



COMMENT ON KOVATCHEV AND COBELLI

Glucose Variability: Timing, Risk Analysis, and Relationship to Hypoglycemia in Diabetes. *Diabetes Care* 2016;39:502–510

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The recent Perspectives in Care on glucose variability by Kovatchev and Cobelli (1) repeats an error that has been perpetuated in the literature: namely that in its initial description mean amplitude of glucose excursions (MAGE) was calculated using hourly values taken from the continuous glucose recording. Although the authors were correct in citing the primary source (2), they apparently missed the following statement: “The MBG is the mean of 576 blood glucose values taken at five-minute intervals from the continuous record for the forty-eight hour CBGA (continuous blood glucose analysis).” Despite referencing a recent article in *Diabetes* where I make the same point and, indeed, quoting from another section of that article (vide infra), the authors continue to overlook how MAGE was calculated (3).

Notwithstanding other contributions to the literature by Dr. Kovatchev on glucose variability, there is no evidence of conceptual maturation: glycemic variability is conflated with glucose exposure. In the face of my admonition “to avoid distortion of variability to that of glycemic exposure, its calculation should be devoid of a time component” (a direct quote [1] of my comment [3]), the authors proceed without rebuttal of my remarks or scientific substantiation to occupy the bulk of the article with time-affected metrics. The problem seems to come down to the failure to recognize that glycemic variability is a normal biologic function manifested by glycemic excursions during a 24-h period. Any parameter measured over days, whether HbA_{1c} or glucose, is subject to variation,

but that variability is of exposure. To date, variation in exposure beyond the effect of exposure itself has not been incriminated in the genesis of the complications of diabetes.

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References

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