

COMMENTS AND
RESPONSES

Comment on: Tam et al. Defining Insulin Resistance From Hyperinsulinemic-Euglycemic Clamps. Diabetes Care 2012;35:1605-1610

The euglycemic-hyperinsulinemic clamp is the gold standard for evaluating insulin sensitivity. As such, it is extremely helpful in evaluating the effect of an intervention or in comparing insulin sensitivities between two or more groups.

What remains a challenge is to decide the values above which insulin resistance is defined.

Tam et al. (1) proposed cutpoints based on the results in 167 white people receiving a 120 mU/m² · min clamp, 51 of whom had type 2 diabetes. They defined insulin resistance by the presence of type 2 diabetes. This definition is suspect because of the well-established hyperbolic relationship between insulin sensitivity and insulin secretion. At any level of insulin sensitivity, the presence of diabetes depends on the amount of insulin secretion, e.g., two individuals could have the same levels of insulin sensitivity with one having diabetes due to much less insulin secretion than the other one who does not have diabetes.

Another question concerning the values themselves is the effect on insulin sensitivity of any drugs used to treat diabetic patients, especially the thiazolidinediones. No information on therapy was provided.

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References

- 1. Tam CS, Xie W, Johnson WD, Cefalu WT, Redman LM, Ravussin E. Defining insulin resistance from hyperinsulinemic-euglycemic clamps. *Diabetes Care* 2012;35:1605–1610