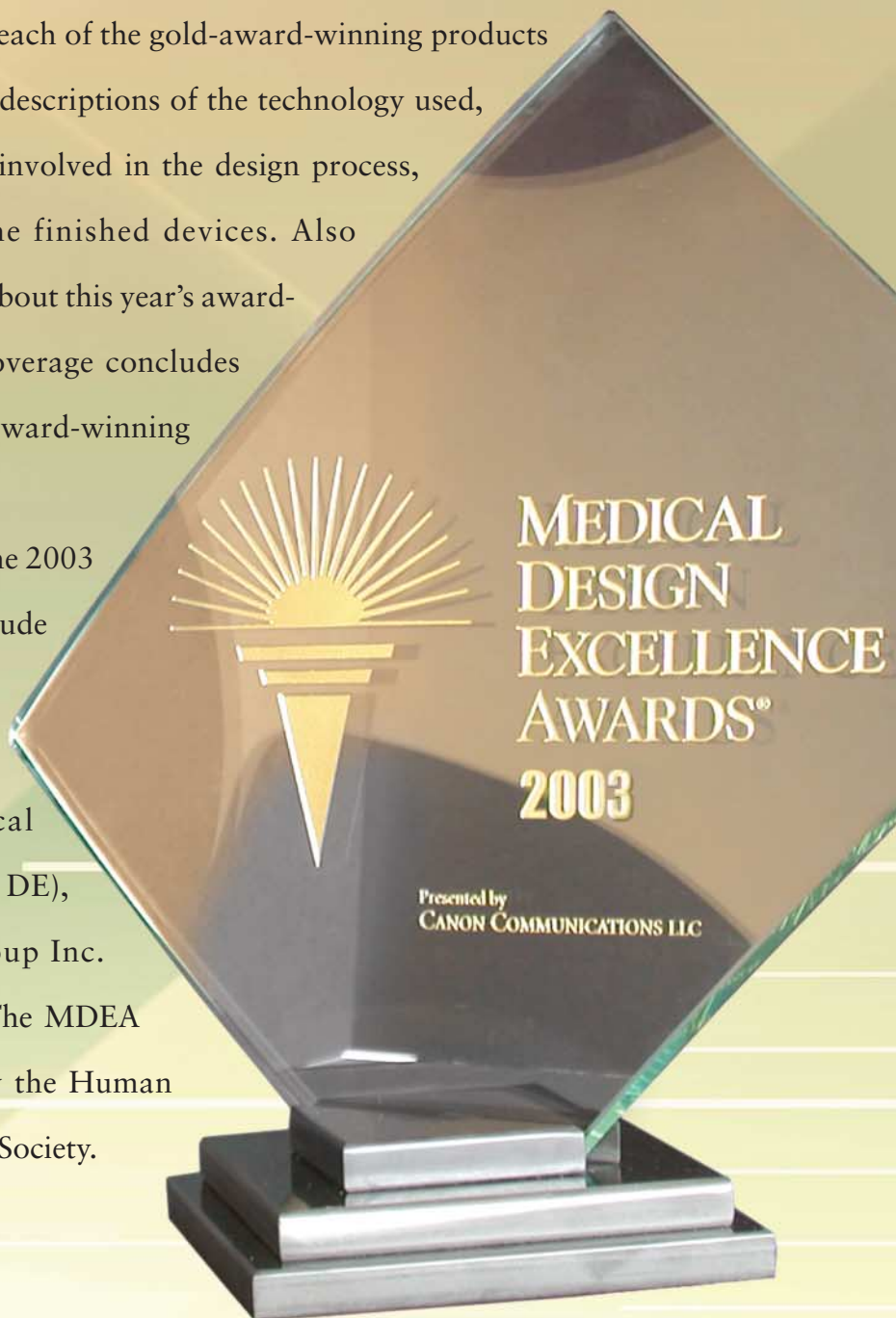


# And the Winners Are...

*Stacey L. Bell*

This year's crop of 23 Medical Design Excellence Award (MDEA) winners have outdone themselves in the fields of technical innovation, advanced manufacturing processes, and contemporary, ergonomic design. On the following pages, each of the gold-award-winning products is profiled with detailed descriptions of the technology used, stories from the people involved in the design process, and photographs of the finished devices. Also included is information about this year's award-panel jurors, and the coverage concludes with a list of all silver-award-winning products.

Industry sponsors of the 2003 MDEA competition include Avail (Fort Worth, TX), Battelle (Columbus, OH), DuPont Medical Packaging (Wilmington, DE), and The MedTech Group Inc. (South Plainfield, NJ). The MDEA program is endorsed by the Human Factors and Ergonomics Society.



# Putting a New Face on Deliveries

## Joey Disposable Umbilical Cord Clamp and Cutter

Submitted and manufactured by Maternus (San Antonio, TX)

The Joey umbilical cord clamp and cutter gets its name from the face of a koala bear that decorates it. Though the face was dictated by design issues, it has become an important factor in winning accolades from healthcare professionals, new mothers, and MDEA jurors.

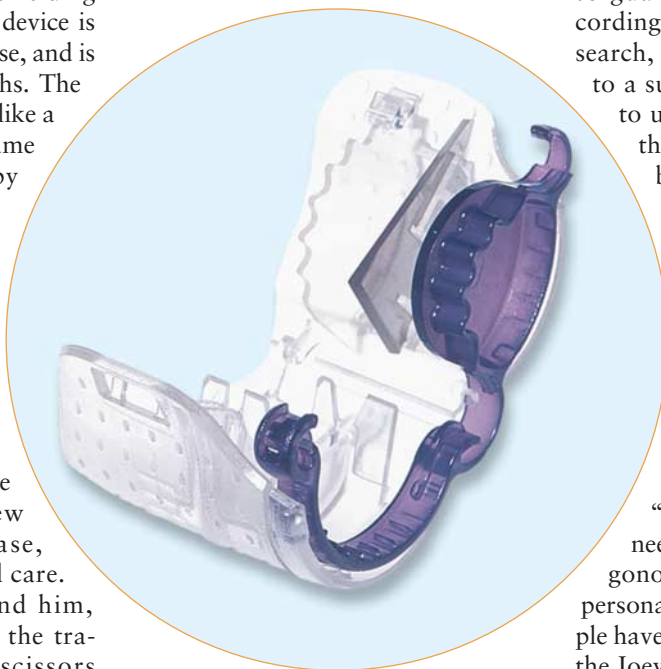
The Joey Clamp and Cutter is a single-use obstetric device that simultaneously clamps, cuts, and seals the umbilical cord following birth, while shielding users from blood spray. The device is optimized for single-handed use, and is color coded for multiple births. The baby clamp end, which looks like a baby koala—thus the tag name “Joey”—stays with the baby after the cord is cut.

Maternus didn't set out to create a cute clamp. The product concept originated with an obstetrician who was sprayed accidentally with a large amount of blood when cutting an umbilical cord. He was temporarily blinded by the mishap. Worse yet, the new mother had a blood disease, so he had to undergo special care. With the experience behind him, he sought an alternative to the traditional two-clamps-and-scissors approach.

“Our first challenges were to create a product that could be used single-handedly and to find a shape that would fit numerous hand sizes,” recalls Maternus president Ron Hicks. “We started with a totally round device that became very oblong because

it offered more torque that way. The best application was in between the two extremes: a rounded base with an elongated top. It's shaped like a fist, and fits any size hand perfectly. It also looked a little like a koala bear. We went through 300 facial models before choosing the version that appealed most to moms and babies. It was important to consider their needs, too.”

The device features a living hinge



made from polycarbonate. “The units are injection molded, and we had to be very careful with the grip patterns and types that emerged from the molds,” Hicks says. “Newborn babies are very slippery, so the doctors' gloves are wet, which affects grip. We also

had to reduce any sharp edges, or flash, that might tear gloves. We chose polycarbonate because it's strong, clear, and colorful. The strength is important in that the same device can cut the large cords of the biggest babies as well as the cords of very tiny babies.”

The product comes in six colors, which allows doctors to identify which placenta goes with each child. This is an important factor in multiple births—particularly when more parents are choosing to store their children's core blood in the event of future needed medical care.

“We also had to be sure that the product cut every single time, so we use stainless-steel blades imported from a German knife manufacturer who makes the sharpest medical blades available. They're inserted right after molding,” Hicks says.

The design also incorporates shields to guard against blood spray. According to Utah Medical Market Research, 96% of clinicians responding to a survey reported being exposed to umbilical cord blood. Because the Joey alleviates that problem, both the American Red Cross and the World Health Organization have approached the company to help them stop the spread of blood-borne pathogen diseases.

While its medical benefits are important, the product's aesthetics have been of most interest at trade shows and other venues, Hicks reports. “Not to discount strong engineering, industrial design, and ergonomics, but it is Joey's built-in personality that is driving its use. People have gone crazy for it. Nurses wear the Joey clamp in their hair.”

As long as there are enough left over for deliveries, no mother will mind.

*Supply and design credits: Design Edge (Austin, TX) and Trend Technologies LLC (Longmont, CO).*