

Improving health together



Welcome to this edition of Improving Health Together, which focuses on diabetes.

Diabetes mellitus is a term which refers to a group of metabolic disorders characterised by high blood glucose levels. High blood glucose levels are caused by a defect in insulin secretion or insulin action, or both. A lack of insulin is usually Type 1 diabetes. Insulin resistance is usually characterised as Type 2 diabetes.

Diabetes Week
13-19 June 2010

www.diabetes.org.uk



Diabetes

Issue 19— May/June 2010



Key Facts

- ◆ The risk of developing Type 2 diabetes rises as body weight increases: diabetes is approximately three times more common in people who have gained around 10 kg in weight during adulthood than those who maintain their weight.
- ◆ The risk of stroke is two to four times higher among people with diabetes than in those without the condition.
- ◆ People with diabetes are twice as likely to be admitted to hospital as those without the condition.
- ◆ The incidence of Type 1 diabetes is increasing in all age groups but the rise is particularly steep among children under five years old.
- ◆ Men with diabetes have more than three fold increase in erectile dysfunction compared to men without the condition.
- ◆ Lifestyle interventions (such as exercise combined with dietary advice) have been found to reduce the incidence of diabetes by 58%.

Types of diabetes

Type 1 diabetes

Formerly known as insulin dependent diabetes mellitus (IDDM) or juvenile onset diabetes. Usually occurs in childhood, adolescence or young adults under the age of 40 years. It is the result of an autoimmune response in the body, thought to be triggered by environmental factors, e.g. a virus in people with a genetic predisposition. Accounts for 5-15% of all cases of diabetes.

Type 2 diabetes

Formerly known as non insulin dependent diabetes mellitus (NIDDM) or maturity onset diabetes. Usually occurs in middle age and beyond and accounts for 85-95% of all cases. Characterised by insulin resistance. Very strongly linked with obesity and people are developing Type 2 diabetes at a younger age due to poor diet, lack of exercise and increasing body weight. It is treated with a combination of lifestyle and tablets but people may go on to require other injectable treatments including insulin.

Types of Diabetes (continued)

Gestational diabetes

Diabetes diagnosed in pregnancy. This type usually disappears after delivery but is strongly linked to the development of Type 2 diabetes in later life. Babies can be bigger and this may lead to problems with delivery. Dietary changes and medication are used to control the glucose levels during pregnancy. Women who have had gestational diabetes should be offered an annual screening test for diabetes and be given advice on future risk reduction.

Impaired glucose tolerance

This is typically characterised by hyperglycaemia and insulin resistance, and is considered to be a stage in the development of Type 2 diabetes mellitus and a risk factor for cardiovascular disease. It is diagnosed by an oral glucose tolerance test. Losing 10% of body weight can reduce the chances of it going on to become diabetes by 50%.

Is the patient at risk of Type 2 diabetes?

- ◆ Does the person have a parent/brother/sister with Type 2 diabetes?
- ◆ Do they have high blood pressure?
- ◆ Are they overweight?
- ◆ Do they have severe mental health problems?
- ◆ For women, do they have Polycystic Ovarian Syndrome or had gestational diabetes?
- ◆ Have they ever had a stroke or a heart attack?
- ◆ Do they have impaired glucose tolerance?

If they answer yes to more than one of the above they may be at increased risk of Type 2 diabetes. Please advise them to see their GP or nurse at their surgery if they would like further information.

Screening for Diabetes

WHO Diagnostic Criteria (1999)

- ◆ Fasting plasma glucose >7 mmol/l.
- ◆ Random plasma glucose >11.1 mmol/l.

Without symptoms 2 raised plasma glucose tests are required. With symptoms (polydipsia/polyuria) only 1 test is required.

- ◆ Impaired fasting glucose plasma glucose 6.1-6.9 mmol/l.
- ◆ Impaired glucose tolerance (after 75g glucose tolerance test) 7.8-11.1 mmol/l.

The American Diabetes Association are now recommending the use of HbA_{1c} as a diagnostic tool (>6.5%).

Retinal Screening - Diabetic Retinopathy Screening Services

Untreated diabetic retinopathy is one of the most common causes of blindness in the working-age population. The Department of Health set up an *English National Screening Programme for Diabetic Retinopathy* to prevent, detect and treat sight-threatening diabetic retinopathy for all people living with diabetes over the age of 11 years of age. For more details of the local services, please see the Diabetes section of our website: www.northyorkshireandyork.nhs.uk/StayingHealthy.

Increasing Activity

Together with healthy eating, staying active is one of the best ways to control weight and improve blood sugars. Regular activity, for a total of at least 30 minutes a day on 5 to 7 days of the week is recommended. Please see the Physical Activity factsheet for more information and advice www.northyorkshireandyork.nhs.uk/StayingHealthy/factsheets.htm, together with the Physical Activity section of our website. www.northyorkshireandyork.nhs.uk/StayingHealthy/PhysicalActivity/index.htm.

Dietary Advice

There is no special diet for diabetes, just a healthy diet, which is suitable for everyone. **Healthy Eating** means:

- ♦ Eating regular meals, including small portions of starchy carbohydrate foods, e.g. bread, cereal, potatoes, rice, pasta and noodles, where possible choosing low glycaemic index foods and increasing soluble fibre intake.
- ♦ Reducing sugary foods and drinks and replacing with suitable alternatives.
- ♦ Eating less fat and limiting salt intake as well as drinking alcohol in moderation.

Potential Benefits of a 5kg Weight Loss at 12 Months

Blood Pressure		
↓ in systolic blood pressure between 3.8-4.4 mmHg	↓ in diastolic blood pressure between 3.0-3.6 mmHg	
Lipids		
↓ in low density lipoprotein, total cholesterol and triglycerides	↑ in levels of high density lipoprotein	
Diabetes		
↓ of 58% risk of developing Type 2 diabetes in adults with impaired glucose tolerance	↓ of fasting blood glucose of between 0.17-0.24 mmol/l	↓ of 0.2% in HbA _{1c}
Overall improvements in mobility, self-esteem, mood, motivation and other factors.		

Reference: SIGN (2010) Management of Obesity.¹

Complications of Diabetes

Both Type 1 and Type 2 diabetes are characterised by a risk of the development of long term vascular complications. The most important factors determining the risk of development and progression of chronic complications are the duration of the condition and the degree of hyperglycaemia.

Microvascular disease affects the small vessels in the eye and kidney and also the nerves. Yearly retinal screening is recommended for all people with diabetes. This involves digital retinal photography. Yearly assessment of kidney function, by screening the urine for microalbuminuria is also an important test. All GPs and hospitals must ensure that these tests are done at least once a year, and they are strongly linked to QOF targets. Neurovascular assessment of the lower legs and feet can be performed by the Practice Nurse or Podiatrist and should also be done annually.

Macrovascular disease affects the large vessels, which can lead to problems with heart disease, high blood pressure and stroke. Studies indicate that the risk of atherosclerotic cardiovascular disease is two to four times higher in patients with Type 2 diabetes than in non-diabetic individuals. The annual rate of fatal and non fatal cardiovascular disease among people with Type 2 diabetes is 2-5%. Patients with microalbuminuria are at significantly increased risk of cardiovascular disease. Brief interventions for smoking cessation should be provided at every opportunity. Blood pressure should be checked at every clinic visit and patients given advice regarding diet and exercise. People should be on cholesterol lowering medication to keep their total cholesterol below 4 mmol/l.

Diabetes Footcare

It is important that all people with diabetes look after their feet. Good glucose control, a healthy diet and not smoking can decrease the risk of developing complications of diabetes. With diabetes the blood supply to the feet can be reduced. This can in turn lead to damaged skin not healing easily.

Nerve damage (neuropathy) can cause a loss of sensation. In the feet, peripheral neuropathy makes them numb. Patients can be at risk of damaging themselves without realising it.

Seek medical advice if they experience any of the following:

- ♦ Any colour change in the skin of the foot or leg.
- ♦ Any discharge from a crack in the skin, from a corn or under a toenail.

- ♦ Any sore that fails to heal.
- ♦ Any swelling or throbbing in any part of the foot.

Patient Education

It is recommended that structured patient education is made available to all people with diabetes at the time of initial diagnosis and then as required on an ongoing basis, based on formal, regular assessment of need. *NICE Technology Appraisal 60, April 2003².*

Home Blood Glucose Monitoring

Home blood glucose monitoring should be available to:

- ◆ Those on insulin treatment
- ◆ Those on oral glucose lowering medications to provide information on hypoglycaemia
- ◆ To assess changes in glucose control resulting from medications and lifestyle change
- ◆ To monitor changes during intercurrent illness
- ◆ To ensure safety during activities, including driving

Patients who are self-monitoring their blood glucose should:

- ◆ be taught to use the equipment correctly and accurately (this should be a consideration for pharmacists selling blood glucose meters);
- ◆ be able to interpret and act on the results appropriately.

It is not appropriate for everyone with diabetes to be self-monitoring, and each person should be assessed on an individual basis.

Order your free resources

These are the resources recommended by your Public Health team.

Diabetes UK

Tel: **0800 585088**

www.diabetes.org.uk/OnlineShop/

Measure Up. Awareness raising campaign
Leaflet (code 4880)
A4 poster (code 4890)
Tape measure (code 4255)



Postage limit of 50 items – telephone for larger quantities. Additional items available to download or purchase.

Help the Aged

Tel: **020 7278 1114**

Fitter Feet

www.helptheaged.org.uk/



NHS Diabetes

www.diabetes.nhs.uk/

A wide range of information, including a downloadable information pack "Support for People with Learning Disabilities" containing a leaflet developed by a Diabetes Specialist Nurse and a Learning Disabilities Nurse. Also includes a leaflet for carers.

NHS North Yorkshire and York
Skipton Hospital
Skipton | North Yorkshire | BD23 2RJ
Tel: 01756 701765 | Fax: 01756 709913
www.northyorkshireandyork.nhs.uk

Policy Context

Six years on: Delivering the Diabetes National Service Framework. (DH, February 2010)

www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_112509

NICE Guidance www.nice.org.uk

CG10 Type 2 Diabetes—Footcare

CG15 Type 1 Diabetes

CG63 Diabetes in Pregnancy

CG87 Type 2 Diabetes (Supersedes CG66)

NICE Public Health Guidance in development:

Type 2 Diabetes: Preventing pre-diabetes in adults

Type 2 Diabetes: Preventing the progression from prediabetes.

References

- 1 **SIGN 115: Management of Obesity (Feb 2010)**
www.sign.ac.uk/guidelines/fulltext/115/index.html
- 2 **NICE TA60: Diabetes Types 1 and 2—Patient Education Models (April 2003)**
<http://guidance.nice.org.uk/TA60>
Update May 2008 for Diabetes Type 2
www.nice.org.uk/guidance/index.jsp?action=byID&o=11983

Websites

Diabetes UK

www.diabetes.org.uk



Largest organisation in the UK working for people with diabetes, funding research, campaigning and helping people live with the condition.

British Dietetic Association

www.bda.uk.com/



The professional association for dietitians

NHS Choices

www.nhs.uk/livewell/diabetes/pages/diabeteshome.aspx



Information and advice on diabetes.

DAFNE

www.dafne.uk.com



DAFNE is a way of managing Type 1 diabetes and provides people with the skills necessary to estimate the carbohydrate in each meal and to inject the right dose of insulin.

Glycaemic Index

www.glycemicindex.com/



Official website of the Glycaemic index and GI database.

NHS Diabetes

www.diabetes.nhs.uk/



NHS Diabetes works to raise the quality of diabetes care in England by supporting and working with the healthcare community and people with diabetes.

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