Sharp Thinking at UC: 
*Designing Innovative Medical Devices*

**Mary Beth Privitera, MDesign**

Mary Beth Privitera is not the typical Biomedical Engineering faculty member. Holding a master’s degree in design from UC’s College of Design, Architecture, Art, and Planning (DAAP), she uses her unique background to design medical devices that are safer and more effective. It is largely thanks to Privitera’s appointment at UC that we have the [Device Design Program](#), an innovative program that brings together experts from many disciplines—design, engineering, medicine, and business—in ways that encourage out-of-the-box thinking.

**Designing for Safety, Effectiveness, and Aesthetics**

Many people don’t realize that surgery is a very real work environment—problems arise, and sometimes devices fail. Privitera emphasizes the need to solve physicians’ immediate problems with attainable solutions and focuses on how human factors affect devices. Before starting at UC, Privitera spent 17 years designing for medical-device companies and participated in over 30 product releases. She works on making medical devices safer to use and more effective at their jobs—without sacrificing aesthetics.

**Teaching Innovation**

Privitera does not separate her research from her teaching. In her classes, students learn the importance of collaboration and real-world testing. Her “Introduction to Medical Device Innovation” combines a business student, an industrial design student, biomedical engineering students, and a physician—emphasizing real-world collaboration. Her students even sit in on a surgery in an effort to demonstrate how patients, surgeons, and the devices they use are all subject to human error. Students test devices on human and animal cadavers to understand how they will hold up in the operating room. Privitera also stresses the need for students to study a device throughout every stage of its life cycle—inception, sterilization, marketing, use, and even disposal.

Combining a multidisciplinary approach and real-world understanding, Privitera is an innovator in device design. Her work leads to better outcomes for students, surgeons, and most importantly, patients.
Note: While Privitera teaches in the Biomedical Engineering Department, the Device Design graduate program only accepts students with backgrounds in digital, fashion, graphic, or industrial design.

In the News

Privitera’s work has been featured in a number of news outlets. Click the links below to read more:

- MD+DI Q&A
- “Looking Good Matters for Devices Too”
- “Profile: Mary Beth Privitera, Master of Design”
- “Designing for doctors: Innovative students engineer for the operating room”

More about Mary Beth Privitera

Privitera, an Associate Professor in both the College of Medicine and Engineering, was appointed head of the Medical Device Development program at the UC Medical Center in October 2011. She has worked in the medical device industry since 1988 and focuses on the application of human factors in medical product design.