

FDA clears Myxo ETlogix valve ring under new name but disagrees with earlier decision by Edwards that device did not need 510(k)

APRIL 14, 2009 | [Shelley Wood](#)

Rockville, MD (updated April 16, 2009 with additional commentary) - The **FDA** has cleared the **dETlogix annuloplasty ring 5100** (Edwards Lifesciences, Irvine, CA)—formerly known as the Myxo ETlogix—for the treatment of mitral-valve insufficiency but also says the company erred in deciding three years ago that the device did not need to go through the FDA's 510(k) clearance process. The FDA's decision means that the device—which was on the market for two and a half years despite never being formally cleared by the FDA, then was recalled last fall while the company formally filed the 510(k) application—is at least as safe and effective as other annuloplasty rings being sold in the US.

Edwards will not face any sanctions for having marketed the Myxo from early 2006 until late 2008, an FDA spokesperson said.

In a new development, an Edwards spokesperson has clarified that the device will actually no longer be known as the "Myxo ETlogix" but as the "Edwards dETlogix," model 5100. "The product is indicated for use in all mitral-valve insufficiencies irrespective of etiology, including degenerative as well as ischemic, rheumatic, and congenital," an Edwards spokesperson said. "The device remains unchanged other than its name."

FDA clearance for the ring, made April 10, is the latest twist in a complex tale involving a patient lawsuit, an FDA investigation, and a **Senate** committee inquiry, all centered on whether Northwestern surgeon **Dr Patrick McCarthy** used the Myxo device—his own invention—before it was cleared for commercial use. As previously reported by **heartwire**, the patient is suing both McCarthy and Edwards Lifesciences because she believes complications she suffered postoperatively stemmed in part from the fact that she'd been treated with an investigational device used without her consent. From the outset, McCarthy and Northwestern have insisted they had assurances from Edwards that the device was FDA cleared and commercially available at the time it was used and thus did not need patients to provide informed consent or involve the university's institutional review board (IRB). Edwards, for its part, has said that the device was legally on the market because it incorporated only minor changes to a previously 510(k)-cleared device, the **GeoForm Ring 4200**, cleared August 26, 2003, and that the justification to market the device without first going the 510(k) process was based on the FDA's own guidance document, "Deciding when to submit a 510(k) for a change to an existing device."

But as **heartwire** reported in October 2008, another cardiologist at Northwestern, **Dr Nalini Rajamannan**, has long believed that the device was investigational at the time it was used in her patient, **Antonitsa Vlahoulis**—the one now suing. When **heartwire** first reported on the controversy, the FDA acknowledged that the device had never been cleared or approved by the agency and launched its own investigation. Shortly thereafter, Edwards recalled all US inventory and suspended sales.

An honest attempt, but the wrong decision

In wrapping up its investigation last week, the FDA has concluded that the dETlogix is at least as safe and effective as other commercially available annuloplasty devices and that Edwards had made "the wrong decision" when it marketed its product, but not a punishable one.

"They should have filed a 510(k), but we felt they made an honest attempt to go through a process that FDA has put out there as guidance when they were making that decision. Once we learned of it, we contacted them, we told them we thought they'd made the wrong decision, and we reviewed the material with them, and they agreed to submit a new 510(k)," FDA spokesperson **Peper Long** told **heartwire**. "What we felt after talking to them and reviewing their documentation was that they had

made an honest attempt to go through the FDA guidance document. The determination was made that they did try to follow our own process; they were just wrong, in our eyes."

In a statement, Northwestern spokesperson **Holli I Salls** said that both the institution and McCarthy "are pleased to learn of the FDA's decision confirming the Myxo ETlogix Annuloplasty Ring—now called the dETlogix annuloplasty ring—as a safe and effective medical device for the treatment of mitral-valve insufficiency. . . . We relied upon the assurances of Edwards Lifesciences that the device was cleared for market and complied with FDA regulations. The FDA's comments have confirmed the reasonableness of that reliance."

The FDA process that Edwards followed provides companies with a set of criteria, definitions, and a flowchart to help them decide whether a product that has been altered or improved warrants submission of a new 510(k). The sorts of modifications discussed include changes to labeling, composition, technology, or performance. Edwards has previously told **heartwire** that the company had a 300-plus-page "justification to file" documenting why a new 510(k) was *not* required. This document had been kept in-house, as per FDA guidance, until it was provided to the FDA last year for its investigation.

People both within and outside the FDA have acknowledged that the "deciding-when-to-submit" process is far from perfect but is a necessary option within the regulatory system. Long could not say whether the Myxo case points to a need for the entire "deciding-when-to-submit" process to be evaluated, but emphasized its *raison d'être*. "One of the reasons we have that guidance in place is [that] device technology changes very quickly, and sometimes the changes are very small, minor modifications, and there are a lot of different areas where those changes can be made where it doesn't need to go through a new 510(k) process, and that's exactly why they created this guidance. . . . I think that you'd have to look at that on a case-by-case basis."

The device formerly known as Myxo

In the case of the dETlogix ring, the 510(k) paperwork established that the device is "substantially equivalent" to three predicate devices already available and that no clinical trial was necessary to prove that it is just as safe or effective, Long explained.

"If there were other significant changes, such as the indication for use, a specific claim to treat a specific kind of mitral-valve disease, or a big change in the technology that would cause us to want clinical-trial data, that would be different, that would be a different type of device," she said.

But people who've followed the turbulent life and times of McCarthy's ring know that the device was, in fact, "designed specifically for myxomatous disease [[1](#)]" and indeed is marketed as such in Europe, where it is still called the "Myxo ETlogix"; a demonstration video on the Edwards Europe site, narrated by McCarthy, explains how to use the device in a patient with mitral regurgitation and bileaflet prolapse secondary to myxomatous changes.

On this point, however, Long was adamant that the "dETlogix is not cleared for treatment of myxomatous disease. As such, the company cannot make claims associated with the treatment of that disease." Hence, perhaps, the name change. Long would not say whether the paper by McCarthy and colleagues detailing the "Initial experience with the Myxo ETlogix mitral valve repair ring," describing its use in patients with "pure myxomatous disease," was one of the documents considered by the FDA.

And the Edwards spokesperson contacted by **heartwire** reiterated that the indications for use have not changed with the device's reintroduction, saying that the product is now, as previously, indicated for use in all mitral-valve insufficiencies, including myxomatous.

As for Vlahoulis's legal action, Long said she couldn't speak to the legal implications of the FDA's decision. She did say, however, that the FDA had investigated the question of research ethics at Northwestern and concluded the university was not at fault. "What we can tell you is that the IRB didn't have a substantial role because both the university and the company believed that the device was appropriately cleared, and so they didn't think there needed to be an [investigational device exemption] IDE, which would have necessitated IRB involvement."

Rajamannan, who says she has "endured severe persecution" from Northwestern Memorial Hospital and Northwestern Medical Faculty Foundation—a charge Northwestern denies—for trying to protect her patients who received the ring, expressed her disappointment. From her perspective, patients were put in harm's way when an unapproved device was used without them first giving informed consent. Indeed, Rajamannan has repeatedly said that she had been told that McCarthy *had* an IDE and IRB consent when she allowed her patients to be treated in a trial investigating the Myxo.

"What gives the right to Edwards Lifesciences and the surgeon who implanted the ring—that was not FDA-approved and patent-pending—to place a ring into patients' hearts?" she asked in a statement provided to **heartwire**. "Why would the FDA give an approval for this unethical approach, which is harming the patients who received this device and *did not know* and then went on to need second and maybe third surgeries in some cases?"

In a statement provided to **heartwire** after this story was published, Northwestern called Rajamannan's assertions "disparaging and reckless" and criticized **heartwire's** "unbalanced" reporting for allowing Rajamannan's comments to go "unchallenged." But in the past, when contacted by **heartwire**, Northwestern and McCarthy have repeatedly ignored requests or refused to comment on Rajamannan's allegations, citing the ongoing civil suit, as well as the FDA and Senate committee investigations. "Until now, Northwestern has limited its responses to media inquiries to reassuring patients that we believe the ring is safe, effective, and not experimental, explaining that we understood the device to be properly cleared for market and supporting Dr Patrick M McCarthy and his excellent patient care," the statement reads. "Dr Rajamannan's new claim that she was told the device had IDE and IRB approval and that patients were not properly consented is patently untrue. . . . Given the evidence and the FDA's recent findings, Dr Rajamannan stands alone in the belief that this device is unsafe. There is simply no evidence that this ring has harmed one patient, including Ms Vlahoulis. Northwestern and Dr McCarthy will continue to aggressively defend the baseless allegations in the Vlahoulis lawsuit and are confident we will prevail."

Also commenting on the issue for **heartwire**, **Dr William Maisel** (Beth Israel Deaconess Medical Center, Boston, MA), who was not involved in the Myxo melee, called the FDA's decision "a disappointing ending to an important story in medical-device regulation."

"For more than two years, a device company marketed and sold an unapproved product that required open heart surgery to implant," he said. "The FDA notes that the company erred in failing to submit an application for marketing clearance but issues no sanctions. Even worse, it defends its actions. The message to device manufacturers: 'Don't worry about submitting your applications—if you get caught, there will be no significant penalty.' The message to patients: 'You are on your own.' It undermines all the good companies, good hospitals, and good healthcare providers who do things the right way."

Of note, Edwards recalled and stopped marketing a second annuloplasty ring—the IMR ETlogix—at the same time it pulled the Myxo. According to Long, the FDA cannot discuss products that "may or may not be under review," adding that the dETlogix was the only ring cleared by the FDA on April 10.

Contacted for comment, Northwestern, McCarthy, and Vlahoulis did not respond before this article was published. Northwestern submitted its comments after this story was first published April 14, 2009, and the story was duly updated.

Source

1. McCarthy PM, McGee EC, Rigolin VH, et al. Initial clinical experience with Myxo-ETlogix mitral valve repair ring. *J Thorac Cardiovasc Surg* 2008; 136:73-81. 

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- [Myxo ring controversy spotlights regulatory gray area: When does a tweaked device constitute a new product?](#) [*Interventional/Surgery* > *Interventional/Surgery*; Dec 11, 2008]
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