alixaRx

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From the Front Lines

AlixaRx Clinical Pharmacists Address Everyday Challenges in Long-Term Care

Proton-Pump Inhibitors (PPIs) and Increased Risk of Dementia

Late last year, we reported on mounting evidence of adverse drug events associated with PPIs:

Drug Interactions

PPIs are implicated in a number of clinically significant drug interactions including a 20-40% reduction in antiplatelet activity when clopidogrel (Plavix) is used with omeprazole or esomeprazole. Use of these PPIs with clopidogrel is contraindicated per product labeling. Also, because they lower gastric pH (acidity) they may reduce the absorption of calcium, iron, magnesium, and Vitamin B-12. If calcium must be given with a PPI, the calcium citrate formulation is recommended as its absorption is less affected by the higher gastric pH produced by PPIs.

Safety Concerns

There is concern that PPIs may increase fracture risk in both men and women with one study suggesting a 25% increase in overall fractures and a 47% increase in spinal fractures in postmenopausal women. Any patient who must remain on long-term PPI therapy who is a risk for factures (i.e. osteoporosis or osteopenia) should receive supplementation with adequate doses of calcium citrate and Vitamin D.

PPIs also increase the risk of infection with bacteria including Clostridium difficile and those causing pneumonia that tend to proliferate when gastric pH remains elevated. In fact, patients being treated for C. difficile infections while taking a PPI are at a 42% increased risk for recurrent infection within 90 days.

In February of this year, a study published in JAMA Neurology points to an association between PPIs and an increased risk for dementia. The prospective cohort study conducted by the largest German statutory health insurer showed that taking PPIs was associated with "a significantly increased risk of incident dementia compared with not taking them (hazard ratio 1.44, 95% CI, CI 1.36 to 1.52 (P<0.001). This study included 73,679 participants age 75 and older who were free of dementia at baseline. This finding was most pronounced in men and those taking esomeprazole.

There is some evidence to support this association as PPIs are known to cross the blood brain barrier. Animal studies have shown an increase in the production and degradation of amyloid in the brain, in addition to binding tau protein while on PPI therapy. There is also evidence from human trials that these drugs can reduce circulating levels of B-12 and other nutrients which may also increase the risk for dementia.

In this issue:

While these finding suggest that avoiding PPIs might prevent the development of dementia, the study authors noted that randomized prospective clinical trials are needed before making such a recommendation.

Your AlixaRx Clinical Pharmacist can work with your QAPI team and facility prescribers to identify patients on long-term treatment with PPIs without a clear indication for continued treatment and recommend alternative therapies and/or a gradual dose reduction to limit the risk for adverse drug events. PPIs should not be discontinued abruptly as this may cause rebound hyperacidity.

References: http://www.medpagetoday.com/Neurology/Dementia/56194

Antibiotic Stewardship and Urinary Tract Infections in LTC

Why is it important to only obtain urine analysis (UA) when our residents have localized signs and symptoms of a Urinary Tract Infection (UTI)? Up to 50% of women and 40% of men residing in LTC facilities will have asymptomatic bacteriuria (1). Asymptomatic bacteriuria is a positive urine culture (>100,000 CFU/ml) in a resident without symptoms or signs of a UTI. UTI is a clinical diagnosis and treatment with an antibiotic should not be based solely on lab results. The McGeers criteria state "a UTI should be diagnosed when there are localizing genitourinary signs and symptoms and a positive urine culture result" (2). Unnecessary treatment with antibiotics leads to numerous complications including drug interactions, antimicrobial resistance, adverse effects, allergies, and increased rates of Clostridium difficile (3). Below is a proposed algorithm for the evaluation and treatment of UTIs in LTC (4). Reach out to your Alixa Clinical Pharmacist for additional questions and help with implementing an antibiotic stewardship program at your facility.

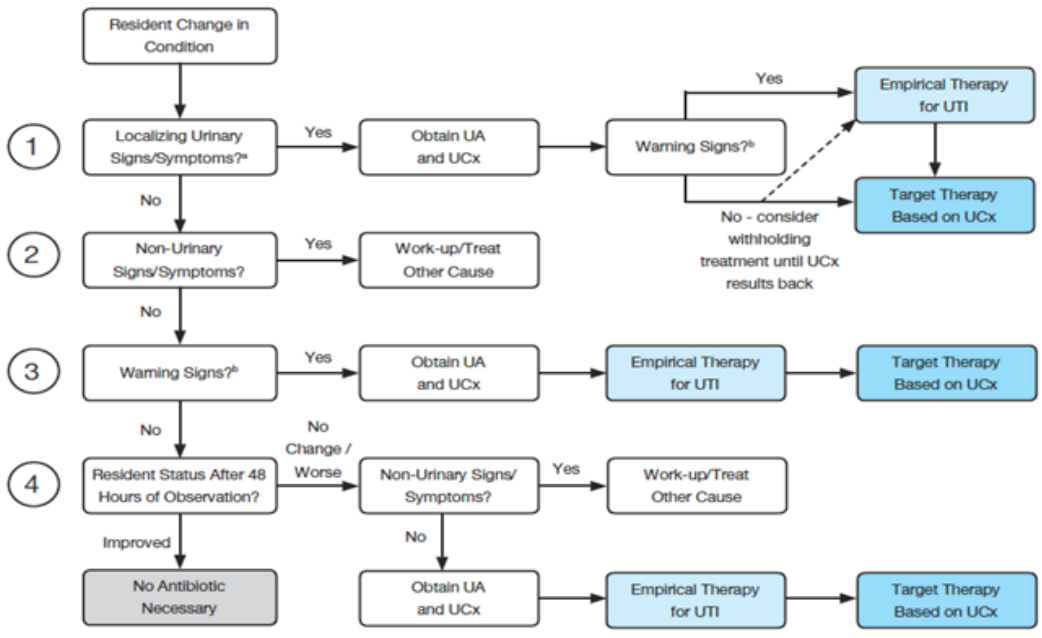


Figure. Unified algorithm for the diagnostic evaluation and treatment of suspected UTIs in nursing homes.

Abbreviations: UA, urinalysis; UCx, urine culture; UTI, urinary tract infection.
[a]Localizing urinary signs/symptoms: (1) acute dysuria; (2) new urgency, frequency, or incontinence; (3) acute gross hematuria; (4) costovertebral (flank) tenderness; (5) suprapubic pain; (6) new scrotal/prostate tenderness; or (7) purulent urethral discharge.
[b]Warning signs include (1) fever, defined as single temperature >100°F [37.9°C] or repeated temperatures >99°F [37.2°C] or increase from baseline temperature of 2°F [1.1°C]; (2) rigors; (3) acute delirium (excludes mild cognitive changes); or (4) unstable vital signs.

References: 1. Nicolle et al IDSA guidelines CID 2005:40 (1March). 2. http://www.jstor.org/stable/10.1086/667743 accessed 3/1/16. 3. Spellburg et al; Clin Infect Dis. 2011;52(suppl 5):S397-S428 4. Drinka & Crnich, Ann Long Term Care 2014;22(9).

Cleaning Glucometers

Appropriate cleaning or disinfecting of glucometers in long-term care facilities is cited in the CMS State Operations Manual under F-Tag 441 infection control guidelines. There are a wide variety of glucometers in use in the various facilities and each has its own cleaning requirements per the manufacturer. Glucometer cleaning should take place prior to and immediately after each use to prevent the spread of pathogens from blood or body fluids like Hepatitis and Tuberculosis. Failure to clean the glucometer may result in a citation of the highest severity (immediate jeopardy). In cases where the manufacturer has no cleaning recommendations, use of an EPA-registered high-level disinfectant is the standard. A list of EPA-registered disinfectants can be found at http://www.epa.gov/pesticide-registration/selected-epa-registered-disinfectants.

Below are recommended disinfecting procedures for commonly used glucometers:

Meter	Recommended Cleaning
FreeStyle Freedom Lite FreeStyle Lite Precision Xtra	Apply an EPA-Registered disinfectant per product directions
WaveSense Jazz WaveSense KeyNote WaveSense KeyNote Pro WaveSense Presto WaveSense Presto Pro	Use mild soap and water, 70% iso-propyl alcohol (IPA), or 1:10 diluted bleach solution; wipe front and back with soft damp cloth
Glucocard 01 Glucocard 01-mini Glucocard X-Meter	Clean outside of meter using a lint free cloth dampened with soapy water or IPA Disinfecting-1:10 dilution of water and bleach (or bleach wipe), dampen a paper towel and thoroughly wipe down the meter Or use Super Sani-Cloth® & Sani-Cloth® HB Germicidal disposable wipes
Breeze2 Contour Contour TS	Clean exterior with lint free tissue moistened with 1:10 bleach/water disinfectant, wipe dry
Advocate Advocate Duo Advocate Redi-Code	Disinfection with bleach solution
Eclipse Element Envision Evolution GlucoLab	Apply an EPA-Registered disinfectant per product directions
One Touch Ultra 2 One Touch UltraMini One Touch UltraLink One Touch UltraSmart	Apply an EPA-Registered disinfectant per product directions
Nova Max Nova Max Link	Use a damp cloth with alcohol, avoid the face of the meter
Accu-Chek Aviva Accu-Chek Compact Plus Accu-Chek Advantage	Cloth with warm soapy water or 70% IPA Disinfecting-10% bleach/water solution made fresh daily or purchase a bleach cloth/ disinfecting wipe
Acura EasyGluco Infinity Maxima	Use any disinfectant on the outside of the meter, Clorox wipe, alcohol pad; avoid getting \products in the meter

References: CMS State Operations Manual; Glucometer product manuals.

Policy Review: Leave Of Absence Dispense

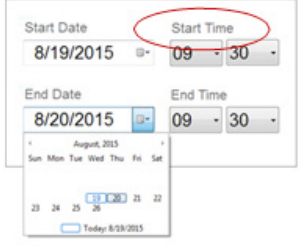
In order to safely accommodate your patients and increase the ease and convenience of obtaining medication, for any residents leaving the facility for a "leave of absence" (LOA) period, the AlixaRx ADU offers a LOA function. This LOA function can be found on the Main Menu of the ADU Software, and will allow you to obtain up to a 7 day's supply of medications including routine medications as well as specified PRN medications.

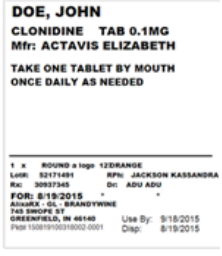
As a reminder, any patient's medications that are obtained using the LOA function from the ADU will stop dispensing automatically from the routine function UNTIL the LOA period has completed. At that point, the medications will resume dispensing as normal with the routines.

To access the LOA Function, log into the ADU Kiosk with your credentials, and select LOA from the list on the Main Menu.

Search for your patient in the patient listing and select the patient. **Reminder: make sure to double check that you have selected the correct patient before you move onto the next step. If you select the incorrect patient, you will have to place those medications in the med cart and use those packets for that patient until the LOA period is up. There is no way to RESET an LOA.**

Next select the appropriate calendar start and end dates as well as start time and end times. Be sure to verify all dates and times are correct before moving to the next screen. Once all the information is verified, select continue to PRN.




DOE, JOHN
CLONIDINE TAB 0.1MG
Mfr: ACTAVIS ELIZABETH
TAKE ONE TABLET BY MOUTH
ONCE DAILY AS NEEDED

Sample LOA Packet

Lastly, after selecting continue to PRN from the LOA screen; select the PRN medications you wish to send with the patient. **Reminder: the quantity you select on this screen will be the quantity you receive for each day of the LOA Period. For example, if you select a quantity of 2, and your patient is on LOA for 6 days, you will receive 12 PRN packets of that medication. ** **Click Dispense to receive your ADU LOA Packets.**

You will also receive a copy of the Medication Release/Receipt Form on your printer with a list of the medications that dispensed from the ADU pre-populated on the form. Any remaining spaces on the form can be utilized for Non-ADU items and Bulk medications if you so choose. If you need an additional LOA supply for any medications not available in the ADU, please contact your AlixaRx Pharmacy, and speak to a Customer Service Representative. The pharmacy should be able to accommodate any needs you may have for non-ADU medications, or bulk items.

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