



color, and addition of blood vessels. These studies are supported by the National Institutes of Health, the Department of Defense, and the State of Ohio Third Frontier program. The realization of clinical benefits with engineered skin has depended on the commitments by, and partnerships with, clinical faculty in the Department of Surgery in the Divisions of Burn Surgery (Drs. Kagan, Warner, Yakuboff and Bailey), and Plastic Surgery (Drs. Kitzmiller and Billmire). Beginning in 2002, Dr. Boyce accepted a secondary appointment in the University of Cincinnati (UC) Department of Biomedical Engineering which has training programs in tissue engineering for both undergraduate and graduate degrees. Tissue engineering is part of the rapidly-emerging field of regenerative medicine. Because the efficacy of engineered tissues depends heavily on surgical expertise, the success of new therapies which are transplanted may be accurately referred to as regenerative surgery.

To complete the process of technology transfer, Dr. Boyce has founded two companies, one of which has licensed patents from UC and Shriners Hospitals for Children for the technologies for engineered skin. Both companies have been acquired by industry partners. These partners are proceeding with plans to manufacture and deliver the technologies to patients nationwide. During the process of technology transfer, Dr. Boyce became aware of several opportunities to enable and empower university faculty to develop new technologies for social benefit. To promote development of university inventions, Dr. Boyce currently serves as chair of the UC Intellectual Property Committee.

From these experiences, many opportunities for the future have been identified. Greater availability and uniformity of institutional services for regulatory compliance in performance of clinical trials of novel therapies will facilitate and accelerate the demonstration of new medical benefits from investigative drugs, devices and biologics. Toward this goal, Dr. Boyce participates in the pursuit of a Clinical and



Translational Science Award from the National Institutes of Health. Establishment of an endowment for the UC Intellectual Property Office will provide resources to protect and develop greater numbers of inventions by UC faculty. Interdisciplinary graduate programs between the Departments of Surgery and Biomedical Engineering will build synergies and relationships between surgical residents and BME graduate students in training. These synergies between surgery and engineering are expected to spark novel approaches to treatment of congenital and acquired diseases. Together, empowerment of discovery, development and delivery of new therapies is expected to strengthen and advance the mission of the University of Cincinnati to improve quality of life in the local and global communities.

