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November 2014 Issue

From the Front Lines

AlixaRx Clinical Pharmacists Address Everyday Challenges in Long-Term Care

CMS GUIDANCE: F441

The most commonly prescribed medications in nursing homes are antibiotics used to treat infections, which account for an estimated 1.6 - 3.8 million residents.[1] There have been various studies that concluded 25-75% of the antibiotics prescribed are either ineffective or inappropriate for the treatment of the patient.[2,3] For example, asymptomatic bacteriuria is commonly treated with anti-infectives even though there is no benefit in the treatment of this condition.[4] Overuse of inappropriate or ineffective antibiotics can lead to complications such as C. difficile infections and bacterial resistance, increasing mortality and medical cost.[4]

Not only does the misuse of antibiotics increase bacterial resistance, it can interfere with appropriate patient care, leaving the facility vulnerable to CMS F441 violations. F441 directs surveyors to review and evaluate the effectiveness and the appropriateness of antibiotic use in LTC residents.[4] Facility policies and procedures should address appropriate management and surveillance of infections consistent with the current standard of practice.

Some examples of deficiencies related to F441 include:[3]

- o Lacking policies and procedures for the initiation of antibiotics
- o Inconsistent policy and procedures with current standards of practice
- o Failure to follow policies and procedures for infection

Antibiotic stewardship optimizes the use of antimicrobial therapy by designing interventions, ensuring that patients receive the right antibiotic, at the right dose, at the right time, and for the right duration.[5] By standardizing this process of assessing a resident when infection concerns arise, the adoption of an antibiotic stewardship can lead to better prescribing practices and treatment of infections for the long-term care resident. Key individuals in adopting an antibiotic stewardship include: clinical staff, medical directors and a consultant pharmacist. Working together to monitor antibiotic usage, cost and trends can reduce the inappropriate use of antibiotics, improve patient care, and greatly decrease the facilities chance of receiving an F441 violation.

Submitted by **Kirk Seale, MS, Pharm D**

In this issue:

1. National Healthcare Safety Network (NHSN), Tracking Infections in Long-term Care Facilities. Available at http://www.cdc.gov/nhsn/LTC/index.html. Accessed November 12, 2014 2. Crnich CJ, Safdar N, Robinson J, Zimmerman D. Longitudinal trends in antibiotic resistance in U.S. nursing homes, 2000-2004. Infect Control Hosp Epidemiol. 2007;28(8):1006 1008 3Philip W. Smith, MD, et al, (April 12, 2011), Antibiotic Stewardship Programs in Long-Term Care, Annals of Long Term Care, Volume 19 - Issue 4 . 4. Antibiotic use in Nursing Homes, Wisconsin Department of Health Services, Division of Quality Assurance, P-00886 (10/2014) p.1. Available at http://www.dhs.wisconsin.gov/publications/P0/P00886.pdf. Accessed November 12, 2014. 5. National Healthcare Safety Network (NHSN), Why Inpatient Stewardship? Available at http://www.cdc.gov/getsmart/healthcare/inpatient-stewardship.html. Accessed November 10, 2014

What is the re-dispense function in the automated dispensing unit (ADU)?

Have you ever been missing a medication, dropped a pill on the ground or had a patient refuse the dose and then ask for it later? One of the advantages to having an automated dispensing unit (ADU) and electronic medication cabinet (EMC) on-site is the ability to re-dispense the medication.

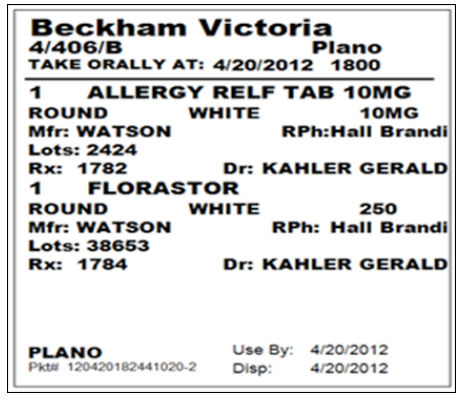
The re-dispense function on your AlixaRx ADU kiosk is the safest way to obtain a medication that has already been dispensed. Using the re-dispense function will result in the ADU providing a packet labeled with the current resident information and directions for use. The re-dispense function utilizes the current medication profile ensuring the correct drug, dosage form, and strength. The EKIT function is not resident specific and allows the nurse to obtain an emergency medication from the ADU. EKIT packets will not be labeled with resident information or directions for use.

****Please note that to re-dispense a controlled substance, a pharmacist approval is required.**

Please see packet examples below:

EKIT dispense Packet

Re-dispense Packet



To reduce the risk for medication errors utilize the re-dispense function on your AlixaRx ADU kiosk!

Submitted by **Matthew Palmer, PharmD, CGP**

Timely Topic – Ebola

We have been aware of the existence of the Ebola virus since 1976, when it was discovered in Africa.[1] Since then, there have been sporadic outbreaks, mostly isolated to the African continent.[1] So why does it seem like we have never heard about Ebola until now?

Recent cases developed in healthcare workers in the United States have brought this disease close to home and made it more of a reality. There is an aboundant amount of information and misinformation out there about the Ebola virus. News broadcasts, the internet and social media have provided a quick and easy way to distribute both facts and fables. As healthcare professionals, we can help correct the misconceptions and misinformation by becoming familiar with the facts about Ebola. The mortality rate in West Africa for Ebola infection is approximately 50%. Survival rates in the United States are much higher due to improvements in medical treatment. To help contain the infection, we must be prepared by having the correct information about the virus, know how to recognize the disease, and know what to do if we do come in contact with a patient infected with the virus.

Let's start with some basic facts about Ebola:[1,2]

- Ebola cannot be transmitted through air, water or food
- An asymptomatic person exposed to Ebola is not contagious
- Current scientific evidence shows that Ebola cannot be transmitted by mosquitoes
- Symptoms can appear anywhere from 2-21 days after exposure – the average is 8-10 days
- It may take up to 3 days after symptoms start for the virus to reach detectable levels
- Ebola is killed with hospital grade disinfectants. It can survive several hours on dry surfaces such as doorknobs or countertops and for several days in body fluids (at room temperature)
- Patients have detectable antibody levels for at least 10 years after recovery from Ebola
- Once a patient recovers from Ebola, they can no longer spread the virus. However, the virus has been found in semen for up to 3 months after recovery from infection. Abstinence from sex is recommended for at least 3 months after recovery from infection

Transmission of the Ebola virus requires direct contact with infected body fluids.[2] In the US, people have a greater chance of dying from Influenza than Ebola.[2] But how do we know when to be concerned if we have come in contact with someone who may be infected? Traveling on an airplane with someone showing symptoms, having brief skin contact or being in the same room with someone showing signs of Ebola are considered low risk exposure.[1] Higher risk exposure includes direct contact with infected body fluids through needlestick or splash to eyes, nose or mouth, getting infected body fluids on the skin or handling infected body fluids.[1] Patients in the early stages of infection may not be as contagious as they are in later stages.[2] Viral load significantly increases as the patient's condition worsens.[1] The viral concentration in body fluid is significantly higher than some other viruses (HIV, HepC) – even minute amounts of body fluids can contain substantial numbers of virus particles.[2]

Early signs of Ebola infection are non-specific and mimic other infections. Preliminary symptoms include sudden onset of a fever (>100.4°), severe headache, muscle pain, weakness, diarrhea, vomiting, abdominal pain and unexplained bleeding or bruising.[1] Other symptoms may include dysphagia, anorexia, lethargy, difficulty breathing and hiccupping.[2] An erythematous macropapular rash may appear on the face, neck, trunk and arms by day 5-7.[2] Those with fatal cases have developed more severe symptoms early on and succumb to multi-organ failure and septic shock between day 6 and 16.[2] Those with less severe disease show improvement in symptoms between days 6-11.[2]

If a patient has been diagnosed with Ebola, the patient should be isolated to a single room and healthcare personnel should follow standard, droplet and contact precautions.[1] Recommended personal protective equipment ("PPE") includes a disposable fluid-resistant or impermeable gown that extends to mid-calf or a coverall without integrated hood, disposable full face shield, surgical hood that covers face and neck, two pairs of gloves and waterproof boot covers that go to at least mid calf or leg covers.[1] General PPE should be sufficient protection for the initial assessment of someone with mild symptoms suggestive of Ebola infection (fever, abdominal pain),[1] however if the person tests positive or is vomiting or bleeding , then the CDC PPE guidelines should apply.

Currently the FDA has not approved any vaccines or medications for the treatment of Ebola. Basic supportive care such as IV fluids, maintaining oxygen status and blood pressure can significantly improve the chances of survival. ZMapp, received by the Ebola patients at Emory Hospital, has not yet gained FDA approval. Phase 1 testing of another antiviral product is expected to begin in late 2014.[2] Several vaccines are currently in development as well.

If you are interested in learning more about Ebola, there is a free 3-credit CE program available entitled "Ebola: What Nurses Must Know." It can be accessed at the following website: http://ce.nurse.com/course/60208/ebola-what-nurses-must-know/

Submitted by **Jenny Rowley-Funk, RPh, CGP**

1. Ebola (Ebola Virus Disease). Available at http://www.cdc.gov/vhf/ebola/index.html. Accessed November 16, 2014. 2. Ebola: What Nurses Must Know. Available at http://ce.nurse.com/course/60208/ebola-what-nurses-must-know/. Accessed November 13, 2014.