

# Clinical Comparison: *Enemeez*® versus Bisacodyl Suppository

## Research Overview

The average length of stay (LOS) of patients on the SIS service has significantly decreased. Presently paraplegic patients' LOS is 3 weeks and tetraplegic patients' LOS is less than 6 weeks. Historically, it has been noted that physiologically, it takes a full 3-4 weeks to complete bowel training once a patient has been stabilized and treated for the impaction or constipation the patient developed in the referring facility. This change has affected the ability to complete patients' bowel rehabilitation before discharge. The consequence of this change is that patients are sent home continuing to experience fecal incontinence causing them great distress, endangering their skin integrity, and preventing their successful reintegration into the community. Patients have reported becoming so frustrated that they give up trying to manage their bowel program once they are home. Also, over this same period of time, the Bowel and Bladder FIM scores have dropped significantly.

The traditional bowel management program of oral stimulants, suppositories, and digital stimulation is time consuming and labor intensive, many patients experience fatigue as a result of the bowel program. Patients and caregivers are often repulsed by the techniques and thus resistant to learning the program, and frequent bowel accidents interfere with patients' full participation in therapy. The *Enemeez*® mini-enema has gained wide acceptance, especially within the Veterans Administration (VA) Spinal Injury System of care. Their experience has shown that bowel evacuation is much more efficient, with most bowel programs being completed in 15-30 minutes compared to 1-2 hours with the traditional bisacodyl suppository program. Bowel evacuations were more complete with fewer incidence of fecal incontinence between bowel programs. Patients experienced less fatigue and were more able to participate in therapy. Less time was spent sitting on the toilet, which decreased the patients' risk for development of pressure ulcers. The mini-enema program was less labor intensive resulting in fewer nursing hours devoted to the bowel program and reduced cost for attendant care upon discharge.

*Enemeez*® was trialed in an inpatient spinal injury unit (3South). From 10/19/09 to 11/04/09, bowel care events, duration and occurrence of incontinence were recorded among patients receiving standard bisacodyl suppository for bowel care to serve as baseline comparison to *Enemeez*®. Of the 48 bowel care events recorded, 20 episodes of fecal incontinence were observed and mean duration of bowel care with bisacodyl suppository was 118 minutes. *Enemeez*® was trialed on the unit from 2/16/10 to 7/18/10. Bowel care events, duration, and frequency of incontinence among patients receiving *Enemeez*® mini-enema were compared to the patients that received standard bisacodyl suppository. Of the 98 bowel care events, mean duration of bowel care was reduced to 75 minutes and incidence of fecal incontinence was reduced to 3, after introduction of *Enemeez*® mini-enema. Less time spent performing bowel care with *Enemeez*® during this in-house trial is consistent with the literature.

Reducing the time needed for patients and caregivers to perform bowel care potentiates achieving a functional bowel program by discharge. *Enemeez*® is a promising new development in bowel care that would likely improve our patient's quality of life and improve hospitals bowel FIM scores. Better FIM scores and better outcomes for our patients can translate into better reimbursement for the organization. Ultimately, what is good for the patient is good for the organization.

# Enemeez® Cost Analysis

## Incremental Cost-Effectiveness Ratio (ICER)

We are providing a two sample cost-effectiveness analysis; the data consists of cost variable, C represents cost of product as a treatment effectiveness indicator, E represents effective treatment costs.  $t$  represents patients who received the new treatment. Similarly, a pair of  $C_s$  and  $E_s$  values would be collected for each of the patients who received the standard treatment. In the incremental cost-effectiveness ratio, ICER Black (1990) is the ratio defined as the difference in average per patient cost divided by the corresponding difference in effectiveness average. Where  $t$  subscript denotes an average over patients on the new treatment, subscript  $s$  denotes the corresponding average for patients on the standard treatment.

$$\text{ICER} = \frac{C_t - C_s}{E_t - E_s}$$

$$\text{ICER} = \frac{\$1.16_t - \$0.60_s}{\$60.90_t - \$295.34_s}$$

**C represents product cost**

1.16 - .60

**E represents**

\$42.67 - \$67.14 Nursing Time for bowel care based on research from a California Rehab Facility (National Reported Average Rehabilitation Nurse \$34.15 per hour)

(75 Minutes) - (118 Minutes) (3) - (40)

\$17.07 - \$227.60 Based on California Rehab facility research: 98 patients. Episodes of incontinence. Nursing Time spent for incontinence related accidents based on a ten minute average for care. (\$34.15 per hour or \$5.69 per episode)

(3) - (40)

X - X Soft Cost - Laundry and Pads

## Patient Care: Episodes of Incontinence

**Summary: 42% of bisacodyl users** experienced at least one episode of incontinence when using a suppository, whereas that number drops significantly, to only **3%, when using Enemeez® mini-enemas.**

### Episodes of Incontinence By Product

