

the Ely Study

A STUDY OF DIABETES



THANK YOU VERY MUCH for taking part in the University and Medical Research Council (MRC) Ely Study into diabetes, which started in 1990. We are grateful to you for taking part in this important medical research. This newsletter explains what we have found out.

The Ely Study aimed to find out the rate at which people develop diabetes over time, how many people have it and what can be done to prevent it. As a participant in the study, you have helped us with all of these questions.

Of the initial 1100 participants, over 900 agreed to be re-tested at the Princess of Wales hospital in 1994 and again in 2000. We also recruited a similar group of new volunteers in 2000 to investigate the differences between the existing group who had been monitored or 'screened' for 10 years and a 'non screened' group. We now have some very valuable information on the causes of diabetes and clues to its prevention.



What did we find?

61 people (6%) who did not have diabetes at the start of the study went on to develop it after 10 years. People who had blood glucose levels in the normal range were least likely to develop diabetes (1.7%). However, participants with blood glucose levels that were not high enough to be diagnosed as diabetic, but were higher than what is described as 'normal', were at greater risk of developing the disease (14%). This condition is known as "pre-diabetes".

Our research showed that participants who were overweight, inactive, were cigarette smokers, or had pre-diabetes were more likely to develop diabetes.

These findings reinforce an important message – to help to prevent diabetes, eat healthily, take regular exercise and don't smoke!



DEVELOPING PHYSICAL ACTIVITY PROGRAMMES

Nearly half of all adults in the UK are overweight, but the relationship between physical activity and gain in body weight and fat mass is not fully understood.

In another part of the Ely Study, we monitored heart rate to measure energy expenditure through physical activity in more than 700 middle-aged healthy volunteers. More active volunteers were less likely to put on weight and fat mass over a 5-year period.

In contrast, in the older adult volunteers, physical activity was associated with healthy maintenance of muscle.

These findings underline the need to develop physical activity programmes designed to prevent obesity in younger middle-aged adults, who are likely to gain weight. In contrast, such programmes may prevent weight loss and maintain muscle mass in older adults, which in turn may be critical in preserving function and preventing falls.



Accurate methods to measure fitness were used in the Ely Study

PROJECTS LINKED TO THE ELY STUDY.....

ProActive Study



The ProActive Study

Over 300 people who were less active and had a family history of diabetes, both of which were risk factors identified in the Ely study, took part in a trial at the Princess of Wales Hospital in Ely and in Cambridge to investigate the benefit of different approaches for increasing physical activity in everyday life. The findings are due out this summer.

Studies in younger people



Studies in younger people

Over the last year we have expanded our research to include children. Despite the concern over rising levels of childhood obesity in the UK, very little is known about the levels of physical activity in children, which is very hard to measure.

Pupils from **The King's School, Ely** are currently helping us to test new ways of measuring physical activity and energy expenditure accurately and objectively in different age groups over time. This is the first step towards understanding the causes of childhood obesity and developing guidelines on the levels of physical activity needed to prevent obesity in childhood and its progression into adulthood.

The ADDITION study

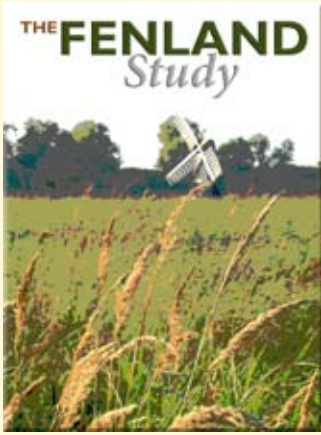
In the very early stages of diabetes, raised blood glucose levels may be the only abnormality. However, blood glucose levels vary both within and between individuals so measuring it accurately is essential to diagnose diabetes. **The Ely Study** has given us a better understanding of how to do this and why blood glucose levels change.

the Addition Study



One of the most important findings from **the Ely Study** was that a high proportion of people tested positive for diabetes, but were unaware that they had it. The government is currently considering introducing routine screening for diabetes because early treatment may be beneficial. The University and MRC has led a major international study, **the ADDITION Study**, to investigate the benefits and costs of screening for diabetes. 60 general practices in the Cambridge-shire area invited over 31000 people to be screened and over 800 people were found to have the disease.

Our studies show that information on age and body size, which are risk factors for diabetes, can be used to help target screening to 'at risk' people, which is more cost-effective than universal screening of the whole population.



THE FENLAND Study

The MRC Epidemiology Unit has now begun a major new study of younger adults to investigate the genetic and environmental factors, such as physical activity and diet, which determine both diabetes and obesity. 5000 people born between 1950 and 1975 will be recruited through surgeries in the East Cambridgeshire and Fenland areas. St Mary's Surgery and the Lantern Practice in Ely have already begun to participate. To find out more about this study you can visit our website on www.mrc-epid.cam.ac.uk/Studies/Fenland



MRC Epidemiology Unit

The Medical Research Council (MRC) is a national organisation funded by the UK taxpayer. Its business is medical research aimed at improving human health. The MRC funded work has led to some of the most significant discoveries and achievements in medicine in the UK. **Dr Nick Wareham** became Director of the new MRC Epidemiology Unit in Cambridge in October 2003. The Unit researches the causes and prevention of diabetes and obesity in both adults and children. It will become part of the Cambridge Institute for Diabetes, Endocrinology and Metabolism (CIDEM), housed within a brand new building on the Addenbrooke's Hospital site, due for completion in early 2007. The MRC Epidemiology Unit has also begun a major building programme within the Princess of Wales Hospital in Ely to upgrade our long valued research facility there. We hope to establish a further such facility at the North Cambridgeshire General hospital in Wisbech this autumn.



All of these exciting developments are grounded in the success of the research to which the MRC Ely study so strongly contributed.

Thanks again for your continued support! For more information visit www.mrc-epid.cam.ac.uk



Dr Nick Wareham