Introduction

The urinary system plays a major role in homeostasis by performing several functions. It assists in the regulation of blood volume and blood pressure, it regulates the concentration of plasma ions, and it contributes to the homeostasis of blood pH and prevents the loss of nutrients such as glucose and amino acids, while eliminating organic waste products. The healthy urinary system works efficiently at eliminating urine from the bladder **(Hadfield, 2001).**

Urinary catheterization is the insertion of a catheter through the urethra into the urinary bladder for withdrawal of urine. Straight catheters are used for intermittent withdrawals, while indwelling (Foley) catheters are inserted and retained in the bladder for continuous drainage of urine into a closed system. This intervention should only be considered after all other non-invasive management options have been explored and found to be unsatisfactory **(Moog, et al; 2005).**

Indwelling urinary catheters are used in the care of more than five million patients per year. Prevalence rates range from 4% in home care to 25% in acute care. The intervention is usually performed by healthcare staff in a variety of settings including acute care, primary care and long-term care. This intervention has been developed to cover male and female catheterization **(Tew, 2005).**

General principles of catheterization and infection control apply to all patient groups; however, some patient groups will have particular needs, e.g. patients with spinal injuries **(De Ridder, 2005).**

Staff working with these groups of patients must familiarize themselves with their unique needs. The duration of catheterization is

also variable within healthcare settings and is often related to the reason for catheterization **(Niel-Weise, 2005)**. For example, it can be of short duration (1-7 days) for postoperative patients, intermediate duration (7-30 days) for the measurement of urine output in critically ill patients, or of long duration (more than 30 days) for those patients with complications related to intractable incontinence or those with intractable incomplete emptying of the bladder. The range of reasons for catheterization and the varied duration of catheterization indicates the need to address practice-based issues **(Wilson, 2007).**

Clinical practice in catheter management varis widely and frequently are not evidence-based. Effective nursing measures include: identifying patients who no longer need indwelling catheters, discussing appropriate catheter alternatives and providing patients and caregivers with education. Many catheter-associated problems can be avoided by selecting a closed catheter system with a small size catheter (14 to 18 French with a 10-cc balloon), following manufacturer's recommendations for inflation/deflation, maintaining a closed system, securing the catheter, and properly positioning the drainage bag **(Toughill, 2005**).

Practice such as routine catheter irrigation should be avoided. Providing evidence-based catheter management strategies may reduce the rate of catheter-associated urinary tract infection, catheter encrustation, and leakage as well as the discomfort and costs associated with these complications **(Pratt, et al; 2001).**