

## **Clinical Assessment of an Artificial Catheterizable Stoma (Vesicostomy Button) for Use in Urinary Retention - A Pilot Study**

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### **Introduction:**

Areflexic neurogenic bladder is a condition shared by many people, including diabetics, people with low spinal cord injuries, people with chronic obstruction of the bladder, and a host of other conditions, including multiple sclerosis. Current options for treatment of areflexic neurogenic bladder include intermittent straight catheterization, an indwelling urethral foley catheter, and an indwelling suprapubic tube. Of these, the best option is intermittent straight catheterization. However, a significant percentage of these patients are unable to perform this procedure, relegating them to either an indwelling urethral catheter or indwelling suprapubic tube. This significantly decreases quality of life and increases morbidity due to erosion of the urethra and symptomatic infections.

### **Hypothesis:**

We hypothesize that the Bard Gastrostomy button, used as a catheterizable urinary stoma, will significantly increase a patient's quality of life, decrease or eliminate the incidence of erosion, decrease or eliminate the incidence of encrustation, and significantly decrease the incidence of symptomatic infections.

### **Methods:**

Each patient first undergoes urodynamics in order to document an areflexic neurogenic bladder. Once this has been done, each patient then has a suprapubic tube placed. This is allowed to stay for one month, during which a tract forms between the skin and the bladder. At the end of one month, the patient is brought back. The suprapubic tube is removed, and the Bard button is placed. At this time, the patient undergoes cystoscopy in order to assess encrustation of the tube. If this is present, the stones are irrigated out of the bladder. The patient returns every two months for cystoscopy to assess for encrustation. Presence prompts a change of the button. Cultures are taken. If the patient has symptoms of infection, the culture is treated. At each cystoscopy, the patient is asked to answer a questionnaire regarding the button and its impact on their life.

### **Results:**

Thirteen patients total had the button implanted. Mean followup was 7 months. Of these, only two had symptomatic infections, with fevers, chills, bladder spasms, nausea and vomiting. Eleven did not have any symptomatic infections. However, all cultures taken at the time of cystoscopy were positive for colonization. The most common bacteria were E. Coli and Pseudomonas. Encrustation was only a problem for 1/13 patients. No patients developed erosion. Quality of life improvements were measured with questionnaires, and demonstrated a perceived increase on all counts.

### **Conclusions:**

The Bard gastrostomy button, when used as a catheterizable urinary stoma, provides a

decrease in symptomatic urinary infection, leads to a decrease in the incidence of encrustation, an elimination of erosion, and gives a significant increase in perceived quality of life. This is significant due to the fact that the prevalence of areflexic neurogenic bladder is so high, especially among the elderly diabetic population. With the elimination of urethral erosion and an easy method of consistent bladder drainage, the quality of life of these patients is significantly improved.