MEDICA Trade Fair: New Technologies in Healthcare

BY RICK SCHULTZ

MEDICA is the world's largest medical device trade fair. Founded in 1969, the hospital fair is held annually in Düsseldorf, Germany, at the Messe Complex. With over 1.3 million square feet of exhibit space, the November 2018 event attracted over 120,000 visitors from 156 countries. With 5,273 exhibitors, there were some notable new technologies on display. What follows were some of my favorites:

VERY LONG Laminectomy Rongeurs

A new surgical technique for laminectomy surgery is called the side approach. This new technique (lateral) requires a 13" (33 cm) long rongeur [the common length is 7" (17.7 cm)] to enter through the side of the chest cavity. Along with its long length, the wavelike design makes cleaning this instrument very efficient. This new design provides:

Precise and consistent surgery procedures:

- Reduction of friction through its wavelike form.
- Fatigue-free surgery with its smooth sliding, lightweight, breathable design.

No assembly or disassembly:

- The one-piece model avoids the loss of or mix up of instrument pieces during cleaning and sterilization.
- It also allows for easier identification of impurities and stains.

These rongeurs are available in a ring-handled style or a Ferris-Smith-style handle. The shaft lengths are 13" (33 cm) for the design and 11" (28 cm) for the detachable design. There are three different tip styles (straight, angled up and angled down). Rongeurs with 2-6 mm bite width have a bone ejector. The 1 mm bite is not available with an ejector.

Finally, the wavelike shape of the shaft is not only advantageous during the cleaning process, but it also reduces friction of the sliding parts. The bone ejector assists in removing bone fragments prior to the cleaning process.

Unique Disposable Tip Duodenoscopy System

A disposable tip module on a Karl Storz duodenoscope is used during Endoscopic Retrograde Cholangiopancreatography (ERCP) and was on display at MEDICA. This procedure diagnoses and treats problems in the pancreas and bile ducts. The HYDOME system combines a sterile, single-use module and the duodenoscope's channel, which is open on both sides. This design considerably reduces the risk of cross contamination. Each procedure is performed with a new, sterile module to ensure maximum patient safety.

Single-Use Power Equipment

Single-use, battery-operated power equipment was featured by several vendors at MEDICA. This completely disposable power equipment is available in the following:

- Battery-operated drills;
- Battery-operated sagittal saws;
- Battery-operated reciprocating saws; and
- Battery-operated sternum saws

These single-use (disposable) devices look, feel and perform like reusable devices. They have batteries and chargers that plug in, just like reusable devices; this means that for a long case, batteries can be swapped out when needed. These disposable devices also have exceptional power. For example, a sagittal saw has a maximum speed of 11,500 RPMs, a reciprocating saw has a maximum speed of 12,500 RPMs and a sternum saw has a maximum speed of 11,500 RPMs. These devices use standard drills and blades. At the conclusion of a case, there is no need to clean and sterilize these difficult devices. The patient benefits when these

completely sterile, fully-powered devices are used.

Evolution of Rigid Endoscopes

At the 2018 MEDICA fair, many endoscope vendors showed 4k and 5k endoscope technology in very small sizes. Endoscopes that are 1.9 mm are very fragile and quite expensive to repair. This is not good news for the repair budget due to the delicate nature of these endoscopes. In the past, the common laparoscopic endoscope was 10 mm. Now, the trend is 5.5 mm laparoscopic endoscopes. Once again, the smaller the endoscope, the more fragile it is.

In the area of arthroscopy, small endoscopes – such as 1.9 mm, 2.7 mm and 4.0 mm – are now the standard sizes. With high utilization, some advanced durability features were on exhibit at MEDICA. Those included:

- Optical system that is sealed using laser welding, combined with a soldering process.
- Sapphire lenses at the distal and proximal ends that assist in durability.
- Multi-tube working length that gives the endoscope more lateral strength and durability.

Patient Care Products

At MEDICA 2018, hundreds of patient care and patient safety equipment were on display. Several companies developed new technologies for in-bed washing. This patient washing technology eliminates the dangers of transporting patients and the intensive labor of hand bathing. The in-bed washing system starts with a waterproof cover to facilitate total body washing and shampooing. After bathing, this technology completely drains, and drying begins through a warm air device. This complete device is very portable, battery-operated and contains two 20-liter water tanks.

Smart Drinking Cup

The smart drinking cup on display at MEDICA was especially clever, reminding patients to drink water on a regular basis. The drink tumbler affixes to a digital base that is programmable to flash color lights that remind patients to drink fluids. In addition to colored lights, the programmable base can record a loved one's voice that reminds the patient to drink. European studies show that when using this digital cup, hospital patients and nursing home residents drank 63% and 60% more fluids, respectively.

Q We need to reduce our budget spend on surgical instrument repair and move away from a capitated repair agreement. What can we do?

A Create an instrument repair bid document (RFP) for the following:

1. Standard scissor sharpening and refurbishment, including tungsten carbide;
2. Micro scissor sharpening and refurbishment;
3. Laparoscopic scissor sharpening;
4. Jaw replacement for all needle holders;
5. Rongeur sharpening;
6. Kerrison sharpening;
7. Osteotome sharpening;
8. Curette and chisel sharpening; and
9. Hemostat refurbishment and alignment (and inspect for cracks).

The RFP should request one price per category (eliminating tier pricing). This one price should include total refurbishment, in addition to tape removal and reapplication.

RICK SCHULTZ, the Instrument Whisperer™, is an author, inventor and lecturer, and the retired Chief Executive Officer of Spectrum Surgical Instruments Corp. He served as contributing editor of IAHCSMM's Central Service Technical Manual (Fifth, Sixth, Seventh, Eighth Editions). Rick authored the textbooks *Inspecting Surgical Instruments: An Illustrated Guide and The World of Surgical Instruments: The Definitive Inspection Textbook*, which was released in June 2018. Schultz was named IAHCSMM's Educator of the Year in 2002, and in 2006, was named American Hospital Association Educator of the Year. In 2007, he was named by Healthcare Purchasing News as one of the 30 Most Influential People in Healthcare Sterile Processing. Schultz currently provides educational lectures to Central Service professionals at IAHCSMM's annual conferences and conducts operating room personnel lectures across the country.