

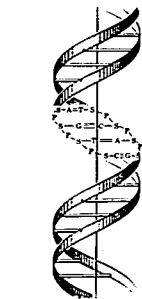
Symposium on Metabolism

THERE WAS A TIME not too long ago when the subject of anesthesia and metabolism meant one of two things: measurements of blood levels of metabolites, usually glucose, during anesthesia; or evaluation of the effects of anesthetics on metabolism of nerve tissue in hopes of discovering the mode of action of anesthetics. The former studies were purely descriptive. Blood levels *per se* indicate nothing about turnover rates. Nor are they interpretable in terms of functional significance. What does elevation of blood glucose during anesthesia really mean? The latter, while attempting to answer more fundamental questions, were limited in their significance by reliance on obscure anesthetics, often at concentrations which would be lethal under clinical conditions.

Understanding of metabolism and anesthesia has come a long way in the last decade. Cellular and tissue studies have replaced blood studies. Investigators knowledgeable in both biochemistry and anesthesiology have replaced investigators who were expert in only one area or the other. Biochemical and metabolic techniques have improved by several orders of magnitude in terms of sophistication and complexity, and the body of fundamental information regarding mechanisms of normal metabolism and regulatory systems has expanded tremendously.

The result is that in recent years specialists in metabolism, who are increasingly often anesthesiologists, too, have been able more clearly to define the questions that should be asked. What is important? What is significant? And having asked pertinent questions, they are now increasingly able to get answers. There is still a long way to go, and many more unanswered questions remain to be solved, but we now have enough information to recognize that metabolism is vitally concerned with anesthesiology both at the basic science level and clinically. Metabolism and anesthesia is no longer an arcane subject of only theoretical, academic interest. Understanding metabolism and anesthesia leads to an understanding of how anesthetics alter function in the central nervous system, the heart, and other organs. Understanding metabolism and anesthesia leads equally to an understanding of how we may better care for patients, normal patients as well as those with pre-existing disorders of metabolism.

We are indebted to the distinguished investigators who, with considerable sacrifice of time and effort, have contributed the articles in this Symposium issue describing the state of our knowledge in this field at the present time and demonstrating its fundamental importance to all those involved in anesthesiology.



Double-helix structure of DNA.

NICHOLAS M. GREENE, M.D.
Editor for the Issue