

*Probiotics Administration for C. diff patients starts **April 2<sup>nd</sup>, 2018.***

*Read more about it here:*

As many of you know, hospitals around the country, including ours, are fighting to reduce Clostridium difficile (C diff) colitis. Salem Health is attacking the problem from multiple angles. The three main angles include antibiotic stewardship, reduction in excess proton pump inhibitor use (which increases risk of C diff), and also the addition of probiotic therapy in patients with C diff or at high risk for it. There are groups at Salem Health working on all three of these factors. This note is to inform you about the probiotics part of the plan. There is evidence that giving patients probiotics is helpful in those who have an active C. difficile infection and also in those with recent infections that are high risk for recurrence due to hospitalization, especially when they get broad spectrum antibiotics (overall the risk may be reduced by as much as 50% by use of probiotics). Since the evidence for probiotic use is the best in these two groups, we have formed an algorithm for probiotic use at Salem Health for them.

So, when a patient is admitted that is found to have active C diff colitis, he/she will be entered into the active C diff algorithm. This includes standard C diff treatment in addition to probiotic therapy. When a patient is admitted and has a history of C diff colitis within the last 18 months, he/she will be entered into a different probiotic algorithm.

The probiotics include either Kefir liquid (that can be given PO or per NG) or saccharomyces boulardii capsules (one brand is Florastor). Note that the saccharomyces should not be given to immunosuppressed patients. The proper use of these will be clearly spelled out in the algorithm. The plan is for the patients to continue the probiotic for 2 weeks after the completion of any antibiotics, so most patients will be sent home with instructions about continuing this therapy.

So, expect to be contacted by nursing when these patients are identified so that they can be entered into the treatment algorithm. We will have order sets to make it easy to start. Again, this is just one part of a multipronged attack on C diff at Salem Health. We have confidence that this coordinated system will really help!

Thanks!

Dr. Robert Ponec, Gastroenterology

Dr. Martin Johnson II, Pulmonary Medicine

See next pages 2 and 3

### What is changing:

- Administering probiotics for all adults over 18 yrs. of age (including obstetrical patients) to decrease the rate of c diff infections (CDI) (see attached algorithm)
- For patients with active C diff., on discharge:
  - A. Continue regimen of probiotics for 2 weeks after last does of antibiotic
  - B. Patients with history of C diff. can discontinue probiotics after discharge
- New Kefir and Florastor™ orders are available in EPIC
  - Kefir order is set to auto-verify and is supplied by dietary services

### Rationale:

- Two meta-analyses suggest that this approach may have surprisingly robust benefits. Pooled results from 14 trials showed a 71% reduction in C. difficile infections associated with probiotic use in a 2012 study. A more comprehensive analysis of 20 studies found a 66% reduction in infections among patients taking probiotics together with antibiotics (Lomangino, K. *Preventing C. Diff Infections: Are Probiotics the Answer?* Clinical Nutrition Insights, 39(7): 8-9, July 2014)
- Specific probiotics may modulate the intestinal mucosa by antagonizing pathogens through the production of antimicrobial compounds and chemicals, thereby reducing the rate of nosocomial infection and recurrence of *C. difficile* (Rohde, C.I., Bartolini, V. et al. *The Use of Probiotics in the Prevention and Treatment of Antibiotic Associated Diarrhea with Special Interest in Clostridium difficile associated Diarrhea.* Nutrition in Clinical Practice. 2009;24(1): 33-40.

### Planned “Go-Live” date:

- All adult admitted patients – **4/2/2108**

### Additional Helpful Details:

- New Kefir order in EPIC which will populate on the MAR

The screenshot shows an EPIC medication order form for "probiotic (KEFIR) supplement 150 mL". The form includes the following fields and options:

- Indications:** A search box and a checked checkbox for "Clostridium Difficile Infection".
- Order Inst.:** A text box containing "Supplied By Dietary Services." highlighted in yellow.
- Dose:** A field with "150" and "mL", and a "150 mL" button.
- Route:** Radio buttons for "Oral" (selected), "Nasogastric", and "Enteral".
- Frequency:** Radio buttons for "THREE TIMES DAILY" (selected), "three times daily", "BID", "QID", and "STAT".
- For:** Radio buttons for "Doses" (selected), "Hours", and "Days".
- Starting:** A date field set to "8/16/2017" and buttons for "Today" and "Tomorrow".
- First Dose:** A time field set to "1400" and buttons for "Include Now", "As Scheduled", and "At Nurse Discretion".
- Scheduled Times:** A list showing "8/16/17 1400, 2000", "8/17/17 0800, 1400, 2000", and "8/18/17 0800, 1400, 2000". A red arrow points to the 8/17/17 times, with a red box containing the text "Note Scheduled Times, standard TID medication times".
- Admin. Inst.:** A link "Click to add text".
- Prod. Admin. Inst.:** A text box containing "Supplied By Dietary Services. If administered via feeding tube: Instill 15 mL of free water to flush the tube feeding line before and after KEFIR..."

### MAR Entry:

The screenshot shows the EPIC Medication Administration Record (MAR) entry for "probiotic (KEFIR) supplement 150 mL". The entry includes the following information:

- Medication:** probiotic (KEFIR) supplement 150 mL ; Dose 150 mL ; Oral ; THREE TIMES DAILY ; 1400 Due
- Product Instructions:** Supplied By Dietary Services. If administered via feeding tube: Instill 15 mL of free water to flush the tube feeding line before and after KEFIR administration.
- Ordered Admin Amount:** 150 mL
- Pharmaceutical Class:** Antidiarrheals
- Next Actions:** 08/16 08/16 08/17 1400 2000 0800
- Frequency:** THREE TIMES DAILY
- Route:** Oral
- Order Dose:** 150 mL
- Adjust Times:** A link to adjust the medication times.

**Workflow to Initiate Probiotic Algorithm for In-Patient Adults  
Over 18 Years of Age Including Obstetric Patients with C. diff Infection (CDI)**

