BRAC UNIVERSITY
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PHARMA HIGHLIGHTS

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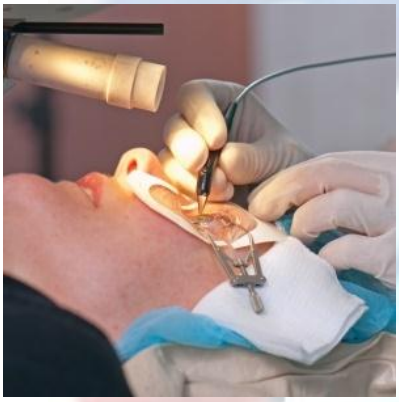
Near Vision Correction by Implantation

Presbyopia is the loss of the ability to change the focusing power of the eye, resulting in diminished near vision. The focusing power of the eye decreases for all adults over the course of their lifetime, usually in the fourth or fifth decade of life due to normal aging. The problem is usually taken care of using bifocals and reading glasses. Corneal inlay surgery is an alternative permanent solution for those who may not want to wear glasses. William Maisel, M.D., M.P.H., deputy director for science and chief scientist in the FDA's Center for Devices and Radiological Health says "The Raindrop Near Vision Inlay provides a new option for surgical outpatient treatment of presbyopia." The Raindrop Near Vision Inlay is a clear device made of a hydrogel material and can be thought of as a tiny contact lens smaller than the tip of a needle. It is indicated for use in patients of 41 to 65 years old. The procedure is carried out with normal LASIK operation. To insert the device, an eye surgeon uses a laser to create a flap in the cornea of the patient's affected eye, implanting the device into the opening, and putting the flap back in place. The inlay provides a steeper surface that can help the eye focus on near objects. By reshaping the curvature of the cornea it allows desired refraction of light rays therefore the inlay corrects the refractive error that results in near vision problems.



Care must be taken as Raindrop Near Vision Inlay implantation may cause or worsen problems with glare, halos, foreign body sensation and pain. There is a risk of developing infection, inflammation, a new dry eye condition or exacerbation of an existing dry eye condition, retinal detachment, or a decrease in distance vision. The device may cause complications of the cornea, such as corneal scarring, swelling, inflammation, thinning, clouding or melting. The device may cause certain tissue in the eye to grow into the cornea (epithelial in-growth), causing clouding. Some patients may require a second surgery to remove or replace the inlay. It is not recommended for patients who have severe dry eye or an active eye infection or inflammation among other problems such as those who do not have enough corneal thickness to withstand the procedure; have a recent herpes eye infection or problems resulting from a previous infection or have uncontrolled glaucoma or uncontrolled diabetes. The benefits seem to outweigh the cons as this device is a convenient replacement therapy with less surgical intervention as compared to other lens changing and cleansing procedures. Due to its small size, flexible nature and general compatibility; it shows greater surgeon preference. Post-operative monitoring time is also reduced due to minimal intervention. The device has been approved by the FDA on the 26th of June, 2016 and is now becoming available in various locations worldwide. **–Labiba Mahmud**

http://revisionoptics.eu/for-physicians/easy-insertion/

FDA Approves New Medication for Dry Eye Disease

Recently, the U.S. Food and Drug Administration (FDA) has approved a lifitegrast ophthalmic solution known as Xiidra, manufactured by the Shire US Inc., of Lexington, Massachusetts, for the recuperation of signs and symptoms of dry eye disease. Xiidra is the first medication of a new class of drug called lymphocyte function-associated antigen 1 (LFA-1) antagonist. Typically, dry eye disease includes a group of conditions in which the eye does not produce adequate volume of tears or when the tears are not of the correct consistency. Since normal tear production is needed for clear vision and eye health, severe untreated dry eye can lead to pain, ulcers, or corneal scarring. Thus, this approval will provide a new treatment option for patients with dry eye disease. As reported, this ailment affects approximately 5% of adults aged 30 to 40 years and 10% to 15% of those older than 65 years, and is most commonly seen to occur in women. During the clinical trials, the safety and efficacy of Xiidra were assessed in over thousands of adults with dry eye disease (76% women) in four randomized, controlled studies in which patients received either lifitegrast eye drops or placebo eye drops twice daily 12 hours apart for 12 weeks. The analysis of these studies demonstrated more improvement in both the signs and the symptoms of eye dryness in groups treated with Xiidra than the groups treated with placebo. However, the most common adverse reactions reported were instillation site irritation, altered taste sensation and reduced visual acuity. Dry eye disease rarely occurs in children, so the drug's safety and efficacy in pediatric patients below the age of 17 years has not been studied. Starting from the rudimentary research till the formulation of the drug, all the steps involved in the development of Xiidra successfully paid off. The manufacture of such an innovative drug followed by its approval once again proves the celerity

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and efficiency with which the research field of medicine is progressing and hence, paves way for the emergence of numerous such breakthroughs hereafter. **–Tanisha Khan**

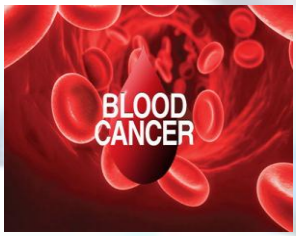
http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm510720.htm?source=govdelivery&utm medium=email&utm source-govdelivery

Loperamide (Imodium): Drug Safety Communication- Serious Heart Problems with High Doses from Abuse and Misuse

Loperamide is a widely available and inexpensive over the counter (OTC) antidiarrheal agent. The maximum approved daily dose for adults is 8 mg per day for OTC use and 16 mg per day for prescription use. FDA has warned about taking higher dosage of loperamide than the recommended doses as the abuse and misuse of loperamide can cause serious heart problems leading to death. The majority of reported serious heart problems occurred in individuals who were intentionally misusing and abusing high doses of loperamide in attempts to self-treat opioid withdrawal symptoms or to achieve a feeling of euphoria. Sometimes in cases of abuse, individuals use other drugs together with loperamide in attempts to increase the absorption and penetration across the blood brain barrier, inhibit loperamide metabolism and enhance its euphoric effects. If symptoms of loperamide toxicity such as fainting, irregular heart rhythm and unresponsiveness are observed, the drug must be discontinued promptly and necessary therapy should be started along with measurement of blood levels. **Source-FDA**

Variation in Blood Cancer: Emergence of New Dimension of Therapeutics

Research Advancement in sequencing technologies have led to emergence of various newer avenues of therapeutics tailored to patient's compliance at the molecular level. Recent studies conducted by the team of researchers from the Wellcome Trust Sanger Institute at United Kingdom have discovered around 11 different subtypes of Acute Myleoid Leukemia (AML), one of the deadliest disease affecting the meyloblast, red blood cell or platelets. A total of 111 genes have been sequenced by the team that contributes to the development of disease from a database of 1500 patients diagnosed with the disease. Each of these subtypes have been identified to have different patterns of driven mutation influencing the progression of AML. This significant discoveries have paved the way for the development of newer diagnostic patterns and therapeutics. **–Samin Huq**



http://www.labroots.com/trending/cancer/3329/blood-cancer-actually-11-subtypes

Age Matters in Autism Diagnosis

Autism spectrum disorder (ASD) or autism refers to a group of complex disorders of brain development. These disorders present in different ways depending on the person but almost always include difficulties in social interaction, verbal and nonverbal communication and repetitive behaviors. Autism appears to have its roots in very early brain development, but signs are not usually apparent to caregivers and parents until a child is 2 or 3 years old. The timing of a diagnosis of an autism spectrum disorder is significant and a recent study shows that children diagnosed before the age of 4 are more likely to get effective, evidence-based treatment, such as behavioral therapy. Like many cognitive issues, the younger a child is when interventions are started, the more successful they will be in treating the disorder and accompanying difficulties. Research published recently at Oregon Health and Science University, in Portland, looked at 722 children aged 6 to 11 with an autism spectrum disorder. They complied data on the use of health services, including behavioral intervention therapy, school-based therapy (including social skills training, occupational therapy, physical therapy, or speech and language therapy), complementary and alternative medicine such as diet changes and supplemental vitamins and psychotropic medications that treat depression, anxiety and ADHD. The study noted that while parents normally brought their concerns over developmental issues and other factors to the attention of a health care provider around the age of 2, the average age of an ASD diagnosis was just over 4 years old. The study also showed a correlation between a time lapse of more than two years between the first conversation with their child's doctor and the use of alternative medicine and treatments. The team in Oregon said the results of their data collection show that the sooner a child can be evaluated for autism, the better outcome will be for that child. The American Academy of Pediatrics recommends that all children be screened for autism at 18 months and at 24 months, but only about half of pediatrician conduct these kinds of screenings due to lack of awareness and some doctors don't know what to do if they get a positive test. The non-profit organization Autism Speaks has an online screening available to parents and caregivers on their website here. The screening, The Modified Checklist for Autism in Toddlers, Revised (M-CHAT-R) is the same checklist used by medical professionals. **–Tanisha Khan** http://www.labroots.com/trending/neuroscience/3893/age-matters-autism-diagnosis