



A Conversation with Dr. James Philip

Leading Anesthesiologist Discusses Clinical and Economic Challenges in General Anesthesia

James H. Philip, MEE, MD, CCE, is an anesthesiologist and director of anesthesia bioengineering for Brigham and Women's Hospital in Boston. He also is an associate professor of anaesthesia at Harvard Medical School. As an anesthesiologist and biomedical engineer, Dr. Philip understands the value of technology in improving the field of inhalation anesthetics, a \$1.3 billion global market.

The safety of general anesthesia has been a concern over the years. How safe is general anesthesia today?

In the 1980s, we came up with some new monitoring techniques to make general anesthesia safer. Before 1980, bad outcomes occurred in approximately one in every 3,000 patients. By 1990, it was reduced to one in 300,000 patients. By bad outcomes, I mean patients not waking up or waking up with some serious complication.

What are the main clinical and economic challenges of practicing anesthesia today?

The main clinical challenge is providing sick patients about to go through surgery with a general anesthetic that renders them capable of being operated on safely, then returning them to as close to normal as possible as quickly as possible. The economic challenge is that hospitals are exerting pressure on us to reduce the cost of anesthesia. But they're looking specifically at the cost of drug acquisition rather than the economic benefits of some agents that may result in better outcomes, such as shorter hospital stays, and the relationship between the anesthetic and time of recovery.

What advantages do inhalation anesthetics provide over intravenous (IV) anesthetics?

With IV anesthetics, it's more difficult to control the level of drug in the patient's blood, and they do not dissipate as quickly from the bloodstream, lengthening