Exercise and type 1 diabetes

Principles of Appropriate Exercise

- Physical activity should be encouraged in all children.
- Ideally all physical activities should be fun and be done in safe and supportive environment.
- Ideally the child should check blood glucose values before and after physical activity and if it is not possible, child should be involved in regulated activity at same time every day.
- All strenuous activities should include eating a snack e.g a fruit or 2 biscuits every 30 minutes and additional snack at night to prevent hypoglycaemia.
- It is good to have sufficient water and wear comfortable and appropriate clothes and shoes.

- Advise monotonous, repetitive and boring exercises for children.
- Discourage children from exercising fearing falls, injuries and hypoglycaemia.
- Take insulin on the part actively involved during exercise like at thigh before football match.
- Exercise in the time between injection and meal.
- Exercise when sugars are too high or too low and child is having ketones positive in blood and urine.

Pre-exercise carbohydrate replacement

Plasma blood glucose	Simple carbohydrate (CHO)1
< 80mg/dL	Withhold physical activity + ingest 15 g CHO (cereal bar, honey sachets, etc.).
80 to 140 mg/dL	Ingest 1 to 2 g/kg of CHO prior to activity.
> 140 mg/dL < 250 mg/dL	Within safety range; ingest 15 to 30 g CHO after activity.
> 300 mg/dL, no ketonuria	Begin activity. No CHO replacement necessary.
> 300 mg/dL, with ketonuria	Postpone activity until ketone levels return to normal. Take fluids (water). No CHO replacement necessary.

1. CHO + simple carbohydrate.
Source: Adapted from the Brazilian Diabetes Society (Sociedade Brasileira de Diabetes, SBD).

It is always fun to play with friends

This also helps to keep blood glucose in normal range

Key facts

Although exercise does have health benefits, the main reason for exercise should be to enjoy it. Exercise should not be a penance punctuated by hypo or hyperglycaemia.

All work and no play will not control diabetes in any way.