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463. The Insulin Requirement of Insulin Dependent Diabetics Applying Different Open-Loop Insulin Infusion Systems

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By controlled insulin infusion applying a portable insulin infusion devise even blood glucose levels of diabetics with strong fluctuations could be normalised. Various systems have been developed. Continuous insulin infusions cover the basal insulin requirement, but the mode of insulin release after meals is still controversial. We studied the insulin requirement of 8 insulin dependent diabetics applying a glucose controlled insulin infusion system. On the one side the data of our investigation were transferred to an Individual Programmable Insulin Infusion System (IPIIS) developed by ourself, on the other side they were transformed to simple Rectangular Profiles (RP). The M-values and mean blood glucose levels did not differ compared intraindividually. In comparison to RP the insulin requirement of IPIIS was a little lower ($p<0.05$). The MAGE, a measure of blood sugar fluctuation was significantly ($p<0.01$) lower in IPIIS (65.9 ± 20.2 mg/dl) than in RP (105.2 ±

43.7 mg/dl). Our results suggest that both, IPIIS and RP, are able to guarantee good blood sugar control, but applying an IPIIS the blood glucose fluctuations could be smoothed.