

TYPE 1 DIABETES & PHYSICAL ACTIVITY

RIO TINTO CHILDREN'S DIABETES CENTRE
A Breakthrough T1D Centre of Excellence



RioTinto

breakthrough T1D

telethon

TYPE 1 DIABETES (T1D)

is one of the most common chronic childhood conditions. The exact cause of T1D is unknown and there are currently no known ways of preventing or curing this condition.

T1D is an autoimmune condition where the body's immune system attacks and destroys the cells that make insulin. Insulin is used by the body to breakdown foods and allow glucose to enter cells where it can be turned into energy.

This means people living with T1D need to administer insulin through insulin pumps or injections. People living with T1D must balance their insulin dose with their food intake and physical activity to optimise their blood glucose levels.

HYPOGLYCAEMIA LOW BLOOD GLUCOSE (<3.9 mmol/L)

SIGNS & SYMPTOMS



TREMBLING



DIZZINESS



EXCESSIVE SWEATING



LIGHT HEADED



BEHAVIOUR CHANGE



IRRITABILITY



TEARFULNESS



LACKING CONCENTRATION



HUNGER



NUMBNESS

TREATMENT

- Hypoglycaemia needs to be treated quickly.
- It is recommended a player who has T1D has their **hypoglycaemia kit** at training and games.
- **Always accompany player until they receive treatment when hypoglycaemic.**
- *While most instances of hypoglycaemia can be treated with glucose, seek further assistance (000) if player is unresponsive or glucose supply is finished.*

HYPOGLYCAEMIA KIT

1

Glucose monitoring equipment (e.g. blood glucose monitor, glucose strips and lancets)

2

At least 4 serves of the player's preferred quick acting glucose treatments (e.g. glucose tablets or similar)

3

Optional: Longer acting carbohydrate (e.g. fruit, muesli bar, sandwich) for follow up treatment

HYPERGLYCAEMIA HIGH BLOOD GLUCOSE (>10 mmol/L)

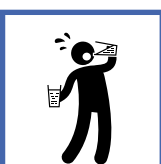
SIGNS & SYMPTOMS



BLURRED VISION



LETHARGY



EXCESSIVE THIRST



IRRITABILITY



FREQUENT URINATION



LACKING CONCENTRATION

TREATMENT

Hyperglycaemia is treated with insulin to help decrease blood glucose levels. **Coaches should not initiate such a measure**, but instead, support the player where possible.

TYPE 1 DIABETES & PHYSICAL ACTIVITY

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People living with T1D can participate in all forms of physical activity. In addition to the general physical and mental benefits of physical activity, it can also help insulin to work more efficiently leading to lower daily insulin requirements and assist with optimising blood glucose levels leading to fewer complications later in life.

EFFECT OF EXERCISE ON BLOOD GLUCOSE LEVELS

Different types and intensities of physical activity will impact blood glucose levels differently. Every person is different, and they will be able to tell you how physical activity effects their levels.

AEROBIC ACTIVITIES

Aerobic activity examples:



When performing these activities without food, blood glucose can:



During exercise



Immediately after exercise



Hours after exercise

ANAEROBIC ACTIVITIES

Anaerobic activity examples:



When performing these activities without food, blood glucose can:



During exercise



Immediately after exercise



Hours after exercise

MIXED ACTIVITIES

Mixed activity examples:



When performing these activities without food, blood glucose can:



During exercise



Immediately after exercise



Hours after exercise

TYPE 1 DIABETES DEVICES

Some people with T1D wear diabetes devices to administer insulin or to monitor their glucose levels. They may choose to wear them during sport and will let you know any considerations that may need to be made to allow them to do this. If the pump site falls out during sport, the person or their carer will need to replace this quickly and they may need to sit out for a rest.

GLUCOSE MONITORING



CONTINUOUS GLUCOSE MONITORING



INTERMITTENT GLUCOSE MONITORING



BLOOD GLUCOSE MONITOR

INSULIN DELIVERY



MULTIPLE DAILY INJECTIONS



INSULIN PUMP

HELPFUL HINTS

- Allowing for more frequent breaks or 'time-off' to allow the player to check and manage their glucose levels
- Encourage the player to communicate during sport their needs and try to plan for flexibility to enable players to balance their performance and their treatment
- Every player with type 1 diabetes is different and there is no 'one size fits all' approach

To learn more about managing type 1 diabetes during sport and exercise, scan the QR code.

