

## Diabetes Data Management Program Available for Microcomputers

Morrisett<sup>1</sup> has noted the potential importance of microcomputers for patient education: at home as well as in the physician's office. We would like to announce the availability of two computer programs: one for the patient, another for the physician. These programs are written in BASIC for the IBM-PC or IBM-XT (and compatible units), and provide several functions:<sup>2,3</sup> (1) an electronic notebook, providing entry, editing, storage, and retrieval of data pertaining to administered insulin, blood glucose, urine ketones, hypoglycemic reactions, diet, activity, and comments; (2) graphic display of data, e.g., all glucose or selected glucose values and insulins (by type) versus day of month, glucose profiles by time of day, and analyses of the relationship between glucose and insulin; (3) monthly summary, with brief statistical analysis; and (4) detailed statistical analysis.

In addition, the physician's version provides advice regarding self-adjustment of insulin therapy, including adjustment of premeal supplements; corrections for documented or suspected hypoglycemic reactions, and corrections in the routine insulin in response to hyperglycemia. The program is extremely flexible: it accommodates six regimens of intensive conventional therapy, including 2, 3, or 4 injections per day as well as continuous subcutaneous insulin infusion; it allows for seven graded levels of control (including that for pregnancy), and up to nine different sets of rules or algorithms for adjustment of routine insulin. These include the popular algorithms of Skyler, as well as both more "strict" and more "lenient" variations.<sup>2,4</sup> The physician must run a special program to custom-tailor the parameters for any individual patient, adjusting several "threshold" and "sensitivity" values to obtain the desired level of control, consistent with individual "brittleness," willingness or ability to monitor blood glucose frequently, and goals of therapy. This program also advises the user when blood glucose values should be obtained the following day. A modest amount of "stroking" and explanation is provided.

The programs, which are compiled for speed, require 128K; a printer and graphics card are optional but highly desirable. We offer these programs (gratis) in the sincere hope and belief that they will both prove useful in their present form, and serve as a prototype for further development, refinement, and critical evaluation of the role of the microcomputer in this important clinical application.

DAVID RODBARD, M.D.  
NAT PERNICK, M.D.  
MITCHELL L. JAFFE, B.S.

From the Laboratory of Theoretical and Physical Biology, National Institute of Child Health and Human Development, and Computers in Clinical Medicine Elective, National Institutes of Health, Building 10, Room 8C312, Bethesda, Maryland 20205.

Address reprint requests to David Rodbard, M.D., at the above address.

### REFERENCES

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