

CONTENTS

➤ Introduction-

➤ Diabetes-

- What is diabetes ?
- Types of diabetes
- Symptoms of diabetes
- Interesting facts

➤ Exercise-

- Physical activities and diabetes
- Diabetes medication and exercise
- How much exercise do we need
- Type 2 diabetes prevention tips

➤ Conclusion-

➤ Bibliography-



INTRODUCTION

EXERCISE helps control weight ,lowers blood pressure, reduces harmful LDL cholesterol and triglycerides,raises healthy HDL cholesterol,strengthens muscles and bones and reduces anxiety. Exercise can help regulate blood sugar and increase the body's sensitivity to insulin .Both are important for people with **diabetes**



EXERCISE makes it easier to control **Diabetes**.When we have **type 2 diabetes**.physical activity is an important component of your treatment plan.it's also important to ave a healthy meal plan and maintain blood glucose level through medication or inslin,if necessary.

Now let us look into the various types of **diabetes**,the way affect our body and how we can use **EXERCISE** to control and regulate this deadly chronic disease

➤ **Types of diabetes:-**

- The three main types of diabetes are:
- **Type 1 diabetes**
- **Type 2 diabetes**
- **Gestational diabetes** .

Type 1 diabetes

- Type 1 diabetes is believed to be an autoimmune condition. This means your immune system mistakenly attacks and destroys the beta cells in your pancreas that produce insulin. The damage is permanent.
- What prompts the attacks isn't clear. There may be both genetic and environmental reasons. Lifestyle factors aren't thought to play a role

Type 2 diabetes

- Type 2 diabetes starts as insulin resistance. This means your body can't use insulin efficiently. That stimulates your pancreas to produce more insulin until it can no longer keep up with demand. Insulin production decreases, which leads to high blood sugar.
- The exact cause of type 2 diabetes is unknown. Contributing factors may include:-
 - ✓ Genetics
 - ✓ Lack of exercise
 - ✓ Being overweight

➤ **Gestational diabetes:-**

- Gestational diabetes is due to insulin-blocking hormones produced during pregnancy. This type of diabetes only occurs during pregnancy

Symptoms of diabetes



Always thirsty



Always tired



Blurry vision



Sexual problems



Wounds that won't heal



Numbness or tingling
in hands or feet



Vaginal infections



Frequent urination



Always hungry



Systemic weight loss



Diabetes symptoms vary depending on how much your blood sugar is elevated. Some people, especially those with prediabetes or type 2 diabetes, may not experience symptoms initially. In type 1 diabetes, symptoms tend to come on quickly and be more severe.

✓ Some of the signs and symptoms of type 1 and type 2 diabetes are:

- **Always thirsty**
- **Blurry vision**
- **Always hungry**
- **Always tired**
- **Sexual problem**
- **Frequent urination**
- **Vaginal infection**

➤ **INTERESTING FACT:-**

- **Fact 1: About 422 million people worldwide have diabetes**
- **Fact 2: Diabetes is 1 of the leading causes of death in the world**
- **Fact 3: Diabetes is not caused by eating sugar**
- **Fact 4: People with diabetes can enjoy sweets**
- **Fact 5: Diabetes causes a lot of emotions**



- **Fact 6: Diabetes takes time and adjustment**
- **Fact 7: Type 2 diabetes is much more common than type 1 diabetes**
- **Fact 8: People with diabetes can live long and healthy lives when their diabetes is detected and well managed**
- **Fact 9: The majority of diabetes deaths occur in low and middle income countries**
- **Fact 10: Type 2 diabetes can be prevented**

EXERCISE

➤ **Aerobic (Endurance) Exercise:-**

Aerobic exercises increase your breathing and heart rate and are the main component of overall fitness programs. They keep the circulatory system and lungs healthy, can stave off diabetes and heart disease and help you build up endurance. Some common aerobic activities include

- **Dancing**
- **Biking**
- **Doing yard work like raking, digging and gardening**
- **Swimming laps**

➤ **Strength exercises**

These are important for keeping your bones and muscles strong and helping older adults maintain their independence. Strength training is beneficial in reducing falls and helping you do everyday activities that require lifting, such as carrying groceries. Some examples of strength training include:

- **Lifting free weights**
- **Using resistance machines at the gym**

➤ **Flexibility**

Though not part of the CDC's official recommendations for maintaining good physical health, flexibility exercises can keep your body limber and help you maintain a wide range of motion. This is important because range of motion is often limited by things like arthritis. Here are some ways to improve your flexibility:

- **Stretching various parts of the body**
- **Doing yoga**

➤ **Balance exercises**

Practicing and improving balance is important for older adults because it can strengthen the body's core and help prevent falls. Here are some good balance exercises:

- **Heel-to-toe walking**

➤ **Physical Activities and Diabetes:-**

Physical activity is like a “secret weapon” to help fight diabetes. When you exercise, your muscles use glucose for energy. This reduces the amount of glucose in your blood. Exercise also makes your body more sensitive to insulin, which means that insulin can do a better job of moving glucose from your blood into your cells. Exercise also helps improve other medical problems that are common in people with diabetes, such as high blood pressure and high cholesterol.

➤ **Medication & exercise:-**

It is important for people with diabetes to understand the mechanisms of blood glucose response to exercise and how their medications may affect their blood glucose levels when they are physically active. The doses and timing of certain medications may require adjustment to avoid hypoglycemia during or after exercise.

➤ **HOW MUCH EXERCISE DO WE NEED?**

The American Diabetes Association (ADA) recommends the following physical activity for adults with type 2 diabetes for blood sugar benefits and overall health:



- **At least two and a half hours of moderate to vigorous intensity physical activity per week (i.e., brisk walking, water aerobics, swimming, or jogging).**



- **Two to three sessions of resistance exercise per week. Resistance exercise is physical activity that strengthens muscle strength, such as lifting five pound weights or doing pushups.**
- **No more than two days in a row without physical activity.**
- **Breaking up sitting time every 30 minutes during the day.**
- **Incorporate flexibility exercises, like stretching or yoga into your weekly routine.**

❖ **Type 2 Diabetes Prevention Tips:-**

➤ **Manage your weight.**

Excess body fat, particularly if stored around the abdomen, can increase the body's resistance to the hormone insulin. This can lead to type 2 diabetes.

➤ **Exercise regularly.**

Moderate physical activity on most days of the week helps manage weight, reduce blood glucose levels and may also improve blood pressure and cholesterol.

➤ **Eat a balanced, healthy diet.**

Reduce the amount of fat in your diet, especially saturated and trans fats. Eat more fruit, vegetables and high-fibre foods. Cut back on salt.

➤ **Limit takeaway and processed foods.**

'Convenience meals' are usually high in salt, fat and kilojoules. It's best to cook for yourself using fresh ingredients whenever possible.

➤ **Limit your alcohol intake.**

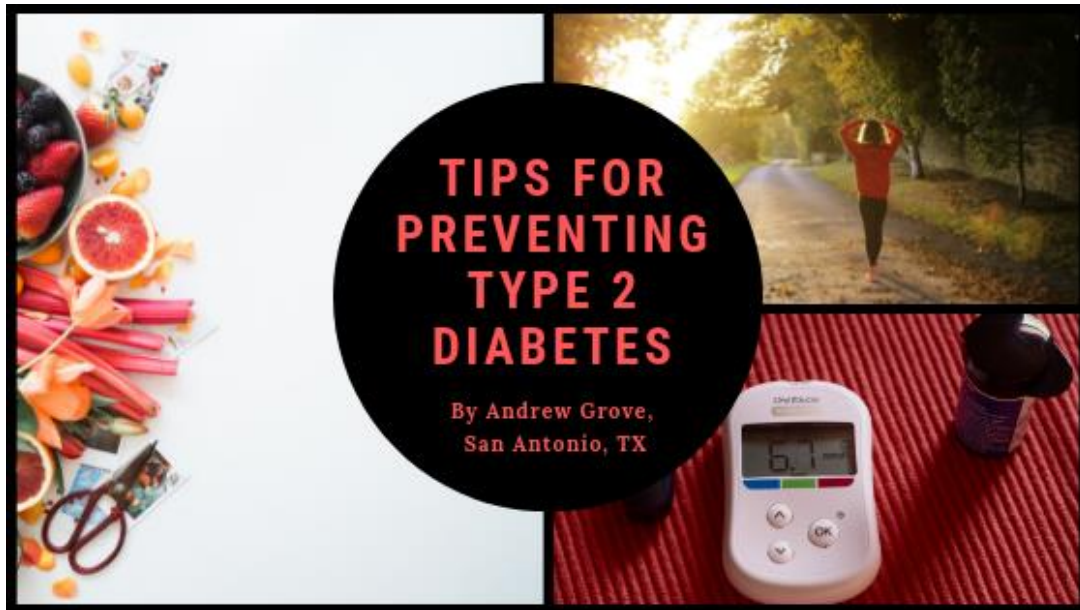
Too much alcohol can lead to weight gain and may increase your blood pressure and triglyceride levels. Men should have no more than two standard drinks a day and women should have no more than one.

➤ **Quit smoking.**

Smokers are twice as likely to develop diabetes as non-smokers.

➤ **Control your blood pressure.**

Most people can do this with regular exercise, a balanced diet and by keeping a healthy weight. In some cases, you might need medication prescribed by your doctor.



➤ **Reduce your risk of cardiovascular disease.**

Diabetes and cardiovascular disease have many risk factors in common, including obesity and physical inactivity.

➤ **See your doctor for regular check-ups.**

As you get older, it's a good idea to regularly check your blood glucose, blood pressure and blood cholesterol levels.

CONCLUSION

The coming years will be very exciting regarding the advances in the field of prevention of diabetes however the cornerstone of therapy will likely remain a Healthy lifestyle



BIBLIOGRAPHY

- ❖ <https://www.davita.com/education/kidney-disease/risk-factors/diabetes>
- ❖ <https://www.who.int/features/factfiles/diabetes/en/>
- ❖ <https://www.mayoclinic.org/diseases-conditions/diabetes/symptoms-causes/syc-20371444>
- ❖ <https://www.cdc.gov/diabetes/basics/quick-facts.html>
- ❖ <https://en.wikipedia.org/wiki/Exercise>
- ❖ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2992225/>
- ❖ <https://www.betterhealth.vic.gov.au/health/ten-tips/10-tips-to-help-prevent-type-2-diabetes>