

## Seven surgical supply innovations worth noting

To remain at least on par with, if not one step ahead of, disease, infection and injuries the healthcare industry has to develop and produce innovative devices and equipment, which arguably contribute to cost escalations.

But true innovation doesn't always have to translate into high tech, high touch or even high cost even though one-third of that equation must exist. Here are seven surgical supply innovations designed to propel healthcare quality and service to the next level.

**Stryker Corp.** became the first company to offer an advanced fixation technology with widespread product availability for primary hip replacement procedures, as well as affordable pricing for improved procedure value when it introduced its Tritanium hip cup this past December. A study published in *Advanced Engineering Materials* contends that this 3-dimensional cementless hip replacement technology has revolutionized the field of orthopaedics with material that improves upon the biomaterial properties of traditional components.



The Tritanium technology is biologically inspired and designed to resemble trabecular bone, a type of spongy bone tissue that provides skeletal support. Unlike 2-D technology, which is the current standard of care for primary total hip replacement and allows only for bone to grow onto the component's surface, Stryker's 3-D Tritanium technology allows for bone to grow into the component providing enhanced fixation. Tritanium is also a commercially-pure Titanium matrix, which studies have shown improves bone ingrowth when compared to alloys.

The company notes that this technology may be especially beneficial to patients undergoing primary hip replacement who require enhanced fixation, such as those with low bone density and the 55 percent of Americans age 50 and older diagnosed with osteoporosis.

Irritated with lugging around a traditional IV pole during a hospital stay for a stem-cell transplant, Cari Ugent decided to do something about it post-recovery. She interviewed doctors and nurses, chronicling horror stories of IV poles being tipped over, spilling medication bags filled with drugs or blood or being caught in closing elevator doors with the patient in the elevator car.



Ugent recruited a variety of industrial designers to create the **Safepole** infusion stand ([safepole.net](http://safepole.net)) as an alternative to the "top-heavy, tippy and unwieldy standard IV pole." Safepole sports a number of features, including an easy-to-grip handlebar, six industrial-grade rubber wheels covered by a dome bumper, a router to organize IV tubes and eight hooks on the telescoping arced pole that allow IV bags to face the same direction at staggered heights.

Given Imaging may have turned heads earlier in the decade with its revolutionary "capsule endoscopy" product that provides clinicians with internal anatomical views via a pill that the patient swallows, **Philips** has taken the concept another step further with its prototype "intelligent pill" or "iPill" capsule that debuted back in November.



Philips' iPill "contains a microprocessor, battery, wireless radio, pump and a drug reservoir to release medication in a specific area in the body," according to a Reuters report. Among its features are the ability to measure acidity with a sensor to determine its location, to release drugs to treat digestive tract disorders and to measure local temperature and report it wirelessly to an external receiver, Reuters reported.

To help surgical services managers to oversee and control procedure pack components, **Medline Industries Inc.** launched an interactive online tool called Med-Pack last year that helps them manage data and information more efficiently than those materials management-created binders.



Med-Pack includes a series of iViews, which are microsites of specific information on topics such as safety, analysis tools, savings, standardization and supply management. Clinicians and other end users click on icons to get the information they need, eliminating the need to surf numerous websites to track down relevant information such as latex-free options and industry initiatives. Basically, end users create a virtual binder that includes each pack's component list, history, images and eco-friendly components, and enables them to conduct product cost and safety analyses and make real-time modifications.

While computer-assisted or directed surgical applications may be redefining knee replacement surgery with pain-reducing pinpoint placement precision, **Innovative Medical Products** introduced the De Mayo Universal Distractor to offer orthopedic surgeons an unobstructed view of the operative site.

The external device, which allows the surgeon to independently control the distracting of the knee joint, is designed to eliminate the need for lamina spreaders, the use of a bone hook or manually pulling on the femur at the thigh throughout the surgical procedure.



**PRO Medical Innovations Ltd.**, a spun-off venture of the University of Wales Institute, Cardiff, souped up the traditional forceps used by doctors during the obstetric delivery process with the prototype Safeceps, which is designed to be a safer alternative during difficult births.

Safeceps are a plastic version of traditional forceps connected to a monitoring computer through a flexible cable. The device measures the amount of pressure applied to the fetal head in order to reduce the risk of serious injury and trauma to the baby and mother, according to the company, and transmits this data to the computer screen with the option of audible warning sounds. The company hopes to begin clinical trials and bring the product to market within several years.



India-based **HD Medical Services Pvt. Ltd.**, a subsidiary of HD Medical Group Ltd. Of Australia, developed an audio-visual cardiac screening device that provides an audio and visual display of a heart's activity in real-time. The portable ViScope 100 helps doctors to screen cardiac abnormalities and diseases, including murmurs.

The device enables doctors to capture and store live heart sounds audibly and visually for historic and future diagnoses. It also includes an enhanced diaphragm mode to track lung sounds.