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On rate of appearance of glucose in blood

One of the key steps in designing a controller for an insulin pump is its numerical simulation and testing for various meal input. Such testing is based on an assumed model of glucose-insulin system and parameters, preferably identified basing on clinical data. One of the subsystem needed in such simulations is the one providing the appropriate rate of gastric emptying of ingested glucose. Though such models exist, and are widely cited, their outputs vary enormously and the difference has not been discussed so far. In this paper, the author presents refers to the modification of the Lehmann and Deutsch model presented in (M. Fernandez, and V. Minaya, MEP 30 (2008), 538–540), important for uptakes of small glucose amounts.