

Insulin differs between ethnicities, study finds

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People have differing abilities to release and react to insulin depending on ethnicity, according to a new study from researchers at Lund University in Sweden, Stanford University and Kitasato University.

The results show that healthy subjects of all ethnicities were able to maintain a normal glucose level, but did so in different ways.

"Africans tend to have lower [insulin sensitivity](#). However, they appear to compensate for this by releasing larger quantities of insulin. Among those of East Asian origin, the reverse appears to be the case. They have very good insulin sensitivity, but appear to have a poorer ability to release more insulin if it is needed. Caucasians fall somewhere between the two extremes. Both [insulin release](#) and insulin sensitivity are affected", says Damon Tojjar, a doctoral student at the Lund University Diabetes Centre (LUDC).

When the researchers looked more closely at the research subjects who were at risk of developing diabetes and the subjects who had already been diagnosed, the same pattern was observed. Their results were generally worse, however, as their [insulin production](#) or insulin sensitivity had begun to fail as part of the disease.

"The findings are consistent with what we see in [clinical settings](#) – East Asians are more sensitive to developing diabetes and they do so at a lower BMI. Because a lack of insulin is a condition for developing diabetes, it is not surprising that East Asians show lower insulin release

and generally need to start [insulin treatment](#) at an earlier stage. The situation in Africa is still so complicated and heterogeneous that new studies are needed", says Professor Leif Groop from LUDC.

The researchers are not sure of the reasons for the physiological background to the changes, but suggest some possible explanations.

"Our findings and the fantastic developments in genetic research make us optimistic that we can continue to map the important differences that cause a failure in the production of insulin and reduced insulin sensitivity, so that we can emphasise personalised treatment in the future", concludes Damon Tojjar.

Provided by Lund University

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