

# Intensive Care Medicine

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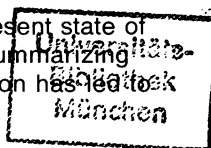


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COMPUTER-ASSISTED METHOD FOR EVALUATION AND DOCUMENTATION OF DATA FROM GLUCOSE CONTROLLED INSULIN INFUSION SYSTEMS IN CRITICALLY ILL PATIENTS. G.Müller-Esch, A. Peters, M. Göhl, M. Mewes, P. C. Scriba, Klinik für Innere Medizin, Medizinische Hochschule Lübeck, Lübeck, Germany.

Glucose controlled insulin infusion systems (GCIIS) seem to be a valuable tool in the metabolic treatment of critically ill patients. The incidence of 4320 measurements from the GCIIS during a 24-hour control period is the main reason for developing this method, which permits a comfortable handling of a vast number of data. The procedure is based on a BASIC computer programme, that will be demonstrated.

Inputmode: An interface between the GCIIS and the micro-computer PC 800 (MAGIRUS DATENTECHNIK) has been employed to transfer all data directly at one minute intervals. Further, comments concerning actual therapy can be inserted manually.

Calculations: The following parameters, characterizing the state of carbohydrate metabolism, may be calculated:

- MBG = mean blood glucose
- M-value = a measure for the duration and the degree of pathological blood glucose levels (1)
- MAGE = mean amplitude of glycemic excursions (2)
- an index, indicating the sensitivity to insulin.

Record: Blood glucose, insulin rate and dextrose rate are plotted continuously. Comments will be printed, too.

Documentation: All recorded data are stored on a 5 inch floppy disk.

Conclusion: The method permits complete processing of GCIIS-data, which is almost impossible when confined to manual computation. Its usefulness in the treatment of critically ill patients, especially during metabolic therapy with glucose-insulin-potassium in acute myocardial infarction, will be demonstrated (Supported by the Federico Foundation).

1. Schlichtkrull, J. et al.: Acta med. Scand. 177 (1965), 95
2. Service, F. J. et al.: Diabetes 19 (1970), 644