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Physician, Diabetologist and CMO

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often being spent badly. Those who are diagnosed late or do not receive timely care can find themselves having to spend extra days in hospital and suffering from kidney and nerve damage as a knock-on effect, running up huge bills for the NHS.

The report says only one in ten of those newly diagnosed are offered education on managing their condition.

Those patients have a longer length of stay in hospital – on average by three days – and regularly experience medical mistakes, especially medication errors, and avoidable deterioration in their condition.

While vast amounts of money is being ploughed into diabetes treatment, it is too often used ineffectively, the charity warns.

The report sets out a series of measures it claims will save the Health Service billions and improve care.

It says that better education on how to manage the condition can save £2,200 a patient, while a reduction in foot amputations – a traumatic and expensive complication of diabetes – could save hundreds of millions of pounds a year. Diabetes can dam-

## In numbers, the cost of diabetes

**100** amputations a week on patients with diabetes

**3.8m** Britons have diabetes

**600,000** of them don't know it

**1 in 4** care home residents has diabetes

**5m** Britons will have diabetes in 2025

**10%** of the NHS budget is spent on the disease

**£17bn** will be the cost to NHS by 2035

**24,000** diabetics die early each year

age the eyes, heart, nerves, feet and kidneys, leaving many dependent on gruelling and costly dialysis machines.

The vast majority of the £10billion – around 80 per cent – goes on treating complications that may have been prevented if the patient had received good care in the first place.

Barbara Young, chief executive of Diabetes UK, said: "The NHS is spending an eye-watering amount on diabetes but the money

isn't being used effectively, which is running up a huge bill for the future. This report shows how by dealing with problems early, such as by improved inpatient care and effective care planning, costs could be greatly reduced and more people would live longer and healthier lives.

"Too often, the focus is on cutting costs in the short-term such as by cutting diabetes specialist nurses, restricting access to blood

# ONE IN 7 HOSPITAL PATIENTS DIABETIC

...costing NHS £10billion a year

**ONE in seven hospital beds is occupied by someone with diabetes – pushing the NHS bill to a record £10billion a year for treating the condition.**

Campaigners warn the 'eye-watering' cost of diabetes is going to get worse.

**By Jenny Hope**  
Medical Correspondent

and an unhealthy diet. It already accounts for about 10 per cent of the total NHS budget, with most being spent on complications such as amputations and stroke.

The costs will soar further over the next 20 years, when it is projected to soak up 17 per cent of the entire NHS budget, says a report.

It will also increase the costs of

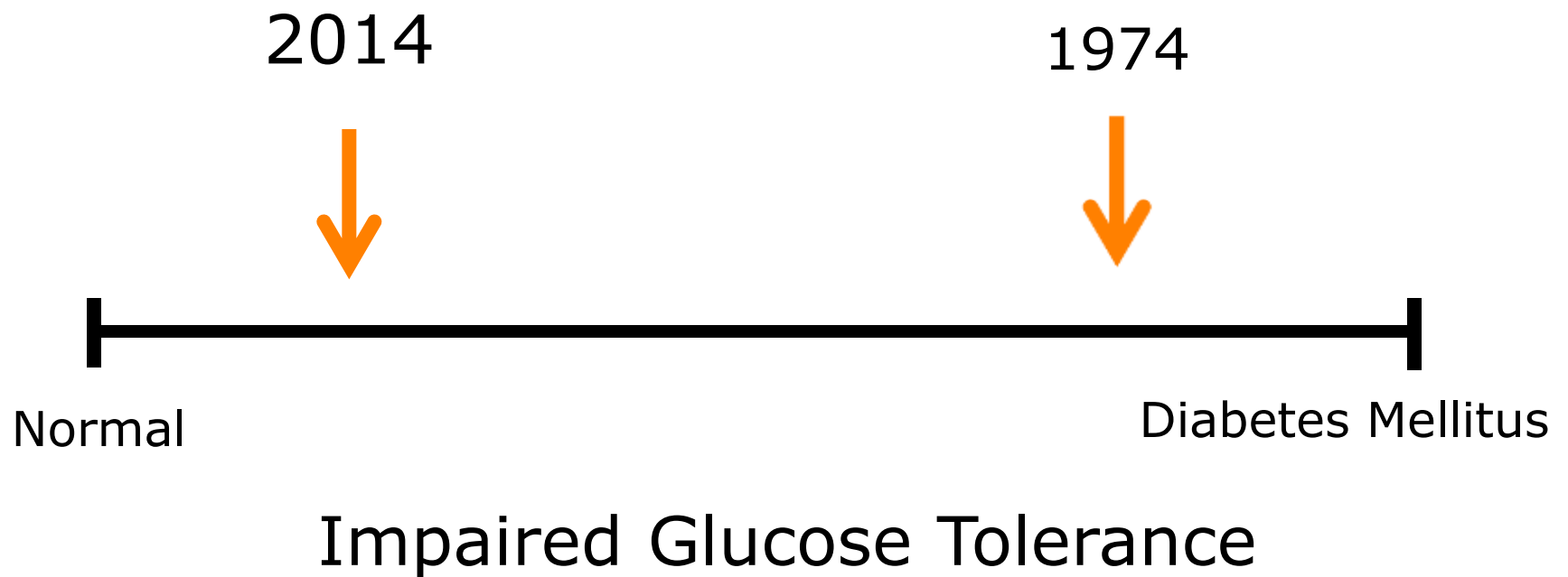
with diabetes being forced out of work altogether.

Some 3.8million people in the UK have diabetes, including 600,000 who are unaware they have it. The total is predicted to rise to 5million by 2025.

Nine in ten of those with diabetes have type-2, which occurs when the body gradually loses the ability to process blood sugar, leading to high levels which can damage organs and cause years of ill-health.

A report by the charity Diabetes UK says the £10billion the NHS

# Population Distribution according to Glucose Tolerance

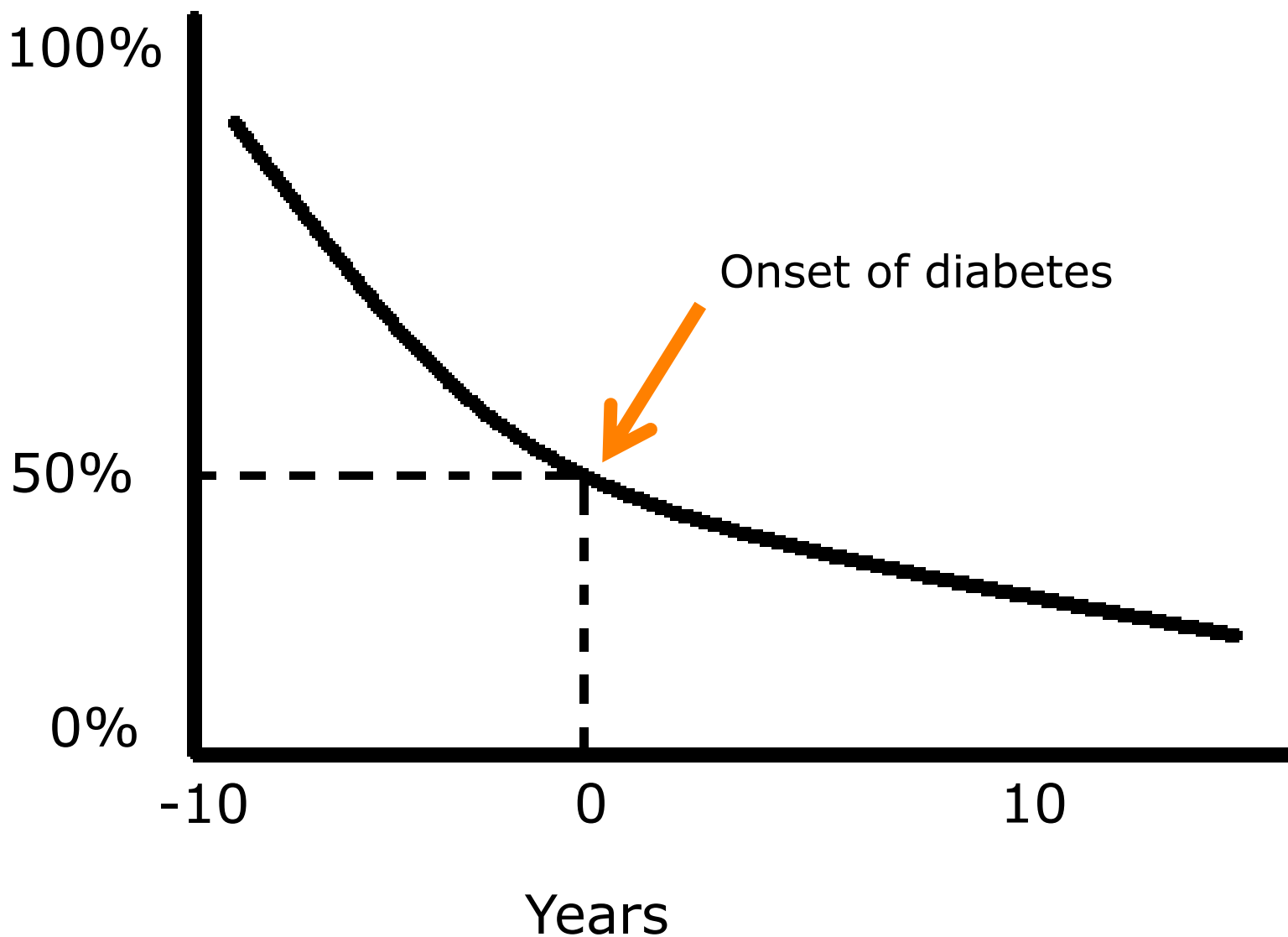


# Diagnosis of Diabetes

Fasting Blood Sugar under 6.1*	—	<b>Normal</b>
between 6.1 and 7.0	—	Impaired glucose tolerance
over 7.0	—	Diabetic

\* In USA under 5.6

# beta & cell function



**???**Sugar

Please see and treat

# Drugs for Diabetes 1974

## Sulphonylurea

Chlorpropamide

(Tolbutamide)

## Biguanides

Phenformin

Metformin

## Insulin

Soluble  
Isophane

Lente  
PZI



**Diabetes ? Decline**

# Problems in under writings in Diabetes 1974

No good epidemiological data

No way of assessing complications e.g.

Coronary disease

Retinopathy

Nephropathy

No way of assessing diabetic control

# Changes in Diabetic Care 1974 -2014

1. Better assessment of control — HBSM  
Hb A1c
2. More Drugs
  - GLP- 1 agonist e.g. Liraglutide
  - DPP4 inhibitors e.g. Sitagliptin

## Changes in Diabetic Care 1974 -2014 (cont.)

- 3. Diabetic Centres
- Specialist Nurses
- Podiatrists
- Dieticians
- Retinal screening
- Diabetologist
- Obstetricians
- Midwives
- Vascular Surgeons

## Changes in Diabetic Care 1974 -2014 (cont.)

4. More choice of Insulin

5. Devices — Disposable syringes  
— Insulin pens  
— Insulin pumps

6. Surgery — For vascular disease  
— For gastric bandings or bypass

7. Good treatment for Hypertension — ACE1  
Hyperlipidaemic — Statins

8. National Service Framework

# Insulins Available

1974

Soluble

Isophane

Lente

PZI

2014

Rapid onset

NovoRapid /

Actrapid

Humalog

Mixture(biphasic)

NovoMix

Humalog Mix

Long Acting

Lantus

Levemir

## Changes in Diabetic Care 1974 -2014 (cont.)

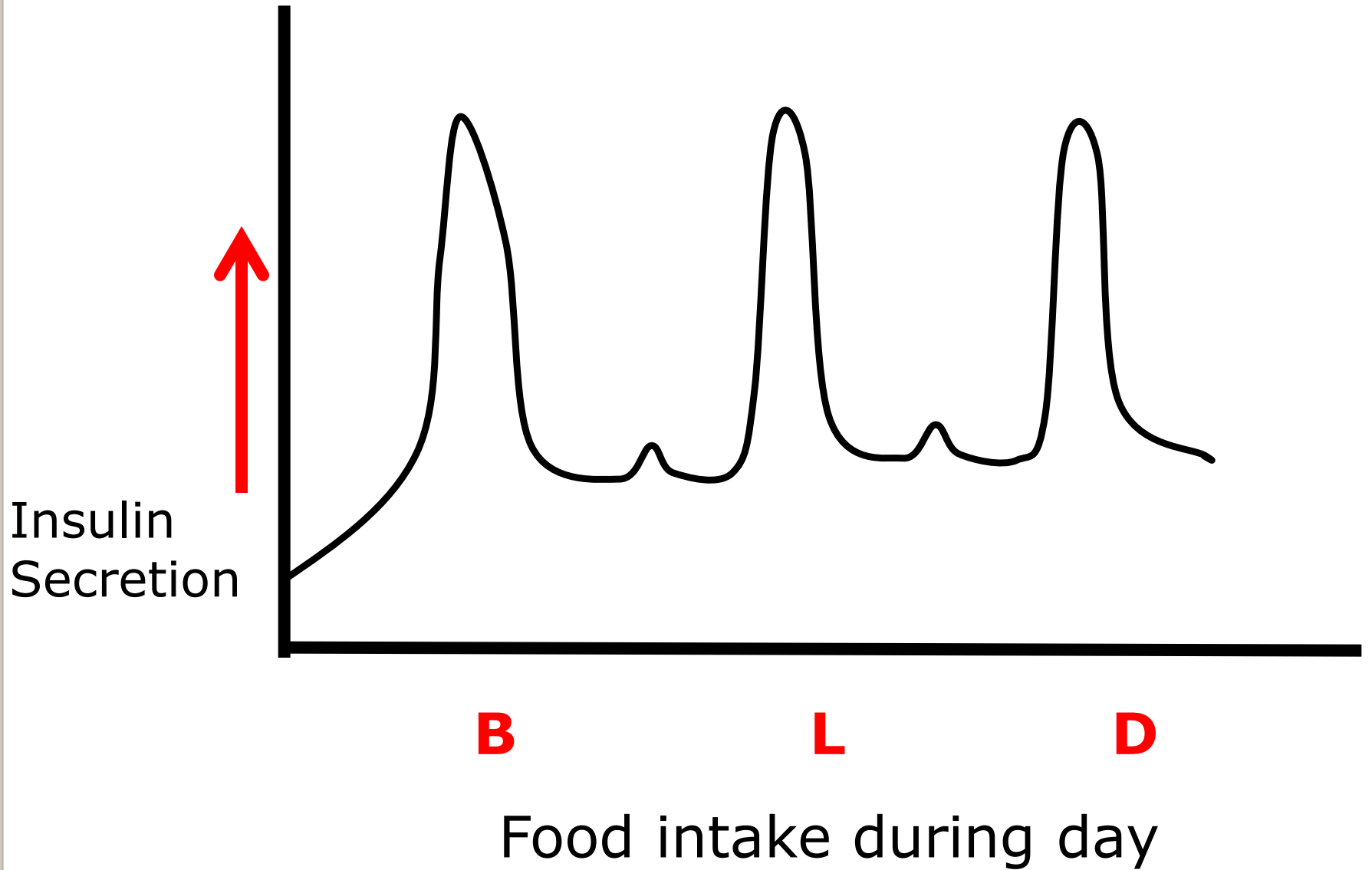
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8. National Service Framework





## Underwriting diabetes — relevant factors

1. Age of onset
2. Quality of Control — judged by Hb A1c
3. Complications that matter
  - Macrovascular disease
  - Nephropathy — judged ACR and Creatinine
  - Foot ulcers
  - Proliferative retinopathy
  - Hypoglycaemia
  - Ketoacidosis

## Underwriting diabetes — relevant factors

4. Dose of Insulin if relevant

5. Co-morbidities that may be relevant

e.g. F.H. 1HD

Obesity

Depression

Smoking

Hypertension

Hyperlipidaemic

6. Management of Hypertension and Hyperlipidaemia

IN LOVING MEMORY OF

# Desmond

2nd April, 1920 - 22nd December, 2013



Monday, 6th January, 2013 at 11.30 a.m

at

Eastbourne Crematorium

# Brief exercise before eating is best way to prevent diabetes

Chris Smyth Health Correspondent

Short bursts of intense exercise before meals may be a better way to keep blood sugar under control than longer workouts, research suggests.

"Exercise snacking" proved more effective than a standard 30-minute session at reducing glucose levels in overweight people who are on the verge of diabetes, a study found. Researchers said it could point towards a more efficient way for busy people needing to keep their blood sugar under control.

If confirmed in larger studies, the research could point towards wider health benefits from regular intense exercise. Scientists said the system could help to reduce the harm of long periods sitting still, which has been linked to health problems above and beyond the

effects of not exercising. About three million people in Britain have diabetes, a figure that is rising.

Exercise is known to ward off type 2 diabetes in overweight people most at risk, but only 20 per cent of people meet exercise recommendations. Many say they are too busy to exercise, prompting researchers to look for a quicker way to control blood sugar, which tends to peak after meals.

"Reducing these post-meal spikes is important for reducing the risk of developing type 2 diabetes and its associated complications," said Monique Francois of the University of Otago in New Zealand, lead author of the study.

"Dosing these small amounts of high intensity exercise before meals may be a more time efficient way to get exercise into people's day, rather than devoting a

large chunk of the day." She recruited nine overweight people who had insulin resistance, a precursor of diabetes where the body loses its sensitivity to the hormone that regulates the amount of glucose in the blood.

They were told to try six one-minute bursts of exercise before meals on one day, comparing it to 30 minutes of moderate exercise on another day. It reduced glucose levels after meals by an average of 12 per cent more than continuous exercise, they report in the journal *Diabetologia*.

Richard Elliott, research communications officer at Diabetes UK, said: "It is important to note that high-intensity exercise at 90 per cent of maximum heart rate may not be suitable for everyone, particularly those who are older or at risk of cardiovascular problems."

Thank you for having me