

CLINICAL APPLICATION
COMPUTERIZED NUTRITIONAL ANALYSIS
SYSTEM FOR BURN CARE

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To aid the dietitian and the staff of a burn center in monitoring and evaluating the patient's nutritional care, the Bothin Burn Center at St. Francis Memorial Hospital (San Francisco, California) has developed a nutrition analysis program for burn care which utilizes a microcomputer system. This microcomputer system is designed to help improve patient care by increasing the efficiency and accuracy of assessing the daily nutritional status of each burn patient. The data generated by this system allows the burn staff to evaluate the success of the care plan in providing the necessary nutritional support for the thermally injured patient.

The Bothin Burn Center's goal for the computerized nutrition analysis system was to update and maintain a high level of accuracy. It is important to note that the program is directly dependent on the accuracy of data entry as well as the accuracy of the data itself. Although the Burn Center attempts to maintain these standards, there will always be varying factors that will influence the outcome of the data.

So what will the Bothin Burn Center's Nutritional Analysis System do? The system has been programmed:

1. To determine and update the patient's nutritional requirements using various published formulae.
2. To analyze daily nutrient content of all oral, enteral and parenteral feedings used at St. Francis Memorial Hospital. This is accomplished by weighing each food item consumed by the patient. The computer subtracts this weight from the pre-established weight, and analyzes it for all 73 nutrients or for a selective group of nutrients depending on the need. The expendable data base allows the dietitian the ability to add new recipes or food items, to make changes in the menu, and to analyze food from home or fast food restaurants.
3. To identify and report a lack or excess of essential nutrients in the patient's diet. Trends in this data stimulate alterations in the diet and/or method of delivery.
4. To provide long term patient histories, which should increase the burn staff's knowledge of metabolism and nutritional support of the burn patient.

The Bothin Nutrition Analysis System is easy to use and requires no programming experience. All burn team members share access to the system, enabling them to have a more active role in the patient's nutritional care.

Application of the nutrition analysis system is not solely limited burn care. Although St. Francis Memorial Hospital has not tested this system in other health care areas, this system should prove to be an asset in areas such as renal dialysis and oncology, where a more detailed nutritional analysis may be required in aiding patient recovery.