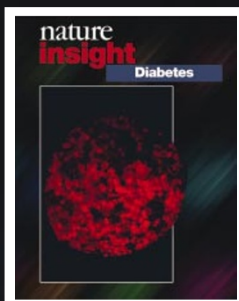


nature insight

Diabetes



Cover illustration

An islet of Langerhans isolated from the pancreas and stained for insulin producing cells. (Image courtesy of C. Rhodes, Pacific Northwest Research Institute.)

Familiarity breeds contempt. This was true for the fox in Aesop's fable whose respect and fear for the mighty lion was dulled by seeing him day after day. Arguably the same has occurred with our attitude to diabetes. We hope that this collection of reviews by leading researchers in diabetes will help rectify this situation.

Diabetes is so prevalent that all readers of this Insight will know several diabetics, at least one of whom will be injecting insulin to keep their condition under control. At base, diabetes is caused by failure to maintain a stable level of blood glucose in the face of the normal fluctuations of supply and demand. However, the causes of this relatively straightforward dysfunction are anything but simple, and diabetes is not one but a spectrum of disorders.

The following articles discuss both type 1 diabetes, in which the insulin producing cells in the pancreas are killed early in life, and the more insidious type 2 diabetes, where daily environmental and dietary stresses overload and ultimately destroy the body's systems for regulating blood glucose. Both these forms, if uncontrolled, can lead to severe complications such as heart disease, kidney failure, blindness and even loss of limbs. The debate over the biochemical causes of these complications and the best ways to prevent their development is also reflected in these pages.

Despite a wealth of knowledge about diabetes we must not be complacent. The World Health Organization predicts a doubling in its incidence in the next two decades, fuelled predominantly by modern lifestyles and an increasing incidence of obesity. It is also acquiring a variety of new names, including metabolic syndrome, syndrome X, diabetes and insulin resistance. But whatever it is called diabetes is a complex and potentially debilitating condition which, like Aesop's lion, must be taken very seriously.

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