

## UROLOGIC MANAGEMENT AFTER SPINAL CORD INJURY: DEVELOPMENT AND OUTCOMES OF A MULTIDISCIPLINARY COMPREHENSIVE SPINAL CORD CARE CLINIC

### Hypothesis / aims of study

A major cause of morbidity and mortality in spinal cord injured (SCI) patients is development of secondary conditions, and of these, urological complaints are the most common cause of re-hospitalization. In 2002 a multidisciplinary Comprehensive Spinal Cord Care Clinic was established at our institution to help facilitate the care of SCI patients and prevent the development of secondary conditions. We sought to identify predictors of follow-up with and emphasis on urologic care, and provide analysis of this clinic as a model for healthcare delivery. Participating departments included: Urology, Orthopaedics, Neurosurgery, Plastic and Reconstructive Surgery, Physical Medicine and Rehabilitation, Nursing, and Physiotherapy.

### Study design, materials and methods

A retrospective chart review was performed for all patients enrolled in the multidisciplinary Comprehensive Spinal Cord Care Clinic at our institution. Patients were classified as active or non-active. Demographic data included age, gender, race, level of injury, American spinal injury association (ASIA) classification, mechanism of injury, and appointment dates. Imaging and interventions were also recorded.

### Results

A total of 205 patients were enrolled. Of these, 99 (48.3%) were active and 106 (51.7%) were non-active. No significant differences were found between groups with regard to age, gender, race, or level of injury. Eighty patients (39%) were seen in the urology clinic. Of these 59 (73.8%) were active and 21 (26.2%) were inactive. Those who kept their Comprehensive Spinal Cord Care Clinic appointments were significantly more likely to have seen a urologist within the last two years ( $p < 0.001$ ). Average number of urology visits was 5.9. Patients managed their bladder with clean intermittent catheterization (41.3%), suprapubic tube (22.5%), and indwelling Foley catheter (5%). Urinary diversion was performed in 7.5% and 23.8% managed with other methods including timed voiding and Crede maneuvers. Other surgical procedures included inflatable penile prosthesis (4), augmentation cystoplasty (4), nephrectomy (2), extracorporeal shock wave lithotripsy (2), cystolithotomy (2), ureteral reimplant (1), and sling cystourethropexy (1). Multichannel videourodynamics were performed in 52.5%, and 86.3% had undergone at least one renal ultrasound.

### Interpretation of results

No demographic variables analyzed were found to be predictive of the likelihood of keeping regular follow-up appointments. However, we were able to demonstrate a significant relationship between clinic attendance and likelihood of seeing a urologist. Greater efforts are needed to ensure regular follow-up to help prevent the development of secondary complications.

### Concluding message

A multidisciplinary Comprehensive Spinal Cord Care Clinic provides an efficient model of health care delivery for patients with history of SCI. This model helps facilitate urologic care in these patients.

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<b><i>Is this a clinical trial?</i></b>	<b>No</b>
<b><i>What were the subjects in the study?</i></b>	<b>HUMAN</b>
<b><i>Was this study approved by an ethics committee?</i></b>	<b>Yes</b>
<b><i>Specify Name of Ethics Committee</i></b>	<b>University of Kansas Human Subjects Committee</b>
<b><i>Was the Declaration of Helsinki followed?</i></b>	<b>Yes</b>
<b><i>Was informed consent obtained from the patients?</i></b>	<b>Yes</b>