

# PRE-EXERCISE SCREENING SYSTEM (PSS)

## FOR YOUNG PEOPLE | USER GUIDE



**Important Information:** This tool is part of the Pre-Exercise Screening System (PSS) and should be used in conjunction with the PSS User Guide which covers how to use the information collected and to address the aims of each stage. This does not constitute medical advice. These guidelines and the PSS (together 'the material') is not intended for use to diagnose, treat, cure or prevent any medical conditions, is not intended to be professional advice and is not a substitute for independent health professional advice. Exercise & Sport Science Australia, Fitness Australia, Sports Medicine Australia and Exercise is Medicine (together 'the organisations') do not accept liability for any claims, howsoever described, for loss, damage and/or injury in connection with the use of any of the material, or any reliance on the information therein. While care has been taken to ensure the information contained in the material is accurate at the date of publication, the organisations do not warrant its accuracy. No warranties (including but not limited to warranties as to safety) and no guarantees against injury or death are given by the organisations in connection with the use or reliance on the material. If you intend to take any action or inaction based on the guidelines and/or the PSS, it is recommended that you obtain your own professional advice based on your specific circumstances.

## STAGE 1 (COMPULSORY)



This screening system aims to help identify young people with known disease, and/or signs or symptoms of disease, who may be at a higher risk of an adverse event due to exercise. An adverse event refers to an unexpected event that occurs as a consequence of an exercise session, resulting in ill health, physical harm or death to an individual.

There are two versions of the Pre-Exercise Screening System:

- » **Parent Tool (PSS – P):** to be completed by the parent/guardian of 5-15-year-olds. *Definition of Child:* Any young person between the age of 5-15 years old in your care
- » **Young Person Tool (PSS – YP):** to be completed by a young person 16-17 years old, or the parent/guardian

*Both tools are to be completed with an exercise professional or individual who is responsible for the medical care of the young person.*

There are separate screens for 5-15 year olds and 16-17 year olds due to the Australian Government recognising that from the age of 16 years old, citizens may choose to not disclose health information to their parent/guardian.

The individual administering this form should select the most appropriate tool based on any state or institutional based guidelines, and the setting within which exercise is being provided.

### Does the young person have or previously had any of the following:

- » *Additional prompts or questions are provided to guide the exercise leader or person administering the tool.*

#### 1. A heart condition

Heart conditions include but are not limited to cardiomyopathy, heart transplant, pacemaker insertion, congenital heart disease, valve disease, septal defects, Tetralogy of Fallot, Transposition of the Great Arteries or any other heart diseases. This category also includes connective tissue disorders such as Marfan syndrome (MFS), Ehlers-Danlos syndromes (EDS), etc.

Potential symptoms of a heart condition in young people include fast irregular heartbeat, shortness of breath and/or dizziness. These symptoms may occur with or without chest pain, which is a less common symptom in young people compared to adults.

#### Guidelines/fact sheets:

- » [https://exerciseright.com.au/wp-content/uploads/2017/02/Exercise-right-for-kids-Condition-Factsheet\\_Heart-Condition.pdf](https://exerciseright.com.au/wp-content/uploads/2017/02/Exercise-right-for-kids-Condition-Factsheet_Heart-Condition.pdf)

#### 2. A close relative who has died suddenly from a heart condition before the age of 50

- » *If yes, was the cause of death determined? Have you/the young person undergone any additional investigation?*

Some heart conditions are inherited (e.g. arrhythmias or inherited congenital conditions). If the young person has a close relative (e.g. parent or sibling) who died of sudden cardiovascular death under 50 years of age, it is important to ascertain the cause of death (if determined). It is also important to attain information on any subsequent investigations conducted on the young person.

### 3. Uncontrolled Epilepsy or seizures/convulsions

These could include diagnosed or undiagnosed epilepsy or seizures/convulsions, and be primary generalised seizures (e.g. absence seizure, atonic seizure, myoclonic seizure, tonic seizure, tonic-clonic seizure) or focal seizures.

» *Is exercise a trigger for your seizures?*

Consider other triggers which may come into effect with exercise, such as overexertion, dehydration, or low blood sugar levels.

#### Guidelines/fact sheets:

- [https://exerciseright.com.au/wp-content/uploads/2017/03/Exercise-right-for-kids-Condition-Factsheet\\_Epilepsy.pdf](https://exerciseright.com.au/wp-content/uploads/2017/03/Exercise-right-for-kids-Condition-Factsheet_Epilepsy.pdf)

### 4. Fainting or dizzy spells with exercise

» *Have there been any spells of dizziness during physical activity/exercise that causes a loss of balance?*

There are many causes of feeling faint or dizzy. Examples of dizziness may include, but are not limited to, light-headedness or the feeling of nearly fainting or loss of balance. This question is attempting to identify individuals with blood pressure regulation problems (e.g. orthostatic hypotension) or cardiac arrhythmias.

Dizziness or fainting can occur from pain, fatigue, heat or stress. As such, although dizziness during or after exercise should not be ignored, it may still occur even in healthy young people.

### 5. Diabetes

» *If yes, [Type 1 or Type 2] have you/the young person had any trouble controlling blood glucose in the last 3 months?*

» *Is a diabetes management plan in place?*

» *Do you monitor your blood glucose pre- or post-activity?*

Trouble controlling glucose refers to suffering from hyperglycaemia (high blood sugar levels) or hypoglycaemia (low blood sugar levels). Abnormal blood sugar levels may impede the individual's ability to exercise safely. Exercise should not be commenced if blood sugar levels are below 3.9 mmol/L (hypoglycaemia), or above 13.9 mmol/L with the presence of ketones.

Vigorous exercise should not be undertaken when blood sugar levels are greater than 16.7 mmol/L.

» *Do you have an insulin pump?*

An insulin pump is a small battery-operated electronic device that holds a reservoir of insulin. It is about the size of a mobile phone and is worn 24 hours a day. The pump is programmed to deliver insulin into the body through thin plastic tubing known as the infusion set or giving set. The pump is worn outside the body, in a pouch or on your belt. Basal rates will need to be adjusted one or two hours per exercising, and there are no hard and fast rules for diabetics for adjusting their insulin therapy to their chosen sport; it is all individual. Therefore, blood sugar should be monitored before and after exercise, and discussed with their GP/endocrinologist. In some cases (e.g. swimming, contact sports) insulin pumps may need to be removed, but should only be done in consultation with a medical professional.

#### Guidelines/fact sheets:

- [https://exerciseright.com.au/wp-content/uploads/2017/01/Exercise-right-for-kids-Condition-Factsheet\\_Diabetes.pdf](https://exerciseright.com.au/wp-content/uploads/2017/01/Exercise-right-for-kids-Condition-Factsheet_Diabetes.pdf)

### 6. An asthma attack requiring immediate medical attention at any time over the last 12 months

» *If yes, is an asthma management plan in place?*

» *Does the young person carry a reliever at all times?*

» *Are you/does the young person take a preventer regularly?*

Medical attention refers to GP or hospital visits following an asthma attack. It does not include the self-administration of Ventolin, Becotide or any other inhalant.

#### Guidelines/fact sheets:

- <https://www.nationalasthma.org.au/living-with-asthma/asthma-action-plans>
- [https://exerciseright.com.au/wp-content/uploads/2016/12/Exercise-right-for-kids-Condition-Factsheet\\_asthma.pdf](https://exerciseright.com.au/wp-content/uploads/2016/12/Exercise-right-for-kids-Condition-Factsheet_asthma.pdf)

## 7. Anaphylactic reactions

- » *If yes, is an anaphylaxis management plan in place?*
- » *What do they react to, and how severe (e.g. time course, symptoms)?*
- » *Does the young person carry an EpiPen?*

Anaphylaxis is a potentially life-threatening severe allergic reaction, that requires immediate treatment with adrenaline (epinephrine), which can save lives. Young people who experience anaphylactic reactions should always carry their EpiPen (an epinephrine autoinjector for injecting a measured dose).

### Guidelines/fact sheets:

- <https://www.allergy.org.au/hp/anaphylaxis/ascia-action-plan-for-anaphylaxis>

## 8. Had surgery in the last month

- » *What surgery and when?*
- » *Were any restrictions placed on activity or exercise?*
- » *Including dental surgery or tonsillectomy*

This question is focused on relatively acute post-surgical reactions that may be exacerbated by exercise. For example, exercise post-dental or tonsil surgery (which are often overlooked) increases the risk of post-surgical bleeds and activity restrictions are often in place for ~1 month.

## 9. Any other conditions that may require special consideration to exercise

- » *Any other medical information (current or previously) you would like to share?*

Examples include childhood cancer, cystic fibrosis, cerebral palsy, eating disorder, mitochondrial disease, neuromuscular disease, musculoskeletal injury or disorder (hypermobility spectrum disorder, juvenile arthritis), high blood pressure.

## 24-hour Physical Activity Guidelines

These guidelines are included to encourage young people and families to consider lifestyle behaviours that are important to supporting and improving health. They also serve the purpose early on in the screening system to encourage exercise leaders or those administering the form to initiate a discussion with young people or families.

Importantly, young people not currently meeting these guidelines should be recommended to implement a progressive adjustment towards these targets.

### Figure 1. 24-hour physical activity guidelines

<http://www.health.gov.au/internet/main/publishing.nsf/Content/health-24-hours-phys-act-guidelines>



#### SLEEP

5-13 yr olds = 9-11 hours per night  
14-17 yr olds = 8-10 hours per night



#### PHYSICAL ACTIVITY

Aim for 60 mins or more per day – the more you huff & puff the better!



#### INACTIVITY

Move more & sit less in your free time

## STAGE 2 (RECOMMENDED)

### Does the young person take any regular medications?

- » *Has your doctor indicated any restrictions or potential impact of exercise?*

The information should be used to help determine:

- If further screening is needed.
- If the client needs to be referred to an allied health or medical professional for additional assessments.
- A basis for further questioning to help in the design of the client's exercise program.

### Does the young person have any current health or medical management plans including an anaphylaxis management plan?

- » *If yes, is the young person compliant with the management plan? Is the plan current?*
- » *Does the young person carry or have access to their medication at all times?*
- » *Are you/does the young person take a preventer regularly?*

### Does the young person have a history of heat-related illness?

- » *Did they require hospitalisation?*
- » *If so, how many episodes of heat-related illness, and did they require medical treatment/intervention?*

History of heat-related illness increases the risk of future events.

#### Guidelines/fact sheets:

- <https://sma.org.au/resources-advice/policies-and-guidelines/hot-weather/>

### Has the young person spent time in hospital (including day admission) for any medical condition/illness/injury during the last 12 months?

- » *Has the doctor or medical team indicated any restrictions or potential impact of exercise?*

The information should be used to help determine:

- If further screening is needed.
- If the client needs to be referred to an allied health or medical professional for additional assessments.
- A basis for further questioning to help in the design of the client's exercise program.

### Does the young person have any muscle, bone or joint problems and/or pain that could be made worse by participating in physical activity?

The information should be used to help determine:

- If further screening is needed.
- If the client needs to be referred to an allied health or medical professional for additional assessments.
- A basis for further questioning to help in the design of the client's exercise program.

#### Guidelines/fact sheets:

- <https://sma.org.au/sma-site-content/uploads/2017/08/childrensafetyguidelines-fulldoc.pdf>
- [https://exerciseright.com.au/wp-content/uploads/2017/02/Exercise-right-for-kids-Condition-Factsheet\\_juvenile-arthritis.pdf](https://exerciseright.com.au/wp-content/uploads/2017/02/Exercise-right-for-kids-Condition-Factsheet_juvenile-arthritis.pdf)

### In the last month has the young person suffered an episode of concussion?

Not all concussions are obvious – if there is a suspicion or diagnosis of concussion symptoms may continue post initial event. Ongoing symptoms of concussion include poor concentration, headache and loss of balance and these may impact on the ability to exercise. Exercise may also exacerbate these symptoms, so medical clearance should occur prior to returning to exercise/sport.

#### Guidelines/fact sheets:

- <https://concussioninsport.gov.au/>
- [https://concussioninsport.gov.au/data/assets/pdf\\_file/0005/683501/February\\_2019\\_-\\_Concussion\\_Position\\_Statement\\_AC.pdf](https://concussioninsport.gov.au/data/assets/pdf_file/0005/683501/February_2019_-_Concussion_Position_Statement_AC.pdf)

## 24-hour Movement Guidelines

» Describe your current physical activity/exercise, sedentary behaviour and sleep patterns.

For optimal health benefits, children and young people (aged 5–17 years) should achieve the recommended balance of high levels of physical activity, low levels of sedentary behaviour, and sufficient sleep each day. A healthy 24 hours includes:

- Accumulating 60 minutes or more of moderate to vigorous physical activity per day involving mainly aerobic activities.
- Several hours of a variety of light physical activities.
- Limiting sedentary recreational screen time to no more than 2 hours per day.
- Breaking up long periods of sitting as often as possible.
- An uninterrupted 9 to 11 hours of sleep per night for those aged 5–13 years and 8 to 10 hours per night for those aged 14–17 years.
- Consistent bed and wake-up times.
- Activities that are vigorous, as well as those that strengthen muscle and bone, should be incorporated at least 3 days per week.
- For greater health benefits, replace sedentary time with additional moderate to vigorous physical activity, while preserving sufficient sleep.

### **Moderate to vigorous physical activity involves activities which make you breathe harder and possibly sweat.**

The recommended 60 minutes can be made up of shorter bursts of activity through out the day. Examples of muscle-strengthening activities include gymnastics, yoga, martial arts, rough and tumble play, climbing, etc. If physical activity levels are low, it is most important that the young person is given the opportunity to select activities to participate in that they enjoy, as this will improve the likelihood of long-term participation.

### **Screen time is a common sedentary behaviour that can have a negative effect on children's health.**

When used for recreational purposes (such as video games or TV viewing) the duration should not exceed a total of 2 hours per day, however, less is best. It is also advised that screen time for educational purposes be continually broken up by bouts of physical activity. Please refer to the Guidelines for healthy growth and development for children and young people (5 to 17 years) document for more information.

### **Guidelines/fact sheets:**

- <https://www1.health.gov.au/internet/main/publishing.nsf/Content/health-24-hours-phys-act-guidelines>

## STAGE 2 (OPTIONAL QUESTION)

### Is the young person pregnant or have they given birth within the last 12 months?

During pregnancy and after recent childbirth are times to be more cautious with exercise. Appropriate exercise prescription results in improved health to mother and baby. However, joints gradually loosen to prepare for birth and may lead to an increased risk of injury, especially in the pelvic joints. Activities involving jumping, frequent changes of direction and excessive stretching should be avoided, as should jerky ballistic movements.

### **Guidelines/fact sheets:**

- [www.exerciseismedicine.com.au/public/factsheets/](http://www.exerciseismedicine.com.au/public/factsheets/)
- <https://sma.org.au/sma-site-content/uploads/2017/08/SMA-Position-Statement-Exercise-Pregnancy.pdf>