Type I diabetes is characterized by an insulin deficiency that results in irregular blood glucose levels. This condition is diagnosed when one's fasting glucose is greater than 126 mg/dL. Most individuals diagnosed with type 1 diabetes use insulin injections or an insulin pump to manage their blood glucose. Exercise is also an intervention used to treat type 1 diabetes by decreasing HbA1c levels, which is obtained through consistent aerobic training. Along with that, resistance training can be used to decrease blood glucose levels almost immediately. Blood glucose levels should be checked prior to and throughout the duration of exercise, and additional carbohydrates should be on hand in case of a drastic decrease in blood glucose. Exercise-induced hypoglycemia is common in physically active type 1 diabetics, but it is controllable in order to reach the ultimate goal of blood glucose management.

Special Considerations

Individuals with this pathology are unique while exercising because it can be difficult to manage the timing of regular insulin administration with pre-exercise food, such as carbohydrates, and the type, time, and intensity of the exercise being performed. Exercise induced hypoglycemia is very common and should be anticipated. The following recommendations can reduce the likelihood of dangerously reduced blood glucose:

- Increase time between pre-exercise insulin administration and beginning of exercise
- Reduce the amount of pre-exercise insulin
- Increase the amount of carbohydrate consumed before exercising
- Lowering the amount of post exercise insulin

Blood glucose levels should be checked not only before exercise, but throughout the duration of the session. Carbohydrates consumption and insulin injections should be adjusted as necessary.

### References