NEW DRUG APPROVALS

'Breakthrough Therapies'

**Gazyva for CLL**

Obinutuzumab (Gazyva, Genentech) has been approved for use with chlorambucil to treat patients with previously untreated chronic lymphocytic leukemia (CLL).

This is the first drug that the FDA has approved with a breakthrough therapy designation, which may be granted if a drug appears to offer a substantial improvement over available therapies for serious or life-threatening diseases. The FDA also granted an orphan product designation because the medication is intended to treat a rare disease.

CLL is a disease of the blood and bone marrow. According to the National Cancer Institute, 15,680 Americans will be found to have CLL and 4,580 will have died of the disease in 2013.

The FDA’s approval for CLL was based on a study of 356 participants in an open-label multicenter randomized clinical trial.

A boxed warning mentions a risk of hepatitis B virus reactivation and progressive multifocal leukoencephalopathy. These are known risks with other monoclonal antibodies in this class, and rare cases were identified in patients enrolled in other trials of obinutuzumab.

The most common adverse effects in participants receiving the drug in combination with chlorambucil were infusion-related reactions, neutropenia, thrombocytopenia, anemia, musculoskeletal pain, and fever.

Source: FDA, November 13, 2013

**Imbruvica for Mantle-Cell Lymphoma**

The FDA has approved ibrutinib capsules (Imbruvica, Pharmacyclics/Janssen) to treat patients with mantle-cell lymphoma (MCL) who have received at least one prior therapy.

MCL is a rare, aggressive type of non-Hodgkin’s lymphoma.

Ibrutinib is the second drug with a ‘breakthrough therapy’ designation to receive FDA approval; it is also being approved under the agency’s accelerated approval program with a priority review. An orphan product designation was also granted. This is the third drug approved to treat MCL in addition to bortezomib (Velcade, Millennium) and lenalidomide (Revlimid, Celgene).

Source: FDA, November 1, 2013

**Zohydro ER, a Single-Entity Hydrocodone Pain Product**

Hydrocodone bitartrate extended-release (ER) capsules (Zohydro ER, Zogenix) have been approved for patients who need daily, around-the-clock, long-acting (LA) therapy for pain and for which alternative treatment options are inadequate.

A Schedule II controlled substance, Zohydro ER is the first FDA-approved ER hydrocodone product that is not combined with an analgesic such as acetaminophen. It is not approved for as-needed pain relief.

The new labeling conforms to updated requirements for all ER/LA opioid analgesics that the FDA announced on September 10, 2013. The stronger warnings for this drug class are expected to improve safety by encouraging more appropriate prescribing, patient monitoring, and patient counseling. Zohydro ER is the first opioid to be labeled in this manner.

Schedule II drugs must be dispensed with a physician’s written prescription, and no refills are allowed. Zohydro ER will be part of the ER/LA Opioid Analgesics Risk Evaluation and Mitigation Strategy (REMS).

Source: FDA, October 25, 2013

**Aptiom for Epileptic Seizures**

Eslicarbazepine acetate (Aptiom, Sunovion) has been approved as an adjunctive therapy for partial-onset seizures associated with epilepsy in adults. Partial seizures are the most common type occurring in patients with epilepsy.

Common adverse drug events reported in clinical trials included dizziness, drowsiness, nausea, headache, double vision, vomiting, fatigue, and loss of coordination. Like other antiepileptic drugs, this medication may cause suicidal thoughts or actions in a small number of people.

Eslicarbazene is being approved with a medication guide to be distributed each time a patient fills a prescription.

Sources: FDA and Sunovion, November 8, 2013

**Luzu Antifungal Cream**

Valeant’s New Drug Application (NDA) for luliconazole cream 1% (Luzu) has been approved for the topical treatment of athlete’s foot (interdigital tinea pedis), jock itch (tinea cruris), and ringworm (tinea corporis) caused by the organisms Trichophyton rubrum and Epidermophyton floccosum in patients 18 years of age and older. These common skin diseases are caused predominantly by dermatophyte fungi.

This cream is the first topical azole antifungal agent approved to treat tinea cruris and tinea corporis with a 1-week, once-daily treatment regimen. For interdigital tinea pedis, the cream is approved as a 2-week, once-daily treatment. The FDA’s approval was based on results from three pivotal studies involving 679 subjects with either tinea pedis or tinea cruris.

Source: Valeant, November 15, 2013

**Generic Approvals**

**Fenofibrate for Lipid Disorders**

Lupin has received the FDA’s approval for its supplemental New Drug Application (sNDA) for fenofibrate capsules in 30-mg and 90-mg strengths. The product is the equivalent of Antara, formerly developed by Reliant Pharmaceuticals.
Fenofibrate is used to treat patients with elevated levels of low-density lipoprotein-cholesterol (LDL-C), total cholesterol, triglycerides, and apolipoprotein-B (apo-B), in addition to low levels of high-density lipoprotein-cholesterol (HDL-C), in conjunction with dietary modifications.

Source: Pharma e-Track, October 22, 2013

**Diclofenac for Actinic Keratoses**

The FDA has granted final approval of Tolmar’s Abbreviated New Drug Application (ANDA) for its generic version of Solaraze Gel (diclofenac sodium 3%). Solaraze is made by PharmaDerm, a subsidiary of Fougera. The gel is indicated for the topical treatment of actinic keratoses. Sun avoidance is indicated during therapy.

Tolmar will be developing and manufacturing the product, and Impax is in charge of marketing and sales.

Sources: Pharma e-Track and Impax, October 30, 2013

**Dexmethylphenidate HCl for ADHD**

Mylan has launched dexmethylphenidate HCl extended-release (ER) capsules, 30 mg. This is the first generic version of Focalin XR (Novartis). The company was awarded 180 days of marketing exclusivity. This product is a central nervous system stimulant indicated for the treatment of attention-deficit hyperactivity disorder (ADHD) in patients 6 years of age and older.

Source: Pharma e-Track, November 18, 2013

**Delayed-Release Rabeprazole for GERD**

The first generic versions of rabeprazole sodium delayed-release tablets (AcipHex, Eisai) have been approved. Rabeprazole is used to treat gastroesophageal reflux disease (GERD), or acid reflux, in adults and adolescents 12 years of age and older. The proton-pump inhibitor promotes healing of the esophagus.

Six manufacturers—Dr. Reddy’s Laboratories, Kremers Urban, Lupin, Mylan, Teva, and Torrent—received the FDA’s approval to market the generic brand.

Rabeprazole is also used to treat conditions in which the stomach produces too much acid, such as Zollinger–Ellison syndrome.

It is also used with other medications to eliminate *Helicobacter pylori*, a bacterium that causes ulcers.

Source: FDA, November 8, 2013

**NEW INDICATION Entereg for GI Recovery**

Cubist Pharmaceuticals has announced the approval of its sNDA for alvimopan (Entereg). The sNDA approval expands the indication for the use of alvimopan to accelerate the time to upper and lower gastrointestinal (GI) recovery following surgery that includes partial-bowel resection with primary anastomosis. Approval of the new indication was supported by findings from a phase 4 trial.

Alvimopan is a peripherally acting mu-opioid receptor antagonist. The FDA originally approved alvimopan in 2008 to accelerate the time to upper and lower GI recovery following partial large-bowel or small-bowel resection with primary anastomosis.

Source: Pharma e-Track, October 21, 2013

**NEW FORMULATIONS Subcutaneous Actemra For Rheumatoid Arthritis**

A subcutaneous formulation of tocilizumab (Actemra, Roche) is now approved for adults with rheumatoid arthritis (RA) who have not had a complete response to conventional disease-modifying antirheumatic drugs (DMARDs).

As a monoclonal antibody targeting the interleukin-6 receptor, tocilizumab was initially approved as an intravenous (IV) medication in 2010. It can be used with or without methotrexate. The IV formulation is also indicated for children 2 years of age and older with systemic juvenile idiopathic arthritis or active polyarticular juvenile idiopathic arthritis.

The FDA’s approval was based on two randomized trials, SUMMACTA and BREVACTA.

Source: Roche, October 22, 2013

**Juvéderm Injectable Facial Filler**

Allergan’s Juvéderm Voluma XC has been approved as a nonsurgical option to temporarily correct age-related volume loss in the cheek area in adults older than 21 years of age. Vycross technology results in a smooth gel that flows easily and consistently. A small amount of lidocaine in the gel helps to numb the treatment area during the injection procedure.

Source: Allergan, October 23, 2013

**DRUG NEWS Boxed Warning Added For Ezogabine (Potiga)**

The FDA has approved changes to the label for ezogabine (Potiga, Valeant/GlaxoSmithKline), underscoring risks of visual and skin changes, which may become permanent. Ezogabine is used to treat partial-onset seizures in patients 18 years of age and older.

A new boxed warning mentions a risk of retinal abnormalities. The FDA recommends that patients undergo visual acuity testing and dilated fundus photography before starting therapy and every 6 months during treatment. Patients whose vision cannot be monitored should generally not take ezogabine.

If retinal pigmentary abnormalities or vision changes are detected, ezogabine should be discontinued unless no other suitable treatment options for seizures are available and unless the benefits of treatment outweigh the potential risk of
vision loss. Therapy should be stopped if patients do not show substantial clinical benefit after an adequate dose titration.

The updated label also includes warnings about the risk of blue discoloration of the skin, nails, mucous membranes, and white area of the eye.

Source: FDA, October 31, 2013

**Fast-Track Designations**

**NNZ-2566 for Fragile X Syndrome**

Neuren is developing NNZ-2566 for the treatment of fragile X syndrome. NNZ-2566 is a synthetic analogue of a naturally occurring neurotrophic peptide derived from insulin growth factor-1. In animal models, it inhibited nerve inflammation, normalized the role of microglia, and corrected deficits in synaptic function.

NNZ-2566 is being developed in intravenous (IV) and oral formulations for various acute and chronic conditions. It is being studied in a phase 2 clinical trial in patients with moderate-to-severe traumatic brain injury as well as in a phase 2 trial of patients with Rett syndrome.

Source: Pharma e-Track, October 21, 2013

**Patisiran (ALN-TTR-02) for Amyloidosis**

Patisiran (Alnylam) is being developed for the treatment of patients with familial amyloid polyneuropathy. Positive data from a phase 2 study showed that the drug was generally safe and well tolerated.

Source: Pharma e-Track, November 11, 2013

**Ponatinib (Iclusig) Sales Halted**

Ariad Pharmaceuticals has suspended marketing and sales of ponatinib (Iclusig) because of the risk of life-threatening blood clots and severe narrowing of blood vessels. The agency recommends that patients who are not responding to ponatinib should immediately stop treatment and discuss other options with their physician. Clinicians were advised to avoid prescribing ponatinib to new patients unless no other treatment options are available and all other therapies have failed.

The drug was approved in December 2012. Approximately 24% of patients in a phase 2 clinical trial and approximately 48% of patients in a phase 1 trial experienced serious adverse vascular events, including fatal and life-threatening heart attacks, strokes, loss of blood flow to the extremities resulting in tissue death, and severe narrowing of blood vessels in the extremities, heart, and brain requiring urgent surgical procedures to restore blood flow.

Source: FDA, October 31, 2013

**No CFCs in Inhalers by 2014**

The FDA expects to complete its phase-out of all inhaler medical products containing chlorofluorocarbons (CFCs) by December 31 in order to comply with an international treaty to protect the ozone layer by gradually eliminating the worldwide production of numerous substances, including CFCs, which contribute to ozone depletion.

Most inhalers that contain CFCs have already been eliminated from the market except Boehringer Ingelheim’s Combivent Inhalation Aerosol (ipratropium bromide/albuterol sulfate), and Maxair Autohaler (pirbuterol acetate), made by Medicis. These products will not be available after the end of 2013. Combivent aerosol, a short-acting bronchodilator, is being replaced with Combivent Respimat Spray, which delivers the same medication in a slow-moving mist. It does not contain the propellants, and a spring mechanism is used to release the medication.

CFCs were used as propellants to move the drug out of inhalers so that patients could inhale the medication. The solution is used in nebulizers. The product was recalled as a precautionary measure because of internal monitoring results in an aseptic process simulation.


The company asked retailers to remove these lots from store shelves. Consumers should dispose of any recalled product they might have.

Source: FDA, October 17, 2013

**Recall: Albuterol Solution**

Nephron Pharmaceuticals has initiated a voluntary recall of 10 lots of Albuterol Sulfate Inhalation Solution 0.083%, at the retail level, to ensure product quality. The solution is used in nebulizers. The product was recalled as a precautionary measure because of internal monitoring results in an aseptic process simulation.


The company asked retailers to remove these lots from store shelves. Consumers should dispose of any recalled product they might have.

Source: FDA, October 17, 2013

**Stricter Rules For Hydrocodone Drugs**

The FDA is recommending that hydrocodone/acetaminophen combination drugs, such as Vicodin (Abbott), be classified as Schedule II narcotics. Examples from this drug class include oxycodone (OxyContin, Purdue Pharma) and fentanyl.

This step would eliminate a clinician’s ability to prescribe up to a 6-month supply of the drugs or to simply call in a prescription. For Schedule II drugs, doctors may currently prescribe no more than a 3-month supply. A written prescription is also mandatory. It might be more than a
year before Drug Enforcement Administration completes the process.

The FDA’s decision follows a meeting held last January in which an advisory panel recommended that hydrocodone combination products, such as Lortab and Norco, be moved to the more restrictive Schedule II category of controlled substances.

In 2010, Vicodin was the most widely prescribed medication in the U.S. Some researchers maintain that hydrocodone combinations are just as likely to be abused as other opioids and are subject to similar high rates of diversion.

Sources: Newsday and MedPage Today, October 24, 2013

Valchlor Topical Gel Launched

Mechlorethamine (Valchlor, Atelion), an alkylating drug, is now available for patients in the U.S. The gel is applied once daily to treat patients with stage IA and IB mycosis fungoides-type cutaneous T-cell lymphoma (MF–CTCL) who have received previous skin-directed therapy.

Mycosis fungoides is the most common type of cutaneous T-cell lymphoma, a rare form of non-Hodgkin’s lymphoma.

Atelevation acquired this orphan drug in September 2013 as part of a merger with Ceptaris Therapeutics. Mechlorethamine is distributed in the U.S. by Accredo Specialty Pharmacy.

Source: Pharma e-Track, November 18, 2013

Labeling Change for Cialis

The label for tadalafil (Cialis, Eli Lilly) is being revised to include data from a phase 3b 26-week study. The study noted that a 5-mg, once-daily dose of tadalafil, started in combination with finasteride (Proscar, Merck), significantly improved started in combination with finasteride (Proscar, Merck), significantly improved the signs and symptoms of benign prostatic hyperplasia (BPH) as early as 4 weeks.

Tadalafil is a phosphodiesterase type-5 (PDE5) inhibitor indicated to treat erectile dysfunction, the signs and symptoms of BPH, and ED with signs and symptoms of BPH. Finasteride is a type-2 5-alpha reductase inhibitor that is used to treat BPH in men with an enlarged prostate gland.

The data were derived from a randomized, double-blind, placebo-controlled trial. The initial combination therapy is recommended for up to 26 weeks, because the incremental benefit of tadalafil decreases from 4 weeks until 26 weeks and its incremental benefit beyond 26 weeks is unknown.

Source: Eli Lilly, October 25, 2013

Xeljanz Label Updated

The FDA has approved the supplemental New Drug Application (sNDA) for tofacitinib citrate (Xeljanz, Pfizer) to include additional patient-reported outcomes data in the label. The additional data show improvement in vitality, emotional role, physical function, bodily pain, social function, mental health, physical and general health.

The 5-mg twice-daily dose was approved in November 2012 for the treatment of adults with moderately to severely active rheumatoid arthritis (RA) who have had an inadequate response or intolerance to methotrexate. This is the first approved RA treatment in the U.S. in a class of drugs known as Janus kinase (JAK) inhibitors.

In the U.S., tofacitinib may be used as monotherapy or in combination with MTX or other nonbiologic disease-modifying antirheumatic drugs (DMARDs). Tofacitinib should not be used in combination with biologic DMARDs or potent immunosuppressants, such as azathioprine and cyclosporine.

FDA’s New Rule On Drug Shortages

The FDA is taking action to enhance efforts to prevent and resolve drug shortages to ensure critical care for patients. Many sterile injectables used in cancer, parenteral nutrition, and emergency medicine have been affected.

A new federal rule states that companies must notify the agency of any plans to interrupt the manufacture of medically important prescription and biologic drugs that are in short supply. Early notification gives the FDA time to investigate the problem leading to the disruption; to identify other companies that might make up all or part of the shortfall; and to expedite inspections and reviews of submissions from manufacturers of drugs that may prevent or mitigate a shortage.

In addition, a new mobile app will allow users to instantaneously access information about drug shortages via their smartphones. Companies will be encouraged to engage in practices that will reduce the likelihood of a shortage. The FDA’s strategic plan also calls for updating its internal procedures for responding to early notifications of potential shortages.

Sources: FDA and The Wall Street Journal, October 31, 2013

Embeda ER Approved Again

The FDA has approved Pfizer’s Prior Approval Supplement for morphine sulfate/naltrexone HCl (Embeda) 100-mg/4-mg extended-release (ER) capsules. Embeda was voluntarily recalled in March 2011 because of a problem with stability. The product is expected to be available again in the second quarter of 2014.

Embeda is indicated for patients with moderate-to-severe pain who need a continuous, around-the-clock opioid analgesic for an extended period of time.

A boxed warning mentions the potential for abuse, life-threatening respiratory depression, accidental exposure, and interaction with alcohol.

Embeda contains pellets of morphine

Sources: FDA and MedPage Today, November 30, 2013
sulfate, an opioid agonist, with a seques-
tered core of naltrexone HCl, an opioid receptor antagonist. Morphone sulfate is a Schedule II controlled substance with an abuse liability similar to that of other opioid agonists.

Source: Pfizer, November 4, 2013

Orphan Drug Designations

Ixiaro Vaccine

A 7-year orphan drug market exclusivity period has been granted for Ixiaro vaccine (Valneva) for the prevention of disease caused by Japanese encephalitis virus in children 2 months of age up to 17 years of age. This deadly infectious disease is found mainly in Asia. It is fatal in approximately 30% of those who show symptoms and leaves 50% of survivors with permanent brain damage.

The 7-year exclusivity period began on May 17, 2013, which coincides with the date of the FDA’s approval of the pediatric indication for Ixiaro.

The rights to market and distribute the vaccine to the private sector in the U.S. are held by Novartis Vaccines.

Sources: Drugs.com, October 18, 2013; Pharma e-Track, October 21, 2013

Isavuconazole for Aspergillosis

Isavuconazole (isavuconazonium sulfate) is an investigational once-daily intravenous (IV) and oral broad-spectrum antifungal agent for the potential treatment of severe invasive and life-threatening fungal infections. Developed by Basilea and Astellas, it is used to treat zygomycosis (mucormycosis), an infection that involves emerging fungi of the Zygomycetes class. Such infections typically occur in patients with an impaired or weakened immune system. Left untreated, zygomycosis is associated with high mortality rates.

Because of their limited activity against Zygomycetes, voriconazole, fluconazole, and the echinocandins are not indicated for the treatment of zygomycosis.

Isavuconazole has shown in vitro and in vivo coverage of a broad range of yeasts (e.g., Candida species) and molds (e.g., Aspergillus species).

Isavuconazole was previously granted a fast-track status and an orphan drug designation for invasive aspergillosis and zygomycosis. It is currently in phase 3 of clinical development.

Source: Pharma e-Track, November 18, 2013

Lipiodol Injection for Liver Cancer

Guerbet’s ethiodized oil injection (Lipiodol) is being evaluated for the management of patients with known hepatocellular carcinoma. In 2013, this cancer affected approximately 35,000 patients in the U.S. The safety and efficacy of the product are being studied for a proposed indication for selective hepatic intra-arterial use in computed tomography of the liver.

Source: Pharma e-Track, October 21, 2013

KB001-A for Cystic Fibrosis

KB001-A, made by KaloBios, is an anti-PcrV monoclonal antibody (mAb) fragment that is being studied for the treatment of cystic fibrosis (CF) patients with chronic Pseudomonas aeruginosa infection. The company is currently enrolling 180 patients in a phase 2 multiple-dose, randomized, double-blind, placebo-controlled clinical trial.

The primary endpoint is time to the need for antibiotics.

Source: KaloBios, October 30, 2013

Taksta for Prosthetic Joint Infections

CEM-102 (Taksta, Cempra, Inc.) is being studied for the treatment of prosthetic joint infections. Taksta is an oral loading dose formulation of fusidic acid, an active antistaphylococcal agent that has been shown to be safe and effective in other countries.

Joint debridement and weeks to months of intravenous (IV) administration of antibiotics are usually required to treat these infections. If the antibiotic regimen fails, patients need a series of IV antibiotics (e.g., with vancomycin), joint removal, replacement with a temporary spacer, and re-implantation of a new joint when the infection has cleared.

If approved, Taksta could reduce procedure-related morbidity in patients and improve quality of life by replacing the current regimen with a twice-daily oral drug. Prosthetic joint infection is a serious complication of arthroplasty surgery. About 1% of hip replacements and 2% of knee replacements are susceptible to infection. The overall incidence rate is about 10,000 per year in the U.S. for patients needing hip and knee arthroplasty.

Sources: Cempra and Pharma e-Track, October 29, 2013

ADXS-HPV for Head and Neck Cancer

ADXS-HPV (Advaxis) is being investigated for the treatment of human papillomavirus (HPV)—associated head and neck cancer. This immunotherapeutic agent is designed to target cells expressing the HPV gene E7. Expression of the E7 gene from high-risk HPV variants is responsible for the transformation of infected cells into dysplastic and malignant tissues. Eliminating these cells has the potential to eliminate the dysplasia or malignancy.

ADXS-HPV was previously granted an orphan drug designation for the treatment of HPV-associated anal cancer.

Sources: Pharma e-Track and MPR, November 5, 2013

Busulipo in Bone Marrow Transplantation

Pharmalink AB’s Busulipo is a conditioning agent intended for use in cancer
patients before hematopoietic stem-cell transplantation. The company is currently preparing for registration trials with an optimized formulation of Busulipo.

The medication was developed as a liposome/lipid complex formulation that improves the safety and stability of the chemotherapy agent busulfan, a DNA synthesis inhibitor. Busulfan blocks activation of immune cells against the transplanted cells.

An early Busulipo formulation has successfully undergone clinical trials with more than 90 patients treated.

Source: Pharma e-Track, October 29, 2013

**Tigecycline for Acute Myeloid Leukemia**

Stem Cell Therapeutics Corp., has been granted an orphan drug designation for tigecycline in the treatment of acute myeloid leukemia (AML). Tigecycline, an FDA-approved antibiotic, selectively targets leukemia cells and leukemic stem cells by inhibiting mitochondrial protein synthesis, thereby shutting down the cells’ energy supply.

A phase 1 Canadian and U.S. multicenter dose-escalation clinical trial in patients with relapsed or refractory AML is nearing completion.

Source: Pharma e-Track, October 31, 2013

**PAT-SM6 for Multiple Myeloma**

PAT-SM6 (Patrys Ltd.) is an antibody that has shown evidence of potential therapeutic benefit in an ongoing phase I/IIa clinical trial in patients with relapsed and refractory multiple myeloma (MM).

In the U.S., approximately 78,000 people currently have MM, and 22,000 new cases are diagnosed each year.

Source: Pharma e-Track, November 7, 2013

**DEVICE NEWS Approvals**

**Methotrexate Auto-Injector**

A self-injection device that delivers methotrexate subcutaneously has been approved for adults with active, severe rheumatoid arthritis or psoriasis who have not responded to or who have been intolerant of first-line therapy. The single-dose, disposable, auto-injector (Otrexup, Antares Pharma) is also indicated for children with active polyarticular juvenile idiopathic arthritis.

Methotrexate is usually given orally once weekly. Subcutaneous (SC) injections can increase the drug’s bioavailability, but this route of administration also can pose problems for patients who fear needles or do not have enough dexterity to manage needles, syringes, and vials. Thus, SC administration has remained underused in the U.S. The availability of another way to administer methotrexate may obviate the need for adding or switching to more costly therapies.

Otrexup is not indicated for patients with cancer, children with psoriasis, or pregnant women. Methotrexate carries a boxed warning for toxicity and other serious adverse effects.

Source: Antares, October 14, 2013

**Injector Pen for Fertility**

The FDA has approved follitropin alfa injection, a disposable pre-filled drug injector pen intended for the subcutaneous (SC) injection of a liquid formulation of Gonadotropin Releasing Hormone (Merck Serono).

The injection is intended to supplement or replace naturally occurring follicle-stimulating hormone (FSH), an essential hormone to treat infertility. This is the first recombinant form of human FSH (r-hFSH). Since the birth of the first infant born via in vitro fertilization (IVF), nearly 5 million infants worldwide have been born with the help of IVF techniques.

The pen will be available in the U.S. in three sizes: 300 IU, 450 IU, and 900 IU.

Source: Pharma e-Track, October 21, 2013

**RNS Neurostimulator for Epilepsy**

The FDA has approved a device to help reduce the frequency of seizures in epilepsy patients who have not responded well to medications. A small neurostimulator is implanted within the skull under the scalp; it is connected to one or two electrodes that are placed where the seizures are thought to originate within the brain or on the surface of the brain.

FDA approval was supported by a 3-month randomized controlled study of 191 patients with drug-resistant epilepsy. The most frequently occurring adverse events were infection at the implant site and premature battery depletion.

Source: FDA, November 14, 2013

**Catheter Removes Clots**

An aspiration catheter has been approved to help remove blood clots from coronary arteries. Medtronic’s Export Advance is inserted into arteries to clear out clots that interrupt blood flow, thereby restoring oxygen to the heart in patients with cardiovascular disease. The catheter has a preloaded stylet that provides more support during delivery and a novel construction that allows for variable levels of stiffness along the length of the device, making it easier to navigate inside the vessel.

Source: FierceMedicalDevices, October 21, 2013

**Recalls**

**Bard Vascular Stent**

A class I recall was announced for C. R. Bard’s self-expanding vascular stent (LifeStent Solo) because the mechanism used to implant it into patients was found to malfunction.

Bard initiated its recall on September
30. Affected products were made and distributed from November 2011 through June 13, 2012. The FDA said that the stent could cause serious adverse health consequences, including possible complications of bleeding, loss of limb, myocardial infarction, stroke, vascular surgery, or death.

The company plans to replace returned stents. Customers can contact Bard Peripheral Vascular, Inc., at 1-800-321-4254 (Option #2, Ext. 2727) Monday through Friday, 7 a.m. to 4 p.m. Mountain Time.

Source: FDA, October 18, 2013

**Atossa Breast Cancer Test**

Atossa Genetics has voluntarily recalled its signature breast cancer diagnostic test and related products—the Mammary Aspiration Specimen Cytology Test (MASCT) device, the MASCT System Kit, and the Patient Sample Kit—to address the FDA’s allegations that proper approvals were lacking for their promoted uses. There was a potential for the MASCT system and the ForeCYTE test to produce false-positive and false-negative results.

MASCT is approved by the FDA for fluid sample collection but not for breast cancer screening. The FDA voiced concerns that patients might use the products as a substitute for recommended breast cancer screening and not proceed with the mammograms or biopsies they might need.

Source: Reuters, October 4, 2013; FierceMedicalDevices, October 7, 2013

**New Labeling for Sapien System**

Edwards Lifesciences is revising the labeling for the Sapien transcatheter aortic valve implantation system, which can now be used in a wider population of patients. The revised label does not specify a particular delivery method. This ruling makes the device available to the roughly 30% of patients with aortic valve stenosis who are considered inoperable.

Sources: FierceMedicalDevices and Mass Device, September 23, 2013

**New Indication For FireFly Imaging System**

Intuitive Surgical’s FireFly fluorescence imaging system has a new indication for use during gallbladder surgery via its da Vinci robotic surgery device. The FireFly is designed to help surgeons distinguish between the common bile duct and the cystic duct. A video camera and fluorescent dye show blood flow in vessels and tissue. With the FireFly camera, tissue with blood appears green; the same tissue without blood appears gray. Intuitive Surgical launched Firefly in 2011 for use with the da Vinci system in the U.S. and Europe.

Sources: Mass Device, September 23, 2013; Zack’s, September 24, 2013

**Liposorber Apheresis System**

The Liposorber LA-15 System (Kane America) was first approved in 1996 for lowering LDL-cholesterol levels in patients with familial hypercholesterolemia. The device may now be used to treat pediatric patients with primary focal segmental glomerulosclerosis (FSGS), either before or after renal transplantation.

The new indication is designated as a Humanitarian Use Device by the FDA’s Office of Orphan Products Development.

Source: FDA, October 10, 2013

**Potential Imaging Test For Breast Cancer**

A joint Brigham Young University/University of Utah team is developing a new breast cancer screening technique that has the potential to reduce false-positive results, and to minimize the need for invasive biopsies. A magnetic resonance imaging (MRI) scanner is said to improve the accuracy of screening by looking for sodium levels in the breast.

The device produces as much as five times more accurate images with an emerging method called sodium MRI. High-quality images are returned in only 20 minutes.

Because of their increased sensitivity, proton MRI scans are generally used to further examine suspected areas found by mammograms. However, they can produce false-positive results, leading to unnecessary interventions.

**NEW MEDICAL DEVICES**

Marvin M. Goldenberg, PhD, RPh, MS

**Name:** Diamondback 360 Coronary Orbital Atherectomy System

**Manufacturer:** Cardiovascular Systems, Inc., St. Paul, Minn.

**Approval Date:** October 22, 2013

**Purpose:** The atherectomy system is used to treat patients with calcified coronary arteries.

**Description:** The device was approved in 2007 for eliminating calcified plaque in the arterial vessels of the legs and heart vessels. With the new approval, the device can now be used in the coronary arteries to eliminate the buildup of arterial calcium before stent implantation.

An eccentrically mounted diamond-coated crown reduces coronary plaque while changing vessel compliance, enabling successful stent deployment. As the crown rotates and the orbit increases, centrifugal force presses the crown against the lesion, reducing arterial calcium.

Differential sanding allows healthy tissue to be flicked away. Embolic protection is not needed for the miniscule particulates produced.

**Benefit:** The system facilitates stent delivery in patients with coronary artery disease who must undergo percutaneous transluminal coronary angioplasty or stenting as a result of severely calcified coronary artery lesions. Continuous blood flow during orbiting minimizes the
The scans were considered to be reproducible, and trained readers interpreted them accurately.

Flutemetamol is the second diagnostic drug approved by the FDA for visualizing beta amyloid on a PET scan. In 2012, florbetapir (F18) (Amyvid, Eli Lilly) was approved to evaluate adults for AD and dementia. The agent is injected into the bloodstream. It crosses the blood–brain barrier and selectively binds to amyloid plaques. A negative scan suggests some amyloid accumulation in the brain and that the dementia is probably not related to AD. A positive scan suggests some amyloid but does not establish a diagnosis of AD or other forms of dementia.

**Benefit:** Many people in the U.S. are evaluated every year to find out the cause of diminishing neurological functions, such as memory and judgment. Color images, rather than black and white images, can be assessed.

In two studies involving 384 participants, the images were interpreted by five independent readers who were blinded to all clinical information. The study confirmed that the use of flutemetamol was able to detect beta-amyloid in the brain. The scans were considered to be reproducible, and trained readers interpreted them accurately.

Flutemetamol is the second diagnostic drug approved by the FDA for visualizing beta amyloid on a PET scan. In 2012, florbetapir (F18) (Amyvid, Eli Lilly) was approved to evaluate adults for AD and other causes of diminishing brain function.

**Caution:** Flutemetamol is not intended to replace other diagnostic tests used to evaluate AD and dementia, and it cannot be used to predict the development of AD or monitor how patients respond to an AD treatment.

Common adverse effects have included flushing, headache, hypertension, nausea, and dizziness. Only health care professionals with special training should interpret PET images.

Safety risks include hypersensitivity reactions, a chance of misinterpretation of the images, and radiation exposure.

**Sources:** www.fda.gov; http://newsroom.gehealthcare.com

**Name:** MitraClip Percutaneous Mitral Valve Repair System

**Manufacturer:** Abbott Laboratories, Chicago, Ill.

**Approval Date:** October 25, 2013

**Purpose:** The MitraClip device is indicated for the management of leaky heart valves. This is the first percutaneous mitral valve repair therapy that addresses patients with mitral regurgitation. In these patients, the heart’s mitral valve leaflets do not close tightly, allowing blood to leak back into the heart’s left atrium. Left untreated, the condition can lead to heart failure.

**Description:** A tiny metallic clip is used to repair the mitral valve, which regulates blood flow on the left side of the heart. The clip is inserted through a vein in the groin area.

**Benefit:** The device offers a less invasive alternative to open-heart surgery for appropriate patients. Approximately 4 million Americans (10% older than 75 years of age) have valvular disease.

During clinical trials, the device was implanted in about 1,300 patients in the U.S. MitraClip has been on the market in Europe for 5 years and has been implanted in more than 11,000 patients worldwide.

**Sources:** www.abbottvascular.com/lt/mitraclip.html

**Class I Device Recall**

Four models of anesthesia machines, made by Draeger Medical, have been recalled: Fabius GS Premium, Fabius OS, Fabius Tiro, and Fabius Tiro D-M. The products were made from February 1, 2013, to May 1, 2013, and were distributed from March 1, 2013, to June 1, 2013. The machines are used to administer anesthesia and ventilation during surgery.

An investigation revealed that the minimum specified clearance between an electrical component and the unit housing was not maintained for some devices. As a result, bypass current flowing in the interior of the unit may cause the automatic ventilation function to fail, which could result in serious injury or death.

If such a fault occurs, an audible and visual alarm is generated. Manual ventilation using the device is still possible, and all other device functions remain unaffected.

No injuries or failures have been reported as a result of this problem.

If the automatic ventilation function fails, users of the machine should switch to the manual ventilation mode by pressing the “Man/Spont” key, confirm with the rotary knob, and start manual ventilation. Hospitals are urged to notify their personnel accordingly.

In August 2013, Draeger Medical sent an Urgent Medical Device Recall letter informing affected customers of the product, the problem and actions to be taken.

**Sources:** www.fda.gov; www.draeger.com