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Key Inforbits

- Six new drugs since October
- Propoxyphene products coming off the market
- New values for calcium and vitamin D
- New stroke prevention guidelines
- 29th Surgeon General report on smoking
- New STD guidelines issued by the CDC

NEW DRUGS, and other related stuff …

New Drug … (12/1/2010) Watson Pharmaceuticals, Inc. announced that **ella® (ulipristal acetate)** 30 mg, a new oral emergency contraceptive, is now available for patients by prescription in the U.S. ella® was approved by the FDA on August 13, 2010 to help prevent unintended pregnancy for up to five days after unprotected intercourse (UPI) or a known contraceptive failure. ella® is a progesterone agonist/antagonist emergency contraceptive and is effective in helping prevent pregnancies at certain stages of the menstrual cycle, including just before ovulation - the very time in a woman's cycle when the probability of pregnancy is highest. It is effective in delaying ovulation for up to five days, which is also the length of time that sperm can live in the female genital tract.

Watson Launches ella(R) (ulipristal acetate) Emergency Contraceptive. Watson Pharmaceuticals Press Release. Morristown, NJ. 2010 Dec 1. Accessed 12/2/2010. Available from: http://ir.watson.com/phoenix.zhtml?c=65778&p=irol-newsArticle&ID=1501974

New Drug … (11/15/2010) The FDA has approved **eribulin mesylate (Halaven™**, marketed by Woodcliff Lakes, N.J. -based Eisai Inc.) to treat late-stage metastatic breast cancer. Halaven™ is a synthetic form of a chemotherapeutically active compound derived from the sea sponge *Halichondria okadai*. It is a microtubule inhibitor, believed to work by inhibiting cancer cell growth. Halaven's™ safety and effectiveness were established in a single study in 762 women with metastatic breast cancer. The median overall survival for patients receiving Halaven™ was 13.1 months compared with 10.6 months for those who received a single agent therapy.

FDA approves new treatment option for late-stage breast cancer. FDA News Release. 2010 Nov 15. http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm233863.htm

HALAVEN™ (eribulin mesylate) Injection [package insert] Woodcliff Lake, NJ: Eisai Inc. November 2010. Accessed 11/19/2010. Available from www.eisai.com/pdf_files/Halaven_PI.pdf

New Drug … (11/10/2010) The FDA has approved **tesamorelin (Egrifta™** by Serono EMD) a once-daily injection to treat HIV patients with lipodystrophy, in which excess fat develops in different parts of the body (abdomen, etc) and is associated with antiretroviral drugs used for HIV. Egrifta™ is the first FDA-approved treatment for lipodystrophy. The company estimates that the product will be available in January 2011.

FDA approves Egrifta to treat lipodystrophy in HIV patients. FDA News. 2010 Nov 10. http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm233516.htm

Egrifta (tesamorelin for injection) for subcutaneous use. [package insert] Rockland, MA: EMD Serono. 2010 Nov. Accessed 11.30/2010. Available from http://www.emdserono.com/en/index.html

New Drug … (10/29/2010) The FDA has approved **ceftaroline fosamil (Teflaro®** by Forest Laboratories'), an injectable cephalosporin antibiotic to treat adults with community-acquired bacterial pneumonia and acute bacterial skin and skin structure infections, including methicillin-resistant *Staphylococcus aureus*. Teflaro® should not be used in patients with sensitivities to cephalosporin antibiotics.

FDA approves Teflaro for bacterial infections. FDA News. 2010 Oct 29. http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm231594.htm

Teflaro (ceftaroline fosamil) injection for intravenous (IV) use. [package insert]. St. Louis, MO: Forest Pharmaceuticals. 2010 October. Accessed 11/30/2010. Available from http://www.frx.com/products/teflaro.aspx

New Drug … (10/28/2010) **Lurasidone hydrochloride tablets** (Latuda® by Sunovion) an atypical antipsychotic was approved by the FDA for the treatment of adults with schizophrenia. In four 6-week controlled studies of adults with schizophrenia, patients treated with Latuda® had fewer symptoms of schizophrenia than those taking placebo. The most common side effects reported were restlessness, nausea, tremors, slow movement, muscle stiffness, and agitation.

FDA approves Latuda to treat schizophrenia in adults. FDA News. 2010 Oct 28. http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm231512.htm

Latuda (lurasidone hydrochloride) tablets. [package insert] Ft. Lee, NJ: Sunovion Pharmaceuticals. 2010. Accessed 11/30/2010. Available from http://www.latuda.com/?utm_campaign=RF&utm_medium=CPC&utm_source=Google&utm_content=LUR_BRANDEDGOOGLE1

New Drug … (10/19/2010) **Dabigatran Etexilate (**Pradaxa® by Boehringer Ingelheim) was approved by the FDA for the prevention of stroke and blood clots in patients with atrial fibrillation. Dabigatran is an anticoagulant that acts by inhibiting thrombin, an enzyme in the blood that is involved in blood clotting. Unlike warfarin, which requires patients to undergo periodic monitoring with blood tests, such monitoring is not necessary for Pradaxa®.

FDA approves Pradaxa to prevent stroke in people with atrial fibrillation. FDA News Release. 2010 Oct 19. http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm230241.htm

Pradaxa (dabigatran etexilate) capsules [package insert] Ridgefield, CT: Boehringer Ingelheim Pharmaceuticals, Inc. 2010. Accessed 11/30/2010. Available from http://www.pradaxa.com/?sc=PRDACQWEBGGLWKT1006111

New Product … (11/19/2010) The FDA has approved **denosumab (Xgeva™** by Amgen) to help prevent skeletal-related events (SREs) in patients with cancer that has metastasized and damaged the bone. Xgeva™ is a monoclonal antibody that targets a protein involved in cancer-related bone destruction called human RANKL. Other drugs for similar conditions include Zometa (zoledronic acid) and Aredia (pamidronate disodium**).** The most serious side effects are hypocalcemia, and osteonecrosis of the jaw. Denosumab was originally approved under another trade name, **Prolia™**, in June 2010. Prolia™ is indicated to treat postmenopausal women with osteoporosis who are at high risk for bone fractures. Xgeva™ is administered using a higher dose and with more frequent dosing than Prolia™. Denosumab has a different safety profile in patients with osteoporosis than in patients with cancer and bone metastases.

FDA approves Xgeva to help prevent prevent cancer-related bone injury. FDA News Release. 2010 Nov 19. http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm234346.htm

Xgeva™ (denosumab) injection for subcutaneous use [package insert] Thousand Oaks, CA: Amgen Inc. November 2010. Accessed 11/22/2010. Available from http://www.xgeva.com/?WT.srch=1

Product Withdrawal … (11/19/2010) MedWatch - The FDA announced that Xanodyne Pharmaceuticals has agreed to **withdraw propoxyphene (sold as Darvon, Darvocet**, and generics), an opioid pain reliever used to treat mild to moderate pain, from the U.S. market at the request of the FDA, due to new data showing that the drug can cause serious toxicity to the heart,

even at therapeutic doses. The FDA recommends that healthcare professionals stop prescribing and dispensing propoxyphene-containing products to patients, contact patients currently taking propoxyphene-containing products and ask them to discontinue the drug, inform patients of the risks associated with propoxyphene, and discuss alternative pain management strategies. Patients were advised to dispose of unused propoxyphene in household trash by following the recommendations outlined in the Federal Drug Disposal Guidelines.
http://www.fda.gov/NewsEvents/PublicHealthFocus/ucm226353.htm
MedWatch safety alert:
http://www.fda.gov/Safety/MedWatch/SafetyInformation/SafetyAlertsforHumanMedicalProducts/ucm234389.htm

FROM THE MEDICAL LITERATURE …

AIDS prophylaxis that works … In a randomized, multinational trial in 2499 HIV-seronegative men or transgender women who have sex with men, two groups were assigned either placebo or a combination product emtricitabine and tenofovir disoproxil fumarate (FTC–TDF) once daily and were followed for 3324 person years (range 1.2 to 2.8 years). Among the results it showed that the active drug was 44% more effective overall, and in the population that were strictly adherent to the protocol, it was 73% more effective. Protection against HIV acquisition was strongly correlated to drug serum levels.
Grant RM, Lama JR, Anderson PL, McMahan V, Liu AY, Vargas L, et al for the iPrEx Study Team. Preexposure chemoprophylaxis for HIV prevention in men who have sex with men. N Engl J Med. 2010 Nov 23; 10.1056/NEJMoa1011205.

Proton Pump Inhibitors (PPIs) appear safe in pregnancy … In a huge Danish retrospective study over eleven years and including 840,968 live births, 5082 involved exposure to PPIs between 4 weeks prior to conception and the end of the 1st trimester of pregnancy. A total of 174 major birth defects were recorded in infants whose mothers had been taken PPIs (3.4%), compared 21,811 in the mothers who had not been exposed (2.6%) (adjusted prevalence OR, 1.23; 95% CI, 1.05 to 1.44). In the analyses of exposure during the 1st trimester, there were 118 major birth defects among 3651 infants exposed to PPIs (3.2%), (adjusted prevalence OR was 1.10 [95% CI, 0.91 to 1.34]). An accompanying editorial emphasizes that although this is the best data available, it is not definitive and that more data is needed. They also point out that based on this study, if a PPI is needed in pregnancy, omeprazole may be that best choice.
Pasternak B, Hviid A. Use of proton-pump inhibitors in early pregnancy and the risk of birth defects. N Engl J Med. 2010 Nov 25;363(22):2114-23.
Mitchell AA. Proton-pump inhibitors and birth defects-some reassurance, but more needed. N Engl J Med. 2010 Nov 25;363(22):2161-2163.

Energy drinks reviewed … authors have reviewed four of the popular energy drinks for content and an analysis of benefit. They also provided recommendations for the nonathlete and athlete as to the use of these energy drinks to enhance exercise. A very nice primer on contents.

HigginsJP, Tuttle TD, Higgins CL. Energy beverages: Content and safety. Mayo Clin Proceed. 2010 Nov;85(11):1033-1041.

Rx abandonment, another travesty … A study using CVS Caremark data looked at a cohort of 10,349,139 index prescriptions filled by 5,249,380 patients during a 3-month summer period in 2008. Patients were an average of 47.3 years of age, 60.1% were female and they filled 2 unique

prescriptions during the identification period. Most patients had employer-sponsored insurance, yet a good number were covered by Medicare, Medicaid, and non–employer-based health plans; approximately 4% were thought not to have prescription drug coverage. Some conclusions included: Overall, 3.27% of prescriptions were abandoned; patients were least likely to abandon opiate prescriptions. Prescriptions with higher copayments (≥$40 were 3.40 to 4.68 times more likely to be abandoned compared to those with no copayment. New users of medications were more likely to abandon than prevalent users (2.74 times). Interestingly, electronic prescriptions were 1.64 times more likely to be abandoned than those delivered otherwise.

Shrank WD, Choudhry NK, Fischer MA, Avorn J, Powell M, Schneeweiss S, et al. The epidemiology of prescriptions abandoned at the pharmacy. Ann Intern Med. 2010 Nov 16;153(10):633-640.

IOM Vitamin D and Calcium – new recommendations … (11/30/2010) A new report from the Institute of Medicine (IOM) states that most Americans and Canadians up to age 70 need no more than 600 international units (IUs) of vitamin D per day to maintain health, and those 71 years and older may need as much as 800 IUs. Calcium ranges, based on age, are from 700 to 1,300 milligrams per day. This report updates the nutritional reference values known as Dietary Reference Intakes (DRIs) for these nutrients. The IOM recommendations are based on close to 1,000 published studies and confirms the roles of calcium and vitamin D in promoting and maintaining skeletal growth and the amounts that are needed to avoid poor bone health. The cutpoints of sufficiency and deficiency that clinical laboratories use to report test results have not been based on rigorous scientific studies and are not standardized. The number of people with vitamin D deficiency may be overestimated because of these inconsistencies. Based on available data, vitamin D are sufficient when blood levels are ≥20 ng/mL.

National Academies Press, Institute of Medicine [Internet]. IOM report sets new dietary intake levels for calcium and vitamin D to maintain health and avoid risks associated with excess.; 2010 Nov 30 [cited 2010 Nov 30]; [about 3 screens]. Available from:
http://www8.nationalacademies.org/onpinews/newsitem.aspx?RecordID=13050

High BMI is bad for your health … a recent analysis of 1.46 million white adults estimated hazard ratios of mortality based on body mass index (BMI) range. The reference range with a hazard ratio of 1.00 is 20.0 to 24.9. The lowest BMI of 15.0 to 18.4 had a hazard ratio of 1.47 and for the highest BMI range of 40.0 to 49.9 the hazard ratio was 2.51.

Berrington de Gonzalez A, hartge P, Cerhas jr, Flint AJ, Hannan L, MacInnis RJ, et al. Body-mass index and mortality among 1.46 million white adults. N Engl J Med. 2010 Dec 2;363(23):2211-2219.

New Stroke Guidelines … for the primary prevention of stroke have been issued by the American Heart Association and the American Stroke Association. Amongst the "well documented and modifiable risk factors" were several lifestyle items such as poor diet, physical inactivity, obesity and body fat distribution.

Goldstein LB, Bushnell CD, Adams RJ, Appel LJ, Braun LT, Chaturvedi S, et al, for the American Heart Association Stroke Council, Council on Cardiovascular Nursing, Council on Epidemiology and Prevention, Council for High Blood pressure Research, Council on Peripheral Vascular Disease, and Interdisciplinary Council on Quality of Care and Outcomes Research. Guidelines for the primary prevention of stroke: A guideline for healthcare professionals from the American Heart Association/American Stroke Association. Stroke. 2011 Dec 2;42: DOI: 10.1161/STR.0b013e3181fcb238. Available at:
http://click.jwatch.org/cts/click?q=227%3B67474536%3B%2B0yE58edXvXcFQK2x7NE4y6dmufQMxdg%2FpJEzkBur%2BA%3D

29th Surgeon General Report on Tobacco Smoke and Disease … The first report in 1964 began to document the dangers of smoking. This 727 page report focuses on the dangers of second-hand smoke and that there is no safe level of exposure to cigarette smoke.

U.S. Department of Health and Human Services. *How Tobacco Smoke Causes Disease: The Biology and Behavioral Basis for Smoking-Attributable Disease: A Report of the Surgeon General.* Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2010.
http://www.surgeongeneral.gov/library/tobaccosmoke/index.html

Top 20 Free iPhone Medical Apps … Impressive list. Some of these are strictly for diagnosis and CME, but a number of them could be quite useful for pharmacy and other health-related practice. No. 1 is MedScape, No. 2 is Micromedex, …
http://www.imedicalapps.com/2010/12/bes-free-iphone-medical-apps-doctors-health-care-professionals/

Free drug samples are not free … or so says Dr. Ramirez of the popular blog, KevinMD. Read the post and the responses – if you dare!
http://www.kevinmd.com/blog/2010/05/free-prescription-drug-samples-cost-patients-money.html
For a more objective view of sample use and some of the associated demographic information, see the following recent article that provides predictors of medication sample use in the US, based on a national household survey.
MacDougall C, Udkow T, Guglielmo BJ, Vittinghoff E, Martin J. National estimates and predictors or prescription medication sample use in the United States, 1999-2005. J Am Pharm Assoc. 2010 Nov/Dec;50(60):677-685.

A cardinal sin of pharmacy, inaccurate dosing! … investigators analyzed 200 over-the-counter (OTC) liquid products for pediatric use for consistent dosing directions and measuring devices. Of the 200 products, 148 contained measuring devices. Of these 148 products some discrepancy of dosing directions or markings on the measuring device were found in **98.6%** of products. Various other breakdowns are given.
Yin HS, Wolf MS, Dreyer BP, Sanders LM, Parker RM. Evaluation of consistency in dosing directions and measuring devices for pediatric nonprescription liquid medications. JAMA. 2010 Dec 15;304(23):2595-2602.

STD Guidelines issued by the CDC … New sexually transmitted diseases (STD) guidelines have just been published by the CDC, last updated in 2006. Some of the new information includes: 1) expanded diagnostic evaluation for cervicitis and trichomoniasis; 2) treatment recommendations for bacterial vaginosis and genital warts; 3) azithromycin for chlamydial infections in pregnancy; 4) lymphogranuloma venereum proctocolitis among men who have sex with men; 5) emergence of azithromycin-resistant *Treponema pallidum*; 6) increasing prevalence of antimicrobial-resistant *Neisseria gonorrhoeae*; 7) the sexual transmission of hepatitis C; 8) STD prevention approaches.
Workowski KA, Berman S. Sexually transmitted diseases treatment guidelines, 2010. MMWR. 2010 Dec 17;59(RR12):1-110.
http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5912a1.htm

Reviews of Note …

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The last "dose" …

"Yes, VIRGINIA, there is a Santa Claus. He exists as certainly as love and generosity and devotion exist, and you know that they abound and give to your life its highest beauty and joy."

[Excerpted from the response by Francis Pharcellus Church to a letter from 8 year-old Virginia O'Hanlon to the editor of New York's *Sun*, Sept. 21, 1897.]

An electronic bulletin of drug and health-related news highlights, a service of …
Auburn University, Harrison School of Pharmacy, Drug Information Center
• Phone 334-844-4400 • Fax 334-844-8366 • http://www.pharmacy.auburn.edu/dilrc/dilrc.htm
Bernie R. Olin, Pharm.D., Director
Archived issues are available at: http://pharmacy.auburn.edu/dilrc/au_informed.htm