

REVIEW

By James Greenberg, MD

Chief of Gynecology
Associate Professor, Harvard Medical School
Boston, Massachusetts

LUTECH LT-300 HD FOR COLPOSCOPY



The **Lutech LT-300 HD**, from **Lutech Industries, Inc** (Ronkonkoma, New York), is video-enabled colposcopy that “nudge[s] traditionalists into the digital age.”

Background. In March 1924, the colposcope was introduced to evaluate the portio of the cervix by Hans Hinselmann in Germany after years

of work with the famous lens manufacturer Leitz.¹ Although its adoption as a standard tool for evaluating lower genital tract neoplasia was protracted, today it sits as a cornerstone technology in gynecology, and every ObGyn provider has been trained to perform colposcopic exams that include visualizing the cervix, vagina, and vulva as well as taking biopsies. In December 2000, after 75 years of glass lens technology, Welch-Allyn (Skaneateles Falls, New York) introduced the first video colposcope, shepherding the field into the 21st century with only limited traction. Now, Lutech is entering the fray hoping to further nudge traditionalists into the digital age.

Design/Functionality. The Lutech LT-300 HD works off of a Sony Exmor CMOS (complementary metal-oxide semiconductor) camera with 2.13 megapixels to provide high-definition optical magnification of 1-30X illuminated by a circular cool LED array that offers 3000 lx of white light with an adjustable green filter to allow for contrast at working distances between 5.1 and 15.7 inches. The colposcope comes with either a vertical stand or a swing arm stand and has both HDMI and USB 3.0 video output so that the system can be attached to either a stand-alone monitor or a computer (not included). The colposcope also comes in a standard definition configuration (LT-300 SD), but I did not trial that model because the price difference did not seem to justify the potentially lower resolution.

In my experience with its use, the Lutech LT-300 HD was pretty excellent. Being a man and a doctor, I refused the online training session that comes free with the colposcope, assuming I could figure it out on my own. My assumption was mostly true, but there were definitely some tips and tricks that would have made my life easier had I not been so stiff-necked. That said, the biggest adjustment is getting used to looking at a screen and not having to look through eyepieces. The picture output is great and, as a patient (or student) teaching tool, it is phenomenal. Also, because it is digital, the image capture features allow for image importation into notes (although it is clunky and requires work arounds when using Epic).

Innovation. From an innovation point of view, I am not sure that Lutech re-invented fire since, in essence, the LT-300 HD is a modified CMOS video camera. But the company did do a nice job bringing together a lot of existing technologies into a highly functional product. I would love to see better integration with some of the larger electronic medical records (EMRs), but I suspect the barriers lie with the EMR companies rather than with Lutech, so I am giving them a pass on that front.

Summary. At its core, a colposcope is simply a tool with which to obtain a magnified view of the cervix, vagina, and/or vulva. Prior to advent and proliferation of CMOS camera technology, the most readily available means of accomplishing this was to employ glass lenses. But that was then, and this is now; CMOS technology is just better, cheaper, and more versatile. I no longer turn my head to look over my shoulder while backing up my car—I use the back-up camera. My Kodak instamatic has given way to my iPhone. And now, my incredibly heavy, unwieldy Leisegang colposcope has been replaced by a light-weight camera on a stand that I can easily move from room to room. I won't lie, though,...it still seems weird to not look through eyepieces and work the focus knobs, but I am happy with the change. My patients can now see what I am looking at and better understand their diagnosis (if they want), and my notes are prettier. Onward march of progress.

Reference

1. Fusco E, Padula F, Mancini E, et al. History of colposcopy: a brief biography of Hinselmann. *J Prenat Med.* 2008;2:19-23.

DTR MEDICAL CERVICAL ROTATING BIOPSY PUNCH



The single-use **DTR Medical Cervical Rotating Biopsy Punch** from **Innovia Medical** (Swansea, United Kingdom) “works great” and “is reasonably cost-effective to replace reusables.”

Background. Integral to every colposcopic examination is the potential need to biopsy abnormal appearing tissues. To accomplish this latter task, numerous punch-style biopsy devices have been developed in a variety of jaw shapes and styles, crafted from materials ranging from stainless steel to titanium to ceramic, with the ultimate goal the same—get a piece of tissue from the cervix as easily as possible.

Design/Functionality. DTR Medical Cervical Rotating Biopsy Punch is a single-use sterile device that comes packaged as 10 per box. It features Kevorkian-style “stronger than Titanium” jaws that yield a 3.0 mm x 7.5 mm sample attached to a metal shaft that can rotate 360°. The shaft inserts into a lightweight plastic pistol-grip style handle. From tip to handle, the device measures 36.5 cm (14.125 in).

In my experience with its use, the DTR Medical Cervical Rotating Biopsy Punch performed flawlessly. Its relatively low-profile jaws allowed for unobstructed access to biopsy sites and the ability to rotate the jaws was a big plus. The “stronger than Titanium” jaws consistently yielded the exact biopsies I wanted, like a knife going through butter.

Innovation. From an innovation standpoint, the DTR Medical Cervical Rotating Biopsy Punch is more of an engineering “duh” than “wow,” but it works great so who cares that it’s not a fusion reactor. That said, the innovative part from Innovia Medical is their ability to make such a high-quality biopsy device and sell it at a price that makes it reasonably cost-effective to replace reusables.

Summary. Whether it is a Tischler, Kevorkian, or Burke tip, the real question before any gynecologist uses the cervical biopsy device she/he/they has in her/his/their hand is, will it cut? Because all reusable surgical instruments are in fact reusable, those edges that are designed to cut invariably become dull with reuse. And, unless they are meticulously maintained and routinely sharpened (spoiler alert, they never are), providers are not infrequently chagrined by the gnawing rather than cutting that these instruments deliver. Thinking back, I could not remember the last time I had made an incision with a surgical scalpel blade that had previously been used then sharpened and re-sterilized. Then I did remember...never. Reflecting on this, I wondered why I was doing this with my cervical biopsy devices. While I really do not like the environmental waste created by single-use devices, reusable instruments that require re-processing do have an environmental impact and a significant cost. Considering this, I do not think that environmental reasons are enough of a barrier to justify using dull biopsy tools if it can be done cost-effectively with a minimal carbon footprint. All-in-all, I like this product, and I plan to use it. ●

The views of the author are personal opinions and do not necessarily represent the views of OBG MANAGEMENT. Dr. Greenberg personally trials all the products he reviews. He has no conflicts of interest with these discussed products or the companies that produce them.