



Diabetes and sexual and reproductive health. A fact sheet for men with diabetes.

fact sheet

Page 1 of 2

What is diabetes?

Diabetes is a condition in which there is too much glucose (a sugar that is the body's main source of fuel or energy) in the blood. When blood glucose is too high, it can cause dehydration and affect the function of other organs. If undetected or not controlled, diabetes can be life-threatening.

Diabetes develops when the pancreas, the organ that makes insulin, is either unable to make insulin or the insulin produced does not work in the body properly. Without enough insulin (a hormone that lowers glucose levels in the blood) glucose builds up and blood glucose levels rise, causing general and sexual and reproductive health problems.

Are there different types of diabetes?

Type 1 and Type 2 diabetes are the two main types of diabetes that affect men.

Type 1 can occur at any age but often affects children and young adults. Men or boys with type 1 diabetes cannot produce enough insulin in their pancreas and must receive insulin daily to live.

Type 2 diabetes is the most common form of diabetes, affecting more than 85 per cent of people with diabetes¹. Type 2 diabetes happens most often in obese individuals. Men with type 2 diabetes do not produce enough insulin and it does not work in the body properly, so their blood glucose does not stay at a normal level.

Can diabetes be prevented?

Type 1 diabetes cannot be prevented as the exact cause is not known. However, type 2 diabetes may be prevented by having a healthy lifestyle which includes regular physical activity, a healthy diet and maintaining a healthy weight.

Visit the Diabetes Australia website for more general information about diabetes and its treatment www.diabetesaustralia.com.au

What health problems can diabetes cause?

If undetected or poorly controlled, diabetes can reduce life expectancy. Diabetes can cause blindness, kidney disease, nerve damage, reduced blood circulation that may lead to lower limb amputation, and can increase the risk of cardiovascular disease. Men with diabetes are also at greater risk of sexual and reproductive health problems including:

- Erectile problems
- Testosterone (or androgen) deficiency
- Lack of libido (sexual desire)
- Retrograde ejaculation (semen flows back into the bladder)
- Balanitis (inflammation of the head of the penis)

DIABETES AND ERECTILE DYSFUNCTION

What is erectile dysfunction?

Erectile dysfunction is when a man is unable to get or keep an erection that allows sexual activity with penetration. Erectile problems are not a disease, but a symptom of some other problem, either physical, psychological or a mixture of both.

How common is erectile dysfunction in men with diabetes?

Estimates suggest that up to four in every five men with diabetes will experience erectile problems^{2,3}, and they are twice as likely to have erectile problems as men without diabetes⁴. Age also increases the risk of getting both diabetes and erectile dysfunction. Often erectile problems develop after a man has had diabetes for several years.

How can diabetes cause erectile dysfunction?

Diabetes can cause erectile problems by:

- Reducing blood flow to the penis or by affecting the function of blood vessels in the penis, making it more difficult for a man to get and/or keep an erection. This is more common in men with high blood pressure and high cholesterol, conditions both linked with diabetes.
- Damaging the nerves in the penis, which are essential for erections to happen.
- Lower levels of testosterone (the male sex hormone).

Some men with diabetes can have erectile problems as a result of psychological issues, including performance anxiety, and not as a direct result of the diabetes.

Can erectile dysfunction be prevented in men with diabetes?

Erectile problems are more likely to happen when blood glucose levels are poorly controlled. Keeping blood glucose and blood lipids (cholesterol and triglyceride) in the normal range is important to prevent nerve and blood vessel damage to the penis. Not smoking and limiting alcohol intake may also help make erectile problems less likely.

How is erectile dysfunction treated in men with diabetes?

It is important to manage the diabetes and any other associated conditions, such as high blood pressure, first.

When diabetes is properly controlled, most doctors start treatment for erectile problems with oral medications (PDE5 inhibitors) such as Viagra®, Cialis® or Levitra®. The tablets work in about half of men with diabetes². New research has shown that for men with diabetes and erectile problems, taking a low dose of these medications everyday has better results⁵.

If oral medications do not work well, other treatments can be given and include vacuum devices, penile injections and surgery.

DIABETES AND TESTOSTERONE DEFICIENCY

What is testosterone deficiency?

Testosterone (or androgen) deficiency is when the body is unable to produce enough testosterone for the body to function normally. Testosterone is the most important androgen (or male sex hormone) in men and plays a key role in reproductive and sexual function. Testosterone is also important for the good health of many non reproductive tissues in the body. It plays an important role in the growth of bones and muscles, and affects mood, sex drive and certain aspects of mental ability.

What are the features of testosterone deficiency?

The signs of testosterone deficiency are different depending on the age when testosterone levels fall below the normal range. Many of the symptoms and signs are not specific and may happen with other medical illnesses. In adult men, the symptoms of testosterone deficiency include mood changes, poor concentration, low energy, decreased libido, and reduced body hair growth.

How can diabetes cause testosterone deficiency?

Production of testosterone is affected by type 2 diabetes. Testosterone production is triggered by luteinizing hormone (LH) in the brain. High blood glucose levels in men with diabetes can reduce the amount of LH released, which may then lower testosterone levels. Obesity, which is often linked with type 2 diabetes, may itself result in low testosterone levels.

Can testosterone deficiency be prevented in men with diabetes?

Modifying lifestyle to control blood glucose levels by maintaining a healthy weight and regular exercise may improve testosterone levels.

How common is testosterone deficiency in men with diabetes?

Testosterone deficiency is common in men with diabetes and about one in three men with type 2 diabetes have low serum testosterone levels⁶. Men with type 2 diabetes are more likely to have low testosterone levels if they are also obese.

How is testosterone deficiency treated in men with diabetes?

Men with diabetes and testosterone deficiency should get treatment for the diabetes and other illnesses first as hormone levels may return to normal and testosterone therapy may never be needed. They should be advised to lose weight if they are overweight or obese. However, for men with diabetes and low testosterone levels caused by genetic disorders or other conditions, testosterone therapy can be given to return testosterone levels in the blood to normal. The available forms of treatment are testosterone injections, implants, oral capsules, skin patches, creams and gels.

DIABETES AND LACK OF LIBIDO

What is lack of libido?

Lack of libido is the term used to describe a lack of interest in sexual activity. Libido (sexual desire) is a complex condition produced by a combination of biological, personal and relationship factors.

How can diabetes cause lack of libido?

Low testosterone levels can cause lack of libido, therefore some men with diabetes and low testosterone levels may have a lower libido. Psychological problems are also a common cause of lack of libido. In men with diabetes and erectile problems, the psychological impact of sexual dysfunction may also lower their interest in sexual activity.

How is lack of libido treated in men with diabetes?

Managing and controlling diabetes should be the first treatment option for men with diabetes and low libido to help improve

feelings of sexual desire. Men who have lack of libido due to testosterone deficiency diagnosed by a doctor may need testosterone replacement.

In addition, it is important that a doctor checks for any other possible underlying physical or psychological causes. Often, lack of libido in men with diabetes can hide a desire for more non-sexual intimacy and sharing. Individual or couple counselling can be helpful in identifying and addressing any issues to improve sexual desire.

DIABETES AND RETROGRADE EJACULATION

What is retrograde ejaculation?

During ejaculation, semen is propelled forward through the urethra (the tube that runs from the bladder to the end of the penis) and out through the tip of the penis. Retrograde ejaculation happens when semen passes backwards through the bladder neck and into the bladder. As a result, little or no semen is discharged from the penis during ejaculation, and the first urination after sex looks cloudy as the semen mixes with the urine. It is not a harmful condition and does not need treatment, unless trying to father a child. In this situation, speaking to a fertility specialist should be considered.

How can diabetes cause retrograde ejaculation?

Retrograde ejaculation in men with diabetes may be caused by nerve damage to the muscle (external sphincter muscle) that opens and closes the bladder neck. High levels of blood glucose can damage the nerve and muscles of the sphincter, and the sphincter muscle may not close completely to stop semen from going back into the bladder.

How is retrograde ejaculation treated?

Controlling blood glucose levels and making lifestyle changes may improve retrograde ejaculation when it is a result of diabetes. Most men who have retrograde ejaculation do not need treatment. However, if men are trying to conceive, couples may need to seek assisted reproductive technologies.

DIABETES AND BALANITIS

What is balanitis?

Balanitis is a very common inflammation of the glans penis (head of the penis) that can affect males at any age.

What are the signs of balanitis?

Some of the signs of balanitis are:

- Inability to pull back the foreskin
- Itchiness
- Rash
- Redness or swelling
- Discharge from the penis

How can diabetes cause balanitis?

In men with diabetes, some urine may become trapped under the foreskin after urinating. The combination of a moist area and glucose in the urine can lead to bacteria growing and then infection (balanitis).

How is balanitis treated in men with diabetes?

If a man has diabetes and balanitis, antibiotics or antifungal medication may help clear up the infection. Washing the penis and under the foreskin with soap and warm water may also help. It is also important to speak to your doctor about controlling blood glucose levels.

Who can help me if I have diabetes and sexual and reproductive health problems?

Speaking to a doctor about sexual and reproductive health problems is important for all men, and particularly for those who have diabetes as these problems are more common. Your doctor can also check for any other serious health conditions and talk about lifestyle changes or other ways to control your blood glucose levels. Your local doctor may also refer you to a specialist or sexual therapist if needed.

1 Barr ELM, et al. AusDiab 2005 The Australian Diabetes, Obesity and Lifestyle Study- Tracking the Accelerating Epidemic: It's Causes and Outcomes, International Diabetes Institute, 2005.

2 el-Rufai OE et al. Sexual dysfunction among type II diabetic men: a controlled study. *Journal of Psychosomatic Research* 1997; 43: 605-612

3 Fedele D et al. Erectile dysfunction in type 1 and type 2 diabetics in Italy. On behalf of Gruppo Italiano Studio Deficit Erettile nei Diabetici. *International Journal of Epidemiology* 2000; 29: 524-531

4 Holden CA et al. Men in Australia Telephone Survey (MATES): A national survey of the reproductive health and concerns of middle aged and older Australian men. *Lancet* 2005; 366:218-24

5 Hatzichristou D, et al. Efficacy of tadalafil once daily in men with diabetes mellitus and erectile dysfunction. *Diabetic Medicine* 2008; 25(2):138-46

6 Dhindsa S, Prabhakar S, Sethi M, Bandyopadhyay A, Chaudhuri A, Dandona P. Frequent occurrence of hypogonadotropic hypogonadism in type 2 diabetes. *J Clin Endocrinol Metab* 2004; 89:5462-5468

About the Authors

Dr Carolyn Allan
MBBS (HONS) DRCOG (UK) FRACP
Monash Medical Centre

Date: August 2008
© Andrology Australia 2008

Andrology Australia is an initiative funded by the Australian Government Department of Health and Ageing.

The information in this fact sheet has been provided for educational purposes only. It is not intended to take the place of a clinical diagnosis or proper medical advice from a fully qualified health professional. Andrology Australia urges readers to seek the services of a qualified medical practitioner for any personal health concerns.