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IN THIS ISSUE

FDA Issues Final Orders on Surgical Mesh to Repair POP

The FDA is ratcheting up requirements for surgical mesh for transvaginal repair of pelvic organ prolapse, issuing two final orders that address safety risks.

One order reclassifies the devices from Class II to Class III, based on the determination that general controls and special controls are not adequate to assure safety and effectiveness.

The second order requires manufacturers to file a premarket approval application to support the safety and effectiveness of surgical mesh for the transvaginal repair of POP.

The orders will require manufacturers to address safety concerns — including severe pelvic pain and organ perforation — through a PMA pathway to demonstrate safety and effectiveness, the FDA says.

Several companies — including Boston Scientific, Medtronic's Covidien, Johnson & Johnson's Ethicon and C.R. Bard — have been

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FDA Proposal Would Notify Public of Emerging Signals

With an eye toward issuing timely updates about the benefits and risks of the products it regulates, the FDA is seeking public feedback on a proposed policy for communicating new information on safety issues related to medical devices.

In draft guidance issued Dec. 31, 2015, the agency highlights the need to disclose what it calls "emerging signals" that may affect the benefits and risks of marketed products at the same time it evaluates and analyzes data, rather than after completing its review. Traditionally, the agency has communicated safety information after it has conducted an analysis and developed recommendations for the user community — typically using recall notices, safety communications and press releases.

Now, the FDA says it would consider several factors to determine if it will send out a notification on emerging signals, such as

(See **Signals**, *Page 4)*

Dräger Recalls Ventilator Battery Power Supply

Dräger is recalling 2,422 units of its PS500 battery power supply in the U.S.

A software issue leads to shorter than expected battery run times and prevents the appropriate alarm from sounding five minutes before the device shuts down.

The recall was deemed Class 1 by the FDA, as a patient may not receive necessary oxygen if the device shuts down.

The optional battery power supply is sold for use with the Dräger Evita, designed for breathing support for children and adults, and Babylog ventilators, built for premature babies weighing at least 14 ounces. Distribution dates for affected products are June 1, 2011 through Oct. 30, 2015.

Dräger notified customers of the issue in a letter on Dec. 3, 2015, and indicated it would contact them about updating the battery charging software and, if necessary, replacing the batteries.

Read the recall notice here: www.fdanews.com/01-16-Drager-Recall.pdf. — Michael Cipriano

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facing legal action brought by women claiming personal injury while using their products (*IDDM*, June 26, 2015).

The orders apply only to mesh devices marketed for the transvaginal repair of POP and not other indications, such as stress urinary incontinence or abdominal repair of POP.

Manufacturers will have 30 months to submit a PMA application for devices that are already on the market. Manufacturers of new devices must submit a PMA application before their products can be approved for marketing.

The FDA intends to continue monitoring how women with this device are faring months and years after surgery through continued postmarket surveillance measures, says William Maisel, deputy director of science and chief scientist at CDRH.

The FDA issued proposed orders regarding the reclassification and the PMA requirement in May 2014. More than 200 comments were submitted.

Roughly 50 comments requested a ban, recall or suspension of use of all surgical mesh devices, but the agency says it does not believe those measures are warranted at this time for the use of surgical mesh for transvaginal POP repair.

The FDA also has called for a thorough evaluation of the material used to fabricate the mesh, in response to roughly 20 comments contending that the degradation of the polypropylene mesh *in vivo* may lead to systemic effects that can cause serious complications.

Read the final orders here: www.fdanews.com/01-16-FDA-POP-PMA.pdf and here: www.fdanews.com/01-16-FDA-POP.pdf.
— Jonathon Shacat

Former Boston Scientific Engineer Sentenced for Trade Secret Theft

A former Boston Scientific engineer was sentenced Dec. 30, 2015 to one year in prison for stealing trade secrets related to the company's catheters.

Aaron Quoc Khieu was indicted in U.S. District Court for the District of Minnesota in September 2014 on seven counts of wire fraud and seven counts of theft and attempted theft of trade secrets.

He was accused of downloading to a thumb drive more than 100 documents from Boston Scientific concerning the Sapphire and Mustang balloon catheter systems.

The indictment says he also sent emails soliciting funds from investors to start a company called Snowflake Medical, which would manufacture and sell copied catheters in Vietnam.

Khieu pleaded guilty in a plea agreement last April. After completing his one-year prison term, Khieu will serve one year of supervised release. He also must pay a $10,000 fine.

Boston Scientific declined to comment.
— Jonathon Shacat

ECRI Watch List Highlights Mobile Stroke Units, Cybersecurity Risk

Mobile stroke units, medical device cybersecurity and wireless wearable sensors lead ECRI Institute's 2016 list of the top 10 technological advances that are poised to affect care delivery over the next 12 to 18 months.

The report highlights important new and emerging devices, drugs, procedures and care processes intended to provide new ways to deliver safe and cost-effective patient care.

ECRI's list brings attention to MSUs, which combine specially outfitted ambulances with specialized staffing and equipment to enable stroke diagnosis and prompt treatment before transport to a hospital. The team tele-consults with a stroke neurologist, performs blood tests, takes CT scans and administers tissue plasminogen activator, when indicated.

Second on the list is cybersecurity, which has received scrutiny because of the potential of hacking medical devices, such as pacemakers.

A recent report by Forrester Research predicts that as early as this year, hackers will target medical devices for cyber extortion. GPS-enabled asthma inhalers and wearable tech-tattoos that monitor vital functions are at risk, they say. But, one expert says better candidates would be large machines like MRIs or CAT scanners — systems that directly interact with the health electronic record (*IDDM*, Dec. 4, 2015).

Wireless wearable sensors are third on the list. ECRI looks into the ways that health systems can use these devices to improve cost-effectiveness and safety of patient care.

"Wearable sensors have potential to cut the cord for inpatient physiologic monitoring and can potentially provide continuous, unobtrusive monitoring pre-, intra-, and postsurgery. In outpatient settings, wearable sensors could have real-world benefits for 24/7 patient monitoring of a wide range of serious and chronic conditions, such as Alzheimer's disease, diabetes, epilepsy, cardiac arrhythmias, heart failure, and pressure ulcer development," the report says.

The remaining seven topics on the list are:

- Miniature Leadless Pacemakers: Will Potential Benefits Make a Difference?
- Blue-violet LED Light Fixtures: Can the Flip of a Switch Help Prevent Healthcare-acquired Infections?
- New High-cost Cardiovascular Drugs: Will They Help Your Readmission Rates?
- Changing Landscape of Robotic Surgery: Is a Mainframe to Tablet-Type Paradigm Change Coming?
- Spectral Computed Tomography: What's the New Hype About?
- Injected Bioabsorbable Hydrogel (SpaceOAR): An End to Some Radiation Therapy Complications?
- Warm Donor Organ Perfusion Systems: Will they Ease the Organ Supply Shortage? — Jonathon Shacat

Sanofi Kills Licensing Deal For MannKind's Afrezza

There's been another setback for MannKind's Afrezza, with the company announcing that Sanofi will stop selling the rapid-acting inhaled insulin effective April 4, thus terminating a licensing deal the companies reached in 2014.

The decision is based on a number of factors, including the continued low level of prescriptions for the drug in the marketplace despite Sanofi's substantial efforts, says Sanofi spokeswoman Mary Kathryn Steel.

MannKind received an upfront payment of $150 million, with the potential of milestone payments of up to $775 million under the August 2014 agreement.

However, sales have been lackluster since the product launched early last year. Sanofi reported Afrezza sales of less than $5.4 million for the first nine months of 2015.

The companies will transition the development and commercialization of Afrezza from Sanofi to MannKind by July 4. MannKind says it is reviewing its strategic options. — Jonathon Shacat

Signals, *from Page 1*

the magnitude of the risks and benefits, the extent of patient exposure, the availability of alternative therapies and the strength of evidence of a causal relationship between the device and the adverse event.

The FDA would communicate the emerging signal, including specific information on the known benefits and risks of the device and its use.

"Posting this information does not mean that FDA has concluded there is a causal relationship between the medical device and the emerging signal. Nor does it mean that the FDA is advising patients or healthcare professionals to discontinue or modify use of these products," according to the agency.

Updates would be posted to the FDA website at least twice per year, until either the agency issues a more formal safety communication or until the signal evaluation is completed, the draft guidance says.

Sen. Patty Murray (D-Wash.), ranking member of the Senate Health, Education, Labor and Pensions Committee, has applauded the FDA's proposal, although she says more needs to be done.

"When the FDA becomes aware that there may be a safety risk associated with a medical device, doctors, patients and families absolutely need to know as soon as possible," she says.

Murray's comments follow her call last year for full FDA review of duodenoscopes linked to deadly infections. She urged the agency to provide healthcare professionals with updated guidance and best practices.

Besides scopes, other medical devices have been the subject of similar concerns, including morcellators, which are used to treat uterine fibroids and have been linked with the spread of unsuspected cancers (*IDDM*, Nov. 25, 2015).

Comments are due by Feb. 29. Read the draft guidance *Public Notification of Emerging Postmarket Medical Device Signals* here: www.fdanews.com/01-16-FDA-Signals.pdf.

— Jonathon Shacat

Software Provider Settles FTC Charges on Data Encryption

Henry Schein Practice Solutions would pay $250,000 to settle charges that it falsely advertised the level of encryption it provided to protect patient data, under a consent order proposed by the Federal Trade Commission.

The FTC has alleged that the Schein unit, which provides dental practice software, was aware in 2010 that the form of data protection used in its Dentrix G5 software was less secure and more vulnerable than widely used, industry-standard encryption algorithms.

Nevertheless, for two years, Schein touted the product's "encryption capabilities" for protecting patient information and meeting "data protection regulations" in multiple marketing materials, including newsletters and brochures targeted at dentists, the FTC says.

The proposed consent order prohibits the company from misleading customers about the extent to which its products use industry-standard encryption or the extent to which its products help ensure regulatory compliance or protect consumers' personal information.

Schein also will be required to notify customers that purchased Dentrix G5 during the period when the company made the misleading statements that the product does not provide industry-standard encryption.

The agreement will be subject to public comment through Feb. 4. The commission will subsequently decide whether to finalize the consent order. — Jonathon Shacat

FDA Aims to Improve Access, Technology for Hearing Aids

The FDA is looking to stakeholders for input on how to overcome barriers to access and spur the development of hearing aids — devices that often are underutilized by hearing-impaired people.

The agency has scheduled an April 21 public workshop to outline the FDA's perspective on current good manufacturing practices required under its Quality Systems Regulation and to seek comment on alternative models for regulating hearing aids.

In addition, the agency is reopening a public comment period on draft guidance that clarifies the difference in regulatory requirements between hearing aids and personal sound amplification products —wearable electronic products for use by non-hearing-impaired individuals to amplify sounds in certain environments.

The FDA's efforts follow an October 2015 report from the President's Council of Advisors in Science and Technology recommending possible modifications to FDA regulations that "could dramatically enhance the pace of innovation and level of competition in this domain," encouraging cost reductions and improved capability and convenience.

The draft guidance states that hearing aids are medical devices subject to GMPs and other QSR requirements. However, PSAPs are considered electronic products, as opposed to medical devices, and the document states that manufacturers should not use product labeling or promotional materials to suggest that hearing impaired consumers should use them.

More than 35 million people in the U.S. have some degree of hearing loss, but only 20 percent of those who could benefit from hearing aids are using them. The FDA says the devices are underutilized due to their high cost and the perceived stigma associated with using them.

Comments are due by May 19. Read the draft guidance here: www.fdanews.com/01-16-FDA-HearingAids.pdf. The notice on the workshop is here: www.fdanews.com/01-16-HearingAids.pdf. — Jonathon Shacat

FDA Proposes Limiting Definition Of Convenience Kits for UDIs

The FDA is proposing a new definition for "convenience kits," narrowing the meaning of the term for two or more different medical devices packaged together.

Under the proposal — which comes in draft guidance on unique device identification requirements — the term convenience kits applies to the devices if they are intended to remain packaged together and not replaced, substituted, repackaged or sterilized before reaching an end user.

In a final rule published in September 2013, the FDA had stated that medical procedure kits — including orthopedic procedure kits — are convenience kits. However, the agency now has determined that interpretation is not appropriate, since the devices are intended to be removed from their packaging for a surgical procedure.

When a kit is not intended to be altered prior to use, the UDI on the label of the immediate container serves to adequately identify the devices through distribution and use, the FDA explains. However, when the devices are not intended to remain packaged together, the UDI on the label of the immediate container may not follow the group of devices until end use.

As a result, prepackaged devices — such as non-sterile orthopedic device trays and reusable devices packaged together — would no longer meet the definition of the term convenience kits. However, first aid kits and anterior cruciate ligament disposable kits would still be considered convenience kits.

"FDA believes that there are significant benefits to requiring UDIs on devices included in medical procedure kits, such as more rapid identification of adverse events and more rapid, more efficient resolution of device recalls involving these devices," the draft guidance says.

Comments are due by April 4. Read the draft guidance here: www.fdanews.com/01-16-FDA-UDI.pdf. — Jonathon Shacat

U.S., India Aim To Bolster Trade

The U.S. and India are working to develop international standards and technical regulations to bolster trade and reduce logistical and administrative burdens that affect small- to medium-sized enterprises.

The U.S. Department of Commerce International Trade Administration is seeking industry input to identify up to two sectors in which standards and conformity assessment-focused cooperative dialogues could lead to increased trade.

India has come under pressure to identify and prevent technical barriers to trade. Last year, a trade group in India called on the Department of Pharmaceuticals to promote incentives for the components industry to help fuel domestic manufacturing of medical devices (IDDM, Aug. 14, 2015).

Comments are due by Feb. 12. Read the notice here: www.fdanews.com/01-16-ITA-Notice.pdf. — Jonathon Shacat

FDA Hits SonicLife With Warning Letter For Not Seeking Premarket Approval

Failure to submit a premarket notification for its whole body vibration devices has landed SonicLife an FDA warning letter.

The Dec. 22, 2015, letter followed a June 1 to July 2, 2015, inspection of the company's Hood River, Ore., facility.

Powered exercise equipment intended for medical purposes are Class I devices exempt from premarket notification procedures unless they are intended for a use different than a generic type of device, like a powered treadmill or powered bicycle.

As the letter notes, SonicLife markets the Professional VC-12, Pulsation VM-10 and Personal VH-11 whole body vibration devices with therapeutic and/or structure/function claims that exceed the limitations of the intended uses for powered exercise equipment, the FDA says.

The promotional claims include improving muscular endurance by stimulating human growth hormone, rehabilitating women with knee osteoarthritis, helping lower the stress hormone Cortisol resulting in a natural, drug-free pain management exercise system and improving blood, oxygen and lymph circulation contributing to prevention of metabolic, musculoskeletal and degenerative disorders.

SonicLife could not be reached for comment by press time. Read the warning letter here: www.fdanews.com/01-16-SonicLife-Letter.pdf. — Jonathon Shacat

Procedural, Validation Failures Ding CrystalBraces With FDA Warning Letter

CrystalBraces has received an FDA warning letter for failing to adhere to several procedural and validation requirements for a dental aligner.

In an Oct. 30, 2015, warning letter that resulted from a Sept. 16-23, 2015, inspection at the company's two facilities in Dallas, Texas, the FDA cites CrystalBraces with failing to maintain device master records and device history records and failing to establish design control procedures.

The warning letter also says the company failed to conduct inspections or tests for incoming components, failed to ensure that received products conform to specified requirements and failed to establish procedures to control manufacturing.

In addition, CrystalBraces failed to validate computer software as part of production activities and validate the manufacturing process, the FDA says.

CrystalBraces could not be reached for comment by press time. Read the warning letter here: www.fdanews.com/01-16-CrystalBraces-Letter.pdf. — Jonathon Shacat

FDA Cites Validation Failures In LivaNova Warning Letter

A lack of documented testing of updated instructions for use for cleaning a heater-cooler system has helped earn LivaNova an FDA warning letter.

In the Dec. 29, 2015, warning letter, the FDA takes LivaNova — formerly Sorin Group — for not testing the IFU for the 3T Heater-Cooler System in actual or simulated conditions. "Your firm has received complaints of patient deaths due to infection from non-tuberculosis mycobacteria (NTM), specifically *mycobacteria chimaera*, since January 2014, where the cause of the infection appeared to be 3T devices colonized with the mycobacteria," according to the letter, which followed inspections of the company's Munich, Germany, facility from Aug. 24 to Aug. 27, 2015, and its Arvada, Colo., facility from Aug. 24 to Sept. 1, 2015.

A company investigation revealed that facilities using the devices had not been following the cleaning IFUs, potentially leading to the infections.

The letter also hits the company for inadequate validation of its new process for cleaning, drying and disinfecting and for inadequate medical device reporting procedures.

LivaNova says it is working to remediate the FDA's inspectional observations.

Read the warning letter here: www.fdanews.com/01-16-Sorin-Letter.pdf. — Jonathon Shacat

BRIEFS

HELP Committee to Vote on Califf Nomination

The Senate HELP Committee has scheduled a Jan. 12 hearing to vote on the nomination of Robert Califf as the next FDA commissioner, a committee spokesman tells *IDDM*. At a confirmation hearing in November, the former Duke University researcher received bipartisan support from a majority of the committee, including Chairman Sen. Lamar Alexander (R–Tenn.) and Ranking Member Sen. Patty Murray (D–Wash.). Democratic presidential nominee and committee member Sen. Bernie Sanders (I–Vt.), however, has been an outspoken opponent of Califf, saying he is too close to industry.

Bactiguard Garners Approval for Catheter

Bactiguard has scooped up approval from the China Food and Drug Administration for its Bactiguard infection protection foley. According to the Stockholm, Sweden-based company, the Chinese market for foley catheters — estimated to be more than 50 million units per year — is continually growing. Bactiguard reached an agreement with Chinese distributor Jian An Pharmaceutical in 2011, the year the company filed the product for regulatory approval.

Conmed Completes SurgiQuest Buy

Conmed has completed its acquisition of minimally invasive surgery technologies provider SurgiQuest. The transaction is valued at $265 million, according to a November release. SurgiQuest is the manufacturer of the AirSeal system, an access management technology for use in laparoscopic and robotic procedures.

Bioventus Launches Osteoarthritis Treatment

Bioventus has launched in Taiwan its single-injection joint fluid Durolane for the treatment of osteoarthritis. Durolane is indicated for the treatment of mild to moderate osteoarthritis of the knee. The drug-device combo is based on a technology process called Nasha, which yields stabilized hyaluronic acid, a naturally occurring molecule that provides the lubrication and cushioning in a normal joint.

Omnicell Completes Aesynt Acquisition

Omnicell has completed its acquisition of Aesynt Holding Coöperatief U.A. for roughly $275 million. The purchase will help Omnicell broaden its product portfolio across centralized and decentralized medication management solutions, accelerate the development of enterprise software and analytics and expand its presence in hospital pharmacy IV solutions. Omnicell previously entered into a $400 million senior secured credit facility with Wells Fargo Securities in connection with the acquisition.

Flatiron Health Secures $175M in Funding

Cloud-based oncology software provider Flatiron Health has reeled in a $175 million round of Series C funding led by Roche. The funding — which also includes Allen & Company, Baillie Gifford and Casdin Capital as participants — will support the company's investments in its OncologyCloud software platform. The platform includes advanced analytics tool OncoAnalytics, along with OncoEMR, the electronic health record for oncology with an integrated patient portal and claims system.

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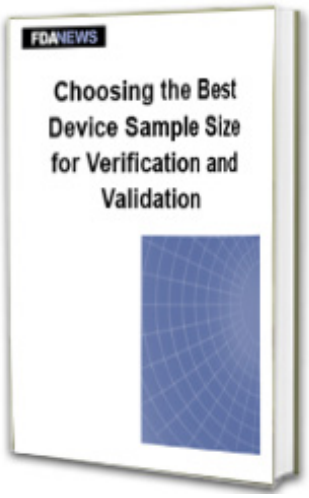

Choosing the Best Device Sample Size for Verification and Validation

If you're like many manufacturers, you understand the essence of the *21 CFR 820.30* requirement: you must run enough test samples of a product so its test results can be successfully applied to full-scale production runs. And, like many manufacturers, you've probably had trouble for years determining exactly how many units of a product you should test to satisfy the FDA.

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