm distance of last bar of agility ladder. Total distance between the **outside of the first bar and the back of the bottle** should be 4 meter.

Figure 5. Set-up of the Agility ladder with PET bottle for Stepping



Task

The child starts with both feet **before** the starting line (first bar of the agility ladder). At a starting signal the child steps with two feet in each square (no jumping), then runs around the bottle and runs back in the squares of the ladder till the end (two feet on the floor and over the starting line) (See Figure 5).

General instructions for the child

"You are going to do this again, only now you have to step with 2 feet in every square. I'll show you: Like this: one two, one two, one two. So you step as fast as possible **in the squares, one two, one two**, run around the bottle and back stepping one two one two. I'll say "*Ready steady GO!*" and you start stepping. I'll stop the timer when you are back over the starting line with both feet on the floor". "Now you can practice this". "Are you ready to practice it now, start slowly, till you know what to do? Then you can try to go faster".

Practice is important here because some children may have a hard time understanding the stepping pattern in the beginning (they go too fast to make 2 steps per square). Give them time to try it out! First practice trial is slow, in second practice trial try to speed up a bit. Giving extra feedback between the trials is OK. If children still don't understand or are unable to do this stepping pattern after 2 practice trials and 2 test trials. Stop trying and score "Unable to do" (Child gets lowest score for this item).

Scoring

Time is recorded in 0.01 seconds. 2 Trials. Rest time between the 2 trials is at least 15 seconds.

Count and record the mistakes. A mistake is made if

- 1) the child steps on a bar, or
- 2) steps outside the square with 1 foot, or

- 3) makes the wrong stepping pattern, for instance only 1 foot in the square or skipping a square or loses balance.
- 4) If 3 (or more) mistakes or a **FAIL** are made, an extra trial (third trial) is given. Half a second per mistake is added to the time score of the best trial.
- 5) If the child falls or is with 2 feet outside the ladder, stop that trial score a "Fail". Do extra trial (max number of trials is three: 2+1 extra).

Item 3. Side jump in the Agility Ladder

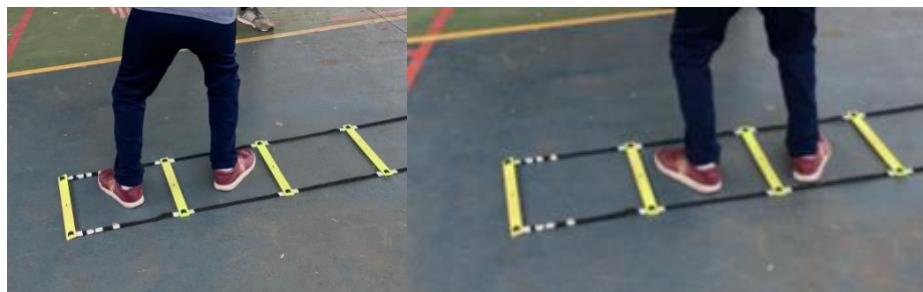
Equipment

- The first 3 squares of the Agility ladder (See Figure 6)
- Time

Task

Jump sideways on 2 feet. One foot per square, in the same 3 squares of the agility ladder (see photos)

Figure 6. Set-up of the Agility ladder for the Side jump



General instructions for the child

"What I want you to do now is to step into the ladder, with one foot in each of the first and adjacent second squares, with your body facing away from the test taker, and standing parallel to the direction of the rungs. When you are ready and hear the command to "start", jump with both feet at the same time, sideways from squares 1 and 2, landing with one foot in squares 2, and 3; i.e. each foot should be shifted one square when you land sideways. Show the child how to jump, start slowly, then you may go faster.

Try to jump as often as you can for 15 seconds, until both feet end up outside the last rung of the ladder at the other end. Don't worry if you don't reach the end of the 9 squares. I will tell you when to stop.

"Try it a few times (5 jumps), save your strength". If the child doesn't get the task show again and give extra practice (one time an extra 5 jumps). After practice we will do the real test twice. You start after I say ready steady GO, got that?"

Always give 2 test trials. Rest time between the 2 trials is 15seconds. Tell the child *to keep going* if (s)he makes a mistake (but don't count the jumps with a mistake, see scoring).

Scoring

Count the number of correct landings (=both feet in the correct squares) while not stepping on the yellow bars in 15 seconds.

If toes or heels touch the back or front line this is not counted as mistakes (we are testing side jumps and some kids also move forward a bit while jumping, some have larger feet). Remind the children to stay inside the squares before they do the next trial.

If the child falls (totally steps out of the agility ladder, or falls on the floor), only count the correct jumps **before the loss of balance**.

If the child can restore balance **without being out of the ladder with 2 feet** you can continue counting the correct jumps.

Item 4. Long jump

Figure 7. Set-up for the long jump (start and end).



Equipment

- A starting line on the floor /sand
- A tape measure
- Stick
- Soft landing area is preferred

Task

The child stands with their toes/shoe tips just behind a starting line (see figure 7). The child is asked to jump as far forwards as possible from a standing position with both feet on the ground. No specific instruction is given how to jump besides “Jump as far as you can and don’t fall” (any way they do it is fine)—and land with both feet together. One practice trial with sub maximum force is given, to know that they understand the task. Followed by 2 test trials with 15s rest between trials.

General instructions for the child

“Come and stand with your toes just behind this line. You will jump forwards as far as you can. Don’t fall and stay standing where you landed because I will measure how far you jumped. (Show measuring stick and tape measure) You can have 1 practice trial (save your strength), then we will do the real test twice”.

Scoring

Distance in centimeters between the starting line and the heel of the foot that landed closest to the starting line. Don’t measure the distance if they fall. If this happens, emphasize that they should strive for a balanced landing. If the child falls, and scores a fail, give them one extra trial. If all trials fail (2 regular trials plus 1 extra), score their attempts as “Unable to perform”. Child will get the lowest value for that age group.

Item 5. Overhead Throw of a Sandbag

Equipment

- A starting line on the floor or in the sand
- 2 Kg Sandbag
- A tape measure fixed to the floor (or fixed with some stones outside).
- Stick
- Foam pad

Task

The child kneels just behind a starting line (Figure 8). The child is asked to throw a sandbag (2kg), with both hands cupping the bag, over their head, as far forwards as possible. The bag is held in the middle (not by the corners!) and thrown in one move from a starting position behind the head (flexed elbows)—like a football throw-in from the sidelines of a football field, except in the kneeling position. One practice trial with sub maximum force is done to know that the child understands the task. Then 2 test trials are performed with 15s rest in between trials.

General instructions for the child

Figure 8. Set-up of the Overhead Throw



The test action is **demonstrated** in the following way: Kneel on the foam behind the line, with your knees almost touching the line (See Figure 8). Pick up the sandbag with two hands. Hold onto the side of the bag.

You say: "Pick up the bag and come tall (on your knees) like this.

Lift the bag up behind your head.

Throw the bag forwards, over your head as far as you can".

"You can have a try (but save your strength) then we will do the real test.

We will do it twice, I 'll measure how far you can throw the bag, let's try!"

Scoring

Distance in centimeters between the starting line and landing spot of the part of the sandbag closest to the starting line. The *landing point* of the bag should be measured not the point to which the bag may slide after landing (which is easiest to measure on a sandy surface, grass or piece of rough carpet).

Don't measure the distance if the child falls forwards after throwing. If this happens emphasize balanced kneeling. If the child falls, score a "fail" and give one (no more) extra trial.

Motor Skill Performance Scoring

Total scores subtest Performance per Skills Item Series (SIS)

Bounce and catch 10 trials: 5 items x 10 points=50 points max score.

Bounce the ball to the floor and catch it with two hands
 Bounce the ball on the floor and catch with the preferred hand
 Bounce the ball on the floor and catch with the non-preferred hand
 Bounce on the floor with the preferred hand, clap and catch with the preferred hand.
 Bounce on the floor with the non-preferred hand, clap and catch with the non-preferred hand.

Throw and catch 10 trials: 5 items x 10 point=50 points max score.

Throw the ball in the air and catch it with two hands
 Throw the ball in the air and catch with the preferred hand
 Throw the ball in the air and catch with the non-preferred hand
 Throw the ball in the air, clap and catch with the preferred hand.
 Throw the ball in the air with the non-preferred hand, clap and catch with the non-preferred hand.

Static balance: 2 items for each leg 15 s; (2 legs x 2 items x 15s= 60) 60 seconds max time score;

Balance Hug Knee Static R and L (timed max 15s per leg),
 Balance Grasp Foot Static R and L (timed max 15s per leg),

Dynamic balance: 4 items x 8 points =32 max balance score.

Balance Hug Knee Dynamic (count 8)
 Balance Grasp Foot Dynamic (count 8)
 Balance Pick up Can item Dynamic R (count 8: 4 close cans and 4 far per leg)
 Balance Pick up Can item Dynamic L (count 8: 4 close cans and 4 far per leg)

Jump: 4 items 8+4+ 4+4 points=20 points max score.

Jumping in each square (8 jumps)
 Jumping every other square (4 jumps)
 Jumping over four 5 cm foams (4 jumps)
 Jumping over four 10 cm foams (4 jumps)

Hop: 4 items for each leg 8+4+ 4+4 points =20 points per leg 40 points max score.

Hopping each square (8 hops)
 Hopping every other square (4 hops)
 Hopping over four 5 cm foams (4 hops)
 Hopping over four 10 cm foams (4 hops)

Motor skill performance

This subtest contains 5 series of tasks with increasing difficulty, *Skill Item Series*.

Skills Item Series (SIS)

1. Bounce and catch (5)
2. Throw and catch (5)
3. Static Balance (2)
4. Dynamic balance (3)
5. Jump (4) and Hopping (4)

For the *Skill Item Series* all children start at the easiest level of the series. If children perform the first trial with no mistakes, **no second trial** is given but you proceed to the next level of the task.

Discontinuation Rule

If the child is not able to score **more than half** of the maximum points in either 2 trials for a SIS item then that series is discontinued. So the next level of that *Skill Item Series* is not administered.

SIS 1 Catching tennis ball after a bounce (Bounce and Catch)

Equipment

Tennis balls, an even terrain, and some space around the child.

General directions

Perform 10 catches per skill item level. Apply the discontinuation rule if **the child does not catch 6 out of 10 balls**. Count the total number of correct catches. Let the child go in his/her own speed, don't stop the child if not needed. Very good catchers need 10 s to bounce and catch the ball 10 times, poor catchers will need time between every catch to prepare their next move. Have a spare ball ready if the first one rolls too far, so the child is not running around between the trials but stays focused.

Practice trials: You demonstrate a bounce of a little over hip height and say: "Bounce the ball so that you can catch it. Look at me, I bounce the ball and try to catch here (show catch height in front of your belly). Now you bounce and try to catch". *Give 2 practice trials*. If the child bounces the ball higher than the shoulders or lower than the hips, ask him/her to bounce lower or higher (try to catch in front of belly).

"Now you will try that 10 times, and I'll count". Try to go smoothly to the next series. "That went very well, let's see how it goes if we make it a bit harder? "

Show them the next item. *Give 2 practice trials*, then continue and count the number of caught balls.

If **6 balls or more** are caught, continue to the next level. Pick up the ball if the child misses it and tell the child to keep trying. If 5 or less balls are caught, then stop the bounce and catch series. If in young children you doubt that the first hand the child uses was the preferred hand, even though that child caught 5 or less balls you give another trial with the "non-preferred hand/other hand". If that hand scores better enter that score as preferred hand and first tested hand as non-preferred. (Stop series after that).

Task series

1. Bounce the ball on the floor and catch it with two hands. (if caught with 1 hand point is also given)
2. Bounce the ball on the floor with the preferred hand and catch with the preferred hand (mark which hand is preferred hand on the score form)
3. Bounce the ball on the floor with the non-preferred hand and catch with the non-preferred hand
4. Bounce the ball on the floor with the preferred hand, clap and catch with the preferred hand.
5. Bounce the ball on the floor with the non-preferred hand, clap and catch with non-preferred hand.

Scoring

1 point per correct catch is given. No points are given if

- 1) the child doesn't catch with the (indicated) hand or if it secures the ball with other *parts of the arm* or against the trunk,
- 2) the child misses the ball (also if it touched the ball with the hands in flight but didn't catch it),
- 3) if the ball is dropped immediately after the "catch" (so it wasn't secured well).

Maximum total score is 50 catches.

SIS 2 Catching tennis balls after a throw in the air (Throw and Catch)

Equipment

Tennis ball and some free space around the child.

General directions

We always do 10 catches per item. We apply the discontinuation rule of the task series if less than **6 out of 10 balls** are caught. Count total number of catches. Let the child go in his/her own speed, don't stop the child if not needed.

Practice trials: Demonstrate a throw to **at least eye level height or a bit higher** and say: "Throw the ball high enough so that you can see and catch it". "Now you can try". If the child throws the ball lower than the face or a lot higher than his own height, ask him to throw higher or lower. *Give 2 practice trials.* "Now you will try that 10 times".

Try to go smoothly to the next series. "That went very well, let's see how it goes if we make it a bit harder". Count the number of caught balls. Pick up the ball if the child misses it and tell the child to keep trying. Don't let the child chase the balls, (s)he needs to stay focused. ("We 'll pick up the ball later or I'll pick up the ball"). If **6 balls or more** are caught, continue to the next level. *Give 2 practice trials.* If 5 or less balls are caught, stop the throw and catching series.

Discontinuation rule

Count total number of catches. There are 10 balls per item in this task series, discontinuation rule applies if less than 6 out of 10 were caught. In that case the child will not proceed to a higher level of the series.

Task series

1. Throw the ball in the air (any hand) and catch with two hands
2. Throw the ball in the air with the preferred hand and catch with the preferred hand
3. Throw the ball in the air with the non-preferred hand and catch with the non-preferred hand
4. Throw the ball in the air with the preferred hand, clap and catch with the preferred hand.
5. Throw the ball in the air with the non-preferred hand, clap and catch with the non-preferred hand.

Scoring

1 point per correct catch is given. No points are given if:

- 1) the child doesn't catch with the (indicated) hand or if it secures the ball with other *parts of the arm* or against the trunk,
- 2) the child misses the ball (also if it touched the ball with the hands in flight but didn't catch it)
- 3) if the ball is dropped immediately after the "catch" (so it wasn't secured well).

Maximum total score is 50 catches.

SIS 3 Static Balance and SIS 4 Dynamic Balance

Start static balance with the preferred leg (the child can choose, which leg he/she wants to start, **mark on the score sheets which leg**) and finish that static balance task for both legs.

After the static trials for both legs, you continue to do the walking part of the same task. It needs to be presented as the “same task” for the child; “First you just stood like this, now we start like this again (child needs to get in the posture but no instruction is given on which leg to start) and when I say “Go” you walk slowly like this”. (Show the walk). The tasks are performed as follows: Static Task (2 trials if child doesn’t reach 15s in the first trial) and Dynamic Task (2 trials if child doesn’t reach 8 points in the first trial)

After the Hug and Knee tasks the children does the “Can tasks”. If the child does not reach **3 seconds** on the preferred or non-preferred static leg items the “Can task” on that leg is not performed. The leg referred to on the scoring sheet is the STANCE leg. When you hug your right knee you are testing stance time on the left leg.

Order of balance items

1. Static Hug Knee (15s) Right leg
2. Static Hug Knee (15s) Left leg
3. Dynamic Hug Knee (8 steps)
4. Static Grasp Foot (15s) Right leg
5. Static Grasp Foot (15s) Left leg
6. Dynamic Grasp Foot (8 steps)

if 3 seconds or more on the 2 static items Right leg

7. Cans Close Right leg (4 cans)
8. Cans Far Right leg (4 cans)

if 3 seconds or more on the 2 static items for Left leg.

9. Cans Close Left leg (4 cans)
10. Cans Far Left leg (4 cans)

SIS 3 Static balance 1 Task Hug Knee Static (Right and Left)

Figure 9. Position hug knee



The child starts standing on one foot in square 1 and then **links the hands together**, elbows are stretched, and the child puts the knee of the non-supporting leg in the opening made by the arms. The opposite foot (the hugged one) does not touch the supporting leg. (See Figure 9.)

General instruction

"Come and stand here, I'll show you the next task (in square 1). "You 'll make a big circle of your arms and fold your hands and **keep them folded together**. You will stand here like you want to hug your knee and then stand still for 15 seconds, I'll tell you when to stop".

Show the position, make a big circle of your arms, fold your hands and then put your knee in the palms of your intertwined hands and stand up. Your hands are just below the knee joint and elbows extended. Tell the child to stand up straight.

"Did I stand still? Did I open my hands?" No extra instructions are needed. Only point out mistakes if they are made because the child doesn't understand the task.

Practice 1 trial: "Now you can try. Which leg would you like to start?" (If practice trial is 15 seconds you don't need test trials). (Give corrective feedback about mistakes during practice trial and between test trials if needed).

The child has two test trials. If the maximum score is reached within 15s, **no second trial** is needed for that leg.

Scoring

The time is started when the knee is put in the inside of the intertwined hands of the extended arms (max score 15 s per leg).

The time is stopped if any of the following occurs:

- The whole of the non-supporting knee loses contact with the hands, or **the hands come loose**.
- The non-supported foot or leg is **fixated to or supported by the standing leg**.
- The child is making correction hops on the supporting foot in any direction or is standing on other spot on the floor after correcting balance. Correction movements in the ankle are allowed if the foot stays in the same footprint.
- The child loses balance/falls.

SIS 4 Dynamic Balance: item 1 Hug Knee walk

Equipment

- Agility ladder

Instruction

“ We have done the Hug knee exercise while standing still, but now we are going to walk in the squares and hug our knee every time we make a step in the next square”. Demonstrate: Place your feet in square 1. Take the Hug knee position, make a step and hug your knee again with extended elbows, (show that you **stand up** while hugging your knee, make a step and hug your knee. Walk this way to the end of the squares. “Like this, in every square. (Show that you **keep your hands intertwined the whole time** and put your knee in your hands every step) So step and hug and stand up straight. “I’ll say: Step, Hug, Up, release, Step, Hug, Up, release, Step, Hug, Up, release when you practice. See how I do it? Now you have a try.” First step you count is the correctly performed step in square 2, the last step you count is the correctly performed step that in square 9. See that they walk slowly.

n.b. There is no need to stop the children in the last square, it doesn’t matter if they do one extra step, it is better then when they stop too early. But don’t count the extra steps at the end of the ladder.

Second trial is given only if maximum score of 8 correct steps is not reached (8 steps).

Scoring

Count the number of correctly balanced steps (max score 8 per trial). A correct step is counted when *all criteria* are met:

- 1) The non-supporting leg is hugged with extended arm with **intertwined hands** during the whole 8 steps and the hugged leg is not supported in any way by the standing leg (so the foot is free in the air) and the child stands upright (not bent forwards).
- 2) The child is not making correction hops on the supporting foot in any direction or is standing on other spot on the floor after correcting balance.
- 3) The child does untie the hands to correct balance
- 4) The child does not touch the wall or floor, or the child loses balance/falls
- 5) The child does not step outside the square when putting the non-supporting leg down when it becomes supporting leg.
- 6) The child does not step inside the square of the supporting leg when putting the non-supporting leg down.

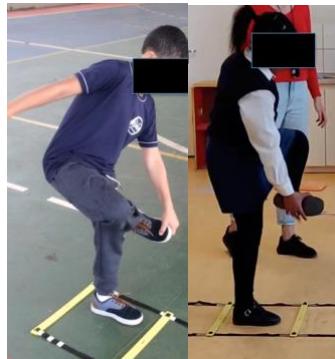
N.B. If the child touches the floor with the hands or the child loses balance/falls/or steps out of the ladder, only count the correct steps before the loss of balance, do not continue this trial. In obese children show hug stance with more external rotation of the hip .

SIS 3 Static Balance Item 2: Grasp Foot Static (Right and Left)

Equipment

- Agility ladder
- Stopwatch
- 2 colored Bracelets

Figure 10. Position grasp foot



General instruction

Place your feet in square 1. You will stand here on 1 leg (show the position), now try to grasp your free foot (it is not resting on the other leg) with your (opposite/bracelet) other hand. Grasp your Foot (you can use the analogy of a crocodile biting the foot; see Figure 10); hold on to it for 15 seconds, I'll tell you when to stop.

"Did I **hold on** to my foot free in the air, and did I stand still?" No extra instructions are needed. Only point out mistakes if they are made or because the child doesn't get the task. The lifted leg should not be supported by the standing leg. Explain that the grasping foot/leg is supposed to be "free" and not resting on the standing leg.

Practice 1 trial: "Now you can try and grasp your foot in the air (or bite in your foot with your crocodile hand) and hold on to it for 15 s." (If practice trial is 15 seconds you don't need test trials).

The child has two test trials. If it gets the maximum score (15s), no second trial is needed for this leg. Use colored the bracelets for young children and children that get confused about right and left foot.

Scoring

Max score 15 s per leg.

The time is started when the child gets hold of the fore foot.

The time is stopped if any of the following occurs:

- 1) The hand loses contact with the foot.
- 2) The child is making correction hops or moves the supporting foot around in the square (so the foot is on other spot on the floor)
- 3) The hand touches the wall or floor, or the child loses balance/falls or steps out of the ladder.

SIS 4 Dynamic balance item 2: Grasp Foot Walk

Equipment

- Agility ladder

General instruction

"We have completed the **Grasp Foot Static** exercise while standing still, but now we are going to walk in the squares and grasp the foot and hold on to it every time we make a step in the next square".

Demonstrate: Place your feet in square 1. Take the grasp foot position, make a step and grasp your foot in the air, (show that you *stand up* while holding your foot), make a step, grasp your other foot in the air and stand up. Walk this way to the end of the squares. "Like this, in every square. So step, foot, up, step foot up. I'll say "Step, Foot (or crocodile Bite) Up, Step, Foot, Up, Step, Foot Up, when you practice. (Say "UP" this when you show and when the children practice give a rhythm make them not go too fast). See how I do it? Now you have a try."

First step you count is the correctly performed step in square 2, the last step you count is the correctly performed step that in square 9.

Two trials are given if maximum score is not reached (8 steps).

n.b. Don't stop the children in the last square, it doesn't matter if they do one extra step, it is better than when they stop too early.

Scoring

Count the number of correct steps (max score 8). A correct step is counted when *all criteria* are met:

- 1) The toes or fore foot of the non-supporting foot are held for an instant (about 1 sec), not just by striking by it (so mention "up" if needed every time the child gets hold of the foot so (s)he knows (s)he should hold the foot for an instant)
- 2) The child is not making correction hops on the supporting foot in any direction or is standing on other spot on the floor after correcting balance.
- 3) The child does not step outside the square
- 4) The child does not step inside the square of the supporting leg when putting the non-supporting leg down.
- 5) The child does not lose their balance/falls

N.B. If the child loses balance/falls/or steps out of the ladder, only count the correct steps before the loss of balance don't continue.

SIS 4 Dynamic Balance Item 3 and 4: Move cans

Discontinuation rule

If the child does not reach 3 seconds on **both the static leg items** after 2 trials, the **Can** task on **that leg** is not performed.

SIS 4 Dynamic Balance Item 3: Move Cans close to far (Right and left leg)

Equipment

- Agility ladder
- 4 full soda cans (unopened)
- Set up for Close to far, cans in the second square against the second bar

Figure 11. Position cans for item close to far. In the right figure the child has moved 2 cans already.



Instruction

Standing on one leg (Right and left leg) Show: Stand up straight on one leg in the first square with the toes of the standing leg close to the second bar. After taking this position bend forward and pick up a can and put it in the third square against the third bar. Try not to lean on the can when showing the task. Come back to upright position after putting down the can.

Always give one practice trial (1 can) let the child come back on 2 legs and put the can, used for practice, back so there is a row of four cans. The way this is set up will make the task easy to explain.

"We are now going to do the "Can" task. You stand on one leg, here, (point that the foot is close to the bar and that the child needs to stand up at the start) and you pick up one "Can" at the time and put it here, (against the yellow bar) and then **stand up straight** before you pick up the next one, keep going until they are all moved. Like this (show). "See how I do it? "Keep standing on 1 leg after the last can until **I tell you that you can put your foot down**". Now you have a try while standing on your Right/Left leg". Repeat the practice procedure for the other leg. The child only has to stand up after (s)he put the can down (not when (s)he picks it up). The child may use preferred hand for both tasks.

Scoring

Count the number of correctly moved cans (max score 4 per leg). A correct movement is counted when *all criteria* are met:

1. The can is picked up and put down (without dropping it or it is falling, or rolling away, or putting it down somewhere in between to lean on it)

2. The child is not making correction hops on the supporting foot in any direction or is standing on other spot on the floor after correcting balance.
3. The child does not touch the floor with the hands or the non-supporting leg
4. After each can has been put away, the child needs to regain balance and stand upright. **(Also after the last "Can"!).**

N.B If the child falls (steps out of the square with **two feet** or lands on the floor) only count the correctly moved cans before the loss of balance. If it touches the floor with only the non-supporting foot, get back to starting position and don't count that point.

SIS 4 Dynamic Balance Item 4: Move Cans far to close (Right and left leg)

Equipment

- Agility ladder
- 4 full soda cans
- Set up for Far to close, cans in the third square against the third bar (see figure 12)

Figure 12. Position cans for item far to close.



Instruction

Standing on one leg (Right and left leg). Show: Stand up straight on one leg in the first square with the toes close to the second bar. Bend forward and pick up a can and put it in the second square against the second bar.

Always give one practice trial (1 can) and let the child come back on 2 legs and put the can used for practice back, so there is a row of four cans. The way this is set up will make the task easy to explain.

"We are now going to do the can task again but putting the cans back where they were. You stand up on one leg, here, (point close to the bar) and you pick up one can at the time and put it here, (against the yellow bar) and then **stand up straight** before you pick up the next one, keep going until they are all moved. Keep standing on 1 leg after the last can until I tell you that you can put your foot down. Like this (show). "See how I do it? Now you have a trial while standing on your Right/Left leg". Repeat the procedure for the other leg, children must be given one practice trial for each leg.

Scoring

Count the number of correctly moved cans (max score 4 per leg). A correct movement is counted when *all criteria* are met:

1. The can is picked up and put down (without dropping it or it is falling/rolling away).
2. The child is not making correction hops on the supporting foot in any direction or is standing on other spot on the floor after correcting balance.
3. The child does not touch the floor with the hands or foot of the non-supporting leg.
4. After each can has been put away, the child needs to regain balance and stand upright (**Also after the last can**).

N.B If the child falls (steps out of the square with **two feet** or lands on the floor) only count the correct cans before the loss of balance.

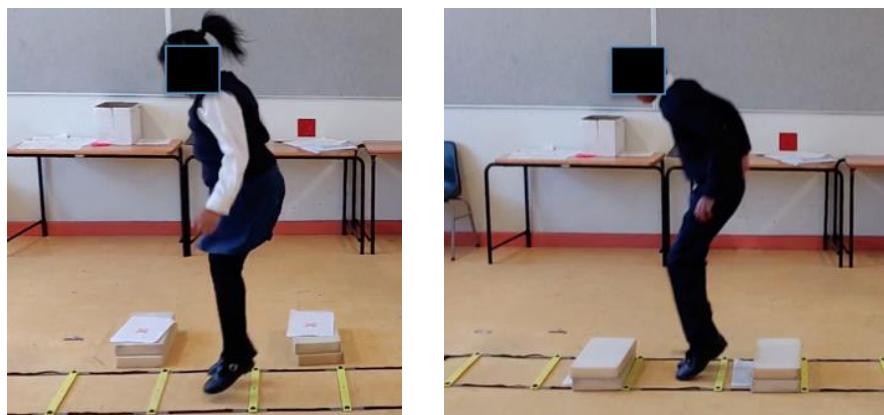
SIS 5a Jumping

Figure 13. Crosses and foamed are placed in the yellow squares against the yellow bar closest to the jump direction.



Yellow squares in the figure will be covered with a red cross or with 1 or 2 foams (5cm high) in items 2, 3 and 4 of the jump series (see Figure 13).

Figure 14. Jumping in squares; Left child jumps in each square, Right child jumps over the foams.



Equipment

- Agility ladder
- 4 red crosses
- 8 Foam pieces (40 length x 20 width x 5 cm height in square 2, 4, 6 and 8)

General instruction

The child always starts the jumping series standing in square 1. The child will jump forward in every square landing on two feet (or on the fore foot of the two feet).

Practice trial (1): Show one series of 8 jumps, "Watch how I jump *in* all the squares". Count loud to eight but **keep jumping** when you are at the end. The children do not stop in the last square, they keep jumping until they are out. Ask: "Did I jump on one of the bars?" No extra instructions are needed. Only point out mistakes if they are made because the child doesn't get the goal of the task. "Now you can try".

The child gets one practice trial. If the practice trial is **perfect** -i.e. 8 good jumps-, the child doesn't need a test trial but can continue to level 2. If not perfect, remind the child not to jump on the bars or to keep jumping and **administer 1 or 2 test trials**. (figure 14).

The child has two test trials if needed. If the maximum score (8 or 4) is obtained in test trial 1 you don't administer test trial 2 but you can go a skill level up. Try to go smoothly to the next series. "That went very well, let's see how it goes if we make it a bit harder?" If **less than 5** (item 1) or **less than 3** (item 2-4) good jumps are made in **either of the two** test trials, stop the jumping series.

Task series (always jump out at the end)

1. Jumping in each square (start in number 1 and do 8 jumps)
2. Jumping in every other square (start in number 1 and do 4 jumps in 3, 5, 7, 9), use the red crosses to point out which squares to skip.
3. Jumping over four X 5 cm foam pieces which are put against the bar closest to the child on the red crosses (start in number 1 and do 4 jumps in 3, 5, 7, 9)
4. Jumping over four 10 cm foams which are put on the red crosses (start in number 1 and do 4 jumps in 3, 5, 7, 9)

Scoring

Count the number of correct jumps (max score 8 or 4). Feet may be apart at take-off and landing but timing between the two feet for take-off and landing should be close, so it is a jump and not a stepping movement. A correct jump is counted when *all criteria* are met:

- 1) The child jumps inside the (correct) square with 2 feet (or on the fore foot of two feet). So it doesn't jump on **the bars or sides** of the agility ladder.
- 2) The child does not make small extra jumps in the square, or adjustments to get closer to the bars.
- 3) Takes off and lands on two feet.
- 4) Doesn't jump against the foams (if applicable).

N.B. If the child steps outside the agility ladder to regain balance in between jumps or if the child loses balance/falls, jumps into the foams, only count the correct jumps before that happened and stop the trial. If the child just slightly touches one of the foams, it can continue but don't count that jump as correct.

SIS 5b Hopping

Equipment

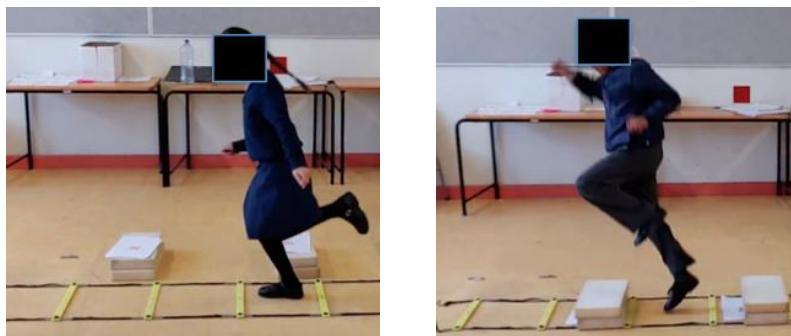
- Agility ladder
- 4 red crosses
- 8 Foam pieces (40 length x 20 width x 5 cm height in square 2, 4, 6 and 8)

Figure 15. Crosses and foamed are placed in the yellow squares



Yellow squares in the figure will be covered with the red crosses or with 1 or 2 foams (5cm high) in items 2, 3 and 4 of the jump series.

Figure 16. Left child is hopping in every square; Right child hops over two foams in square 2 4 6 8.



General instruction

The child always starts the hopping series standing on one leg in square 1. The child will hop forward in every square landing on the same foot (full foot or on the fore foot) (see figure 16).

Practice trial (1): Show one series of 8 hops, "Watch I hop *in* all the squares". Count loud to eight but keep hopping when you are at the end. The children do not stop in the last square, but they keep hopping until they are out. Ask: "Did I hop on one of the bars?" No extra instructions are needed. Only point out mistakes if they are made because the child doesn't get the goal of the task. "Now you can try". *1 Practice trial.* If the practice trial is perfect -8 good hops-, you don't administer a test trial but continue to level 2. If not, remind the child not to hop on the bars or to keep hopping if needed and administer 1 or 2 test trials.

The child has two test trials. If the maximum score (8 or 4) is obtained in test trial 1 you don't administer test trial 2 but you can go a skill level up.

However, first test the same level for the other leg, so you only have to put the crosses or foams in the squares once. If the discontinuation rule is applied to 1 leg, give at least 15s rest between the hopping trials. If you are still alternating between legs that is not

necessary, walking back quietly, explaining what went well or wrong and doing the task with the other leg is enough for recovery.

Try to go smoothly to the next series. "That went very well, let's see how it goes if we make it a bit harder?"

If **less than 5** (item 1) or **less than 3** (items 2-4) good hops are made in either of the two test trials, stop the hopping series for that leg.

Task series

1. Hopping in each square (start in number 1 and do 8 hops and hop out)
2. Hopping in every other square (start in number 1 and do 4 hops in 3, 5, 7, 9), use the red crosses to point out which squares to skip.
3. Hopping over four 5 cm foams (start in number 1 and do 4 hops in 3, 5, 7, 9)
4. Hopping over four 10 cm foams (start in number 1 and do 4 hops in 3, 5, 7, 9).

Scoring

Count the number of correct hops (max score 8 or 4 per leg). If a mistake is made (for instance hop on a bar) don't count that hop but continue and count the other possible correct hops.

A correct hop is counted when *all criteria* are met:

- 1) The child hops in the correct square on one foot and does not hop on the bar or against the foam.
- 2) The child is not making correction hops on the supporting foot before or after landing in the square
- 3) The child does not put the non-supporting leg on the ground.

N.B. If the child hops on the foams (so they scatter and this blocks continuation of the task) or hops outside the agility ladder to regain balance in between hops or if the child loses balance/falls/steps out of the ladder, only count the correct hops before the loss of balance. If the child just slightly touches one of the foams, it can continue but don't count that hop as correct. If the child steps out of the ladder stop the trial.

Calculating the Scale Scores and Classification of the PERF-FIT based on Raw Item Scores

Step 1: Recording Demographic Information

Fill in the demographic information: the child's name, gender, address, school, name of the test administrator, the reason for testing with the PERF-FIT, and the test date.

Step 2: Scoring Individual Items

Each item's specific instructions for administration and scoring are detailed in the test manual. Record the raw score in the corresponding box on the score sheet.

- Raw scores reflect performance measures, such as the number of seconds, steps, jumps, hops, or successfully caught tennis balls.
- If a child cannot complete a test trial properly and no score can be recorded, note an "F" (Fail). This should be an exception and typically only occurs with the *Stepping* item in very young children.
- If a child cannot stand on one leg or catches no tennis balls, assign a score of **0**, not an "F."

Step 3: Determining the Best Score for the Power and Agility Subscale

For each item in the Power and Agility subscale, determine whether the best performance occurred in Trial 1 or Trial 2:

- **Items 1 & 2 (Running and Stepping):** Record the **lowest time**. Do not fill out raw score of **0** if the child didn't do the item.
- **Items 3, 4, and 5 (Side Jump, Long Jump, and Overhead Throw):** Record the **highest score** (most side jumps, farthest longest jump or overhead throw).

For Running and Stepping:

- Accuracy is critical. If children make more than 3 errors during these tasks, an additional trial may be given. Yet, most children do not make more than three errors after a repeated trial, because they slow down.
- For every error made, add 0.5 seconds to the time before determining the best trial time.
- In rare cases where a child cannot perform the *Stepping* task properly and continues to make excessive errors, assign an "F."

Step 4: Calculating the Total Score for the Performance Subscale

For the Performance subscale items, calculate the total score by summing the raw scores for each item:

1. **Items 6 & 7 (Ball Skills):** Maximum score is **50** (10 successful trials for each of the following: two hands, preferred hand, non-preferred hand, preferred hand with clap, non-preferred hand with clap). If the minimum threshold for

one part of the series is not reached, assign a score of 0 for the remaining parts of that series.

2. **Item 8 (Static Balance):** Maximum score is **60 seconds** (15 seconds each for Static Hug Right, Static Hug Left, Static Foot Right, and Static Foot Left). If two trials are completed, use the best score.
3. **Item 9 (Dynamic Balance):** Maximum score is **32** (8 steps for Hug, 8 steps for Foot, 4 cans for each of the following: Right Close, Right Far, Left Close, Left Far). Take the best score if two trials are completed for Hug or Foot steps.
4. **Item 10 (Jump-Hop):** Take the best score if two trials are completed. If the minimum threshold for one part of the series is not reached, assign a score of 0 for the remaining parts of that series.

Step 5: Converting Raw Item Scores to Item Scale Scores

Each age and gender group has a reference table for converting raw scores to Item Scale Scores (ISS):

- Find the correct age and gender table and look up the scale score for the raw score (the best or summed score for each item).
- **Note:** If a child receives an "F" for an item (e.g., *Stepping*), assign the lowest standard score for that age and gender.

Step 6: Calculating Scale Scores for the Two Subscales

To calculate the scale scores for the two subscales (**Power and Agility** and **Performance**):

1. **Subscale Power and Agility:** Add the scale scores for the following five items:
 - Running
 - Stepping
 - Side Jump
 - Long Jump
 - Overhead Throw
2. **Subscale Performance:** Add the scale scores for the following five items:
 - Bounce and Catch
 - Throw and Catch
 - Static Balance
 - Dynamic Balance
 - Jump-Hop

Look up the total scale score for each subscale.

Step 7: Calculating the Scale Score **PERF-FIT**

- Add the scale scores for all 10 items (Items 1–10) to determine the **Scale Score **PERF-FIT****.
- Look up the corresponding scale score for the total test score.

Classification

As outlined in the steps for calculating scores, the PERF-FIT test provides several types of results:

1. **Raw scores** for each item.
2. **Scale scores** for individual test item.
3. **Scale scores** for the Power and Agility Subscale and the Performance Subscale.
4. The **Scale Score PERF-FIT**, which comes with a corresponding percentile score for the test as a whole.

To categorize children based on the degree of problems, the scale scores were translated into classification categories, which correspond to percentile ranks. For interpretation purposes, these classifications are presented using a color-coded system:

Scale score	Classification of Performance	Percentile	Interpretation
1-4	Well below average	≤ 2	Severe impairment
5-7	Below average	5-16	At risk of impairment
8-12	Typical Development	25-75	Typical range
13-15	Above average	84-95	Typical range
16-19	Well above average	≥ 99	Typical range

All the scores generated by the test can be used to analyze a child's performance. However, for decision-making purposes, the most important scores are:

- The **Scale Score PERF-FIT**,
- The **Scale Score Power and Agility**
- The **Scale Score Performance**, along with their associated classifications.

Score form PERF-FIT

Name: Date of birth:
 Address: Test date:
 School: Age:
 Examined by: Sex:
 Reason for referral: By:

Item					Best or total score	Item Scale Score
Running time (s)	Trial1		Trial 2		Extra trial?	
Running Mistakes (#) Add 0.5 s per mistake	(#)		(#)		(#)	s 1
Stepping time (s)	Trial1		Trial 2		Extra trial?	
Stepping Mistakes (#) Add 0.5 s per mistake	(#)		(#)		(#)	s 2
Side jump (#)	Trial1			Trial 2		# 3
Long jump (cm)	Trial1			Trial 2		cm 4
Overhead throw (cm)	Trial1			Trial 2		cm 5
Total score Agility and Power Items 1-5	Percentile			Total Scale Score		Sum SS
10 balls per step in the series	Two hands	Pref hand	Non-Pref	PH clap	NPH clap	Sum 5 items
Bouncing and Catching (Max 50)						# 6
Throwing and Catching (Max 50)						# 7
Static Balance Hug Right (Max 15)	Right Trial1		Right Trial2		s	
Static Balance Hug Left (Max 15)	Left Trial1		Left Trial2		s	
Static Balance Foot Right (Max 15)	Right Trial1		Right Trial2		s	
Static Balance Foot Left	Left Trial1		Left Trial2		s	

(Max 15)					
Total Static Balance (Max 60 s)	Static Hug R + l +Static Foot R + L			s	8
Dynamic Balance Hug (Max 8)	Trial1		Trial 2		#
Dynamic Balance Foot (Max 8)	Trial1		Trial 2		#
Cans R (Max 8) Not standing 3 sec on R enter 0	Close		Far		#
Cans L (Max 8) Not standing 3 sec on L enter 0	Close		Far		#
Total Dynamic Balance (Max 32 points)	Dynamic Hug + Foot + Cans close+ Cans far				# 9
JumpHop	Every square (8)	Every other (4)	Foam 5cm (4)	Foam 10cm (4)	
Jump Trial1					Total # Jump Max 20
Jump Trial2					
Hop Right Trial 1					Total # Hop Right Max 20
Hop Right Trial 2					
Hop Left Trial 1					Total # Hop Left Max 20
Hop Left Trial 2					
Total Jump Hop (Max 60)	Jump+ Hop right+ Hop left				# 10
Total score Performance Items 6-10	Percentile		Total Scale Score		Sum SS
Total score PERF-FIT Items 1-10	Percentile		Total Scale Score		Sum Scale Scores

Summary of test observations:

Actions:

Score form PERF-FIT excel

Child-ID	0000	Score form PERF-FIT				
Name:		Date of birth:		NB: FIRST print this form as PDF! After printing: press <ctrl>-k to pass the results to the list and clear this form.		
Address:		Test date:				
School:		Age:				
Examined by:		Sex:				
Reason for referral:		By:				
Item				Best or Total Score	Item Scale Score	
Running time (s)	Trial1	Trial2	Extra Trial		X	
Running Mistakes (#)	Trial1	Trial2	Extra Trial		#N/A	
Stepping time (s)	Trial1	Trial2	Extra Trial		X	
Stepping Mistakes (#)	Trial1	Trial2	Extra Trial		#N/A	
Side jump (#)	Trial1		Trial2		#N/A	
Long jump (cm)	Trial1		Trial2		#N/A	
Overhead throw (cm)	Trial1		Trial2		#N/A	
Total Score Agility and Power	Percentile	#N/A		Total Scale Score	#N/A	#N/A
10 balls per item	Two hands	Pref hand	Non-Pref	PH clap	NPH clap	X
Bouncing (max 50)						#N/A
Throwing (max 50)						#N/A
Static Balance Hug Right (Max 15)	Trial1		Trial2			X
Static Balance Hug Left (Max 15)	Trial1		Trial2			X
Static Balance Foot Right (Max 15)	Trial1		Trial2			X
Static Balance Foot Left (Max 15)	Trial1		Trial2			X
Total Static Balance (Max 60 s)	Static Hug R + L + Static Toe R + L					#N/A
Dynamic Balance Hug (Max 8)	Trial1		Trial2			X
Dynamic Balance Foot (Max 8)	Trial1		Trial2			X
Cans R (Max 8) Not able to stand 3 sec on R enter 0	Close		Far			X
Cans L (Max 8) Not able to stand 3 sec on L enter 0	Close		Far			X
Total Dynamic Balance (Max 32 points)	Dynamic Hug + Toe + Cans close + Cans far					#N/A
Jump Hop	Every square	Every other	5 cm	10cm	X	
Jump Trial1					X	
Jump Trial2					X	
Hop Right Trial 1					X	
Hop Right Trial 2					X	
Hop Left Trial 1					X	
Hop Left Trial 2					X	
Total Jump Hop (max 60 points)	Jump + Hop right + Hop left					#N/A
Total Score Performance	Percentile	#N/A		Total Scale Score	#N/A	#N/A
Total Score PERF-FIT	Percentile	#N/A		Total Scale Score	#N/A	#N/A
Summary of test observations						
Actions						

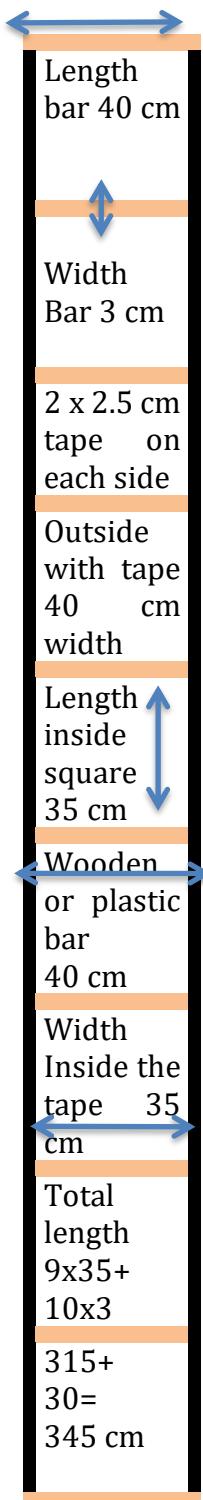
Making the PERFIT-FIT Agility ladder

Rung or Bar should be 40 cm x 3 cm (Width) x max 3-4 mm (Height)

If you make the ladder your self, you need duct tape and 10 wooden sticks . Side is made of 5 cm duct tape . Fold it double with the sticks at the right distance and duct tape is about 2.5 on each size.

Inner square width 35 X 35 cm.

There are good examples on the web (<https://www.instructables.com/Agility-Ladder-free-and-easy/>)



Red X

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