



Probiotics In The Setting of Increased *C. difficile* Activity:

During periods of increased *C. difficile* activity on a specific ward or in an outbreak setting, we suggest considering the use of probiotics for patients while on systemic antibiotics to prevent further spread.

Probiotic available at HHS:

Lactobacillus rhamnosus 1 billion units per capsule (Bacid) 2 caps BID

Probiotic available at SJHH:

Lactobacillus rhamnosus 1 billion units per capsule (Bacid) 2 caps PO BID

OR

Lactobacillus 50 billion units (Bio-K Plus liquid) 98gm PO DAILY

Exclusion Criteria:

- Patients who are immunocompromised:
 - o immunosuppressive agents such as prednisone >50mg/day x 7 days, azathioprine, tacrolimus, any anti-TNF agents, active chemotherapy
 - o Neutropenic patients (total neutrophil count <500)
 - o HIV positive patients with CD4+ less than 250 cells/mm³
 - o Transplant patients

Other contraindications to probiotics that may be considered:

- Patients with central or PICC lines
- Patients with short bowel syndrome
- Patients who are hypersensitive to lactose/or milk
- Patients with prosthetic heart valves

Summary of Evidence:

A Cochrane review published in May 2013 by Goldenberg et al¹. evaluated 31 RCTs investigating probiotics for the prevention of *C. difficile* associated diarrhea (CDAD). A total of 4492 patients were pooled. When looking at patients who were on antibiotics (23 trials, 4213 patients), probiotics significantly reduced the risk of CDAD by 64% (RR 0.36; 95% CI 0.26 to 0.51), with an absolute risk reduction of 3.5% with a number needed to treat of 29 patients to prevent one episode of CDAD.

However, given the limitations in the published literature (publication bias, multiple formulations, and variations in dose and duration) and also in the light of the most recent multicenter RCT by Allen et al², which did not find a significant reduction of CDAD or antibiotic associated diarrhea in elderly patients, no recommendation for routine use of probiotics outside of a setting of increased *C. difficile* activity can be made at this point.

1. Goldenberg et al. Cochrane Database Syst Rev. 2013 May 31;5:CD006095. doi: 10.1002/14651858.CD006095.pub3.
2. Allen et al., Lancet. 2013 Aug 7. doi: S0140-6736(13)61218-0.10.1016/S0140-6736(13)61218-0

For questions or concerns, please contact the Antimicrobial Stewardship program at **DL-ASP@HHSC.CA**