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Exercise with diabetes



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All information above has been reviewed by Metabolism specialists
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A. Introduction:











Diabetes mellitus is one of the most challenging health problems. Although the development and management of diabetic care have evolved over the last decade, regular exercise, tight diet control, and medications with good compliance are still the three key factors for treating DM. Among these, regular exercise is the most cost-effective method to reduce weight.

B. What benefits can you get from regular exercise?

- (A) Exercise can enhance insulin sensitivity and help to lower the blood sugar.
- (B) Exercise eliminates excess fat, maintains standard body weight and improves insulin resistance.
- (C) Exercise can maintain your blood vessel healthy and lower your blood pressure.
- (D) Exercise can eliminate anxiety and relieve stress and therefore you will feel happy and relaxed easier.

C. How to do exercises?

Avoid short time and harsh activities, such as fast running, running upstairs, or lifting heavy weight. According to ADA's recommendation, here are some ways you can follow:

(A) Aerobic exercise					
					
Brisk walking	Bicycling	Swimming	Aerobic dancing	Walking	Climbing stairs
(B) Strength training					
1. 	2. 	3. 	4. 		
Stepping in the water	Lift dumbbell	Stretch band training	Push-up		

圖片來源: <https://is.gd/G7KDIv>

D. Ideal exercise suggestions:

- **Patients with diabetes without comorbidities**
 - ✓ Regular exercise and avoiding sedentary lifestyle
 - ✓ At least 150 minutes of moderate intensity exercise per week, e.g. brisk walking
 - ✓ 2-3 times resistance exercises per week, one day between resistance exercises
 - ✓ Do not exercise for two days in a row
- **Younger or better physical fitness**
 - ✓ 75 minutes of high intensity vigorous exercise or high intensity interval exercise per week. e.g. squats, push-up, jump ropes, high kicks, etc.

- **Type 1 and Type 2 children, adolescents and pre-diabetics patients**
 - ✓ 60 minutes or more of moderate or vigorous aerobic exercise daily, e.g. stationary bicycle, walking in water, aerobic dance, or walking with legs raised, etc.

- **Older people with diabetes**
 - ✓ Exercise that improves flexibility, balance and muscle endurance such as yoga or tai chi 2-3 times a week. In terms of exercise prescriptions, the frequency, intensity, type and duration of exercise should be considered according to the purpose.

E.Ways to exercise:

There are three stages of exercise :

Stage	Phase	Time	Procedure
1	Warm up	5-10 minutes	From up to down to stretch each part of muscles of your body gently, such as: turning head, lifting arms, bending down, and kicking legs.
2	Activity section	20-60 minutes	Maintain the heart rate at the exercise target, using large muscle groups for sustained activity to maintain the overall heart rate.
3	Cool down	5-10 minutes	Light or simple aerobic activity, similar to a warm-up.

F. Attention when exercise:

- (A) Avoid exercise before meal, especially after injection insulin or taking hypoglycemic agents.
- (B) Chose proper activities, and soft and proper shoes, sport clothes, and cotton socks.
- (C) Do not exercise if your blood sugar is above 300mg/dl or below 70mg/dl before meals.
- (D) If you experience illness (such as dizzy, trembling, cold sweating, or difficult breathing) during exercise, you should stop exercising immediately. You need to check your blood sugar and contact your doctor as soon as possible.
- (E) Chose the less affected part to inject insulin at the day of exercise. For example, when your exercises are primary for arms and legs, you can inject insulin in the belly.
- (F) It's better for you to get companied with your friends when exercising. Besides bring ID or diabetic passport with you, and the ways to control blood sugar, medication dosage, emergency hospital, urgent contact, and phone number.

G. Conclusion

Proper exercise can improve your blood sugar and improve your health. you are worried about how to start exercising, ask your doctor or diabetes health worker. Start exercising now and make it a healthy, happy part of your life.

H. References

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Let us take the quiz to make sure you understand

1. Regular exercise can control blood sugar, blood pressure, and blood lipids, as well as improve anxiety.

Yes No Don't know

2. For diabetic patients, the recommended exercise regimen includes both aerobic exercise and resistance training.

Yes No Don't know

3. To achieve stable blood sugar levels, choosing brisk running as regular exercise can be effective.

Yes No Don't know

4. Avoid exercising on an empty stomach, especially after injecting insulin or taking oral hypoglycemic medications.

Yes No Don't know

5. If symptoms such as dizziness, trembling, profuse sweating, and difficulty breathing occur during exercise, it is advisable to stop

exercising and measure blood sugar.

Yes No Don't know