Type 2 Diabetes and exercise

Type 2 diabetes mellitus (T2DM) is a chronic condition in which the body’s cells do not respond properly to insulin. Most often, this leads to increased blood glucose (sugar) levels, called hyperglycaemia.

How is T2DM monitored?
Measuring blood glucose levels is particularly important before, during and after exercise. People with T2DM should monitor their own blood glucose one or more times a day with a blood glucose meter. Diabetes management should also be monitored regularly by your GP.

How does exercise help?
Increasing physical activity can reduce the incidence of T2DM by almost 60% in people at risk (5). Better blood glucose management often means people can reduce their T2DM medications. As people with diabetes age, the benefit of maintaining muscle mass through exercise is also likely to improve physical function and independence (8).

What exercise is best for people T2DM?
The total amount of exercise should include a combination of aerobic and resistance training. The table below shows the type, intensity, duration and frequency of exercise recommended for people with T2DM. An Accredited Exercise Physiologist can create a suitable exercise program for you.

<table>
<thead>
<tr>
<th>Type of exercise</th>
<th>Intensity</th>
<th>Duration</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aerobic exercise (for heart and lung fitness)</td>
<td>Moderate</td>
<td>Total of 210 min per week</td>
<td>At least 3 days a week with no more than two consecutive days without exercising</td>
</tr>
<tr>
<td></td>
<td>Vigorous</td>
<td>Total of 125 min per week</td>
<td></td>
</tr>
<tr>
<td>Resistance training (muscle and bone strength)</td>
<td>Moderate to vigorous</td>
<td>60 minutes per week (included in totals above)</td>
<td>2 or more times per week (2–4 sets of 8–10 repetitions)</td>
</tr>
</tbody>
</table>

Who should exercise?
Although some risks are associated with physical activity for people with T2DM, the risks of inactivity mostly outweigh them. The following points should be kept in mind before starting an exercise program:

- **Low blood glucose**: If necessary, consult with your health professional before commencing exercise to discuss your medications and monitoring of your blood glucose levels. Exercise may need to be temporarily modified.
- **Risk of cardiac events** (e.g. heart attacks). People wishing to exercise vigorously, older people, and people with established cardiovascular disease should be screened prior to commencement of their program;
- **Peripheral neuropathy**. Appropriate footwear, regular foot inspection and low-impact exercises are essential with peripheral neuropathy, and are also highly advised for people with T2DM;
- **Hypertension** (high blood pressure). Although exercise reduces hypertension, those with poorly controlled blood pressure should avoid vigorous exercise, particularly resistance training of vigorous intensity; and
- **Obesity**. For overweight people with T2DM, weight loss will reduce joint pain and discomfort when exercising, and encourage them to continue exercising.

References and further information
Exercise is Medicine Australia [www.exerciseismedicine.org.au](http://www.exerciseismedicine.org.au)
Find an Accredited Exercise Physiologist [www.essa.org.au](http://www.essa.org.au)