

0.05). The sorbitol concentrations were significantly high in the patients with diabetic retinopathy (26 patients,  $90.7 \pm 46.1$ ,  $P < 0.01$ ) and neuropathy (34 patients,  $80.9 \pm 44.3$ ,  $P < 0.05$ ) compared with those in patients without these complications (21 patients,  $47.9 \pm 24.7$  and 16 patients,  $48.6 \pm 26.6$ ).

Thus, this modified assay system may be the best way to measure sorbitol at the present time. Precise measurement of erythrocyte sorbitol content may assist in the understanding of the pathophysiological condition of diabetes and may be useful for certification of distorted sorbitol metabolism and prevention of the development of diabetic complications in clinical practice.

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## Glucose Tolerance, Insulin Sensitivity, and the Homeostasis Model Assessment Method

Matsumoto et al. (1) have recently published an impressive study of oral glucose tolerance test (OGTT) data from obese and nonobese Japanese subjects. They studied insulin secretion and insulin sensitivity findings derived from OGTT data and homeostasis model assessment (HOMA).

As they described briefly in the METHODS section, insulin resistance (R) was assessed as the R determined with HOMA, with  $R = \text{insulin}/(22.5 e^{-\ln \text{glucose}})$ . However, simple mathematics dictate that this calculation is identical to  $(\text{insulin} \times \text{glucose})/22.5$ .

It would be simpler to refer to this HOMA method as a mere multiplication of baseline values of insulin and glucose.

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## Response to van Haeften

The formula for the insulin resistance index in homeostasis model assessment

In our article (1), the formula for insulin resistance (R) assessed by homeostasis model assessment (HOMA) is presented as  $\text{HOMA } (R) = \text{insulin}/(22.5 e^{-\ln \text{glucose}})$ . As van Haeften mentions (2), the formula  $\text{insulin}/(22.5 e^{-\ln \text{glucose}})$  is equal to  $(\text{insulin} \times \text{glucose})/22.5$ . In the original report