

# Checklist for radical cystectomy in patients with spinal cord injury

August 22 2022, by Anne Rommel

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Cancer is the third most common cause of death in people with spinal cord injury (SCI), with bladder cancer being the second most common cancer after lung cancer. It is not uncommon for bladder cancer in SCI patients to be discovered only as an advanced variant, muscle-invasive bladder cancer (MIBC), which is a very aggressive form. In these cases, only a radical cystectomy, the removal of the urinary bladder including the lymph nodes in the pelvic cavity, offers a chance of cure. Since the surgery of SCI patients with bladder cancer is associated with an increased risk, a team of researchers has compiled a list of recommendations for action to minimize the risk.

From 2001 to 2020, 12 patients with spinal paralysis and [bladder cancer](#) were examined at the BG Klinikum Hamburg and the Asklepios Clinic in Hamburg-Barmbek. All patients underwent an open radical cystectomy and bilateral removal of the pelvic lymph nodes. The research team developed a list of recommendations to optimize the operation as well as the pre- and post-treatment. The list is divided into three parts: preoperative, intraoperative and postoperative.

## **Recommended action**

Preoperative measures include considerations for optimal urinary diversion and medication. For example, the sitting position in a wheelchair must be taken into account when positioning the artificial urinary diversion, as well as the increased incidence of urinary tract infections in SCI patients. Overall, difficult anatomical conditions, increased [blood loss](#) and longer operation times are expected.

Intraoperatively, it should be noted that locally advanced tumors,

inflammations and scarring around the urinary [bladder](#) often occur, which have a high risk of bleeding. Possible implants (e.g. neuromodulators or anterior root stimulators) must be taken into account.

As postoperative treatment, the research team advises particularly close monitoring of the airway, the skin for pressure damage (decubitus) and wound healing. Physiotherapeutic breathing therapy should be started in the [intensive care unit](#) if possible. The research team sees neurogenic intestinal dysfunction as the main postoperative problem. This means that due to damage to the nervous system, such as in paraplegia, the functions of the intestine are restricted. A consequence of this can be an excessive accumulation of gas in the gastrointestinal tract (meteorism) or a standstill of the intestine (intestinal paralysis/intestinal atony). There is also an increased risk of complications with the suture (suture insufficiency) or peritonitis. Likewise, signs of autonomic dysreflexia must be watched for. In autonomic dysreflexia, there is an overreaction in the nervous system. This causes the [blood vessels](#) to constrict, triggering life-threatening high blood pressure (hypertonic blood pressure crises) and a drop in heart rate.

## High expertise required

All in all, a radical cystectomy for bladder cancer patients with paraplegia should only be performed in a hospital with a high level of expertise and by an experienced surgical team. This is the only way to reduce the significantly increased risk of complications to the risk level of patients without spinal paralysis, say the researchers. Close cooperation with the treating (neuro)urologist is also strongly recommended.

The research was published in *World Journal of Urology*.

**More information:** Ralf Böthig et al, Special surgical aspects of radical cystectomy in spinal cord injury patients with bladder cancer, *World Journal of Urology* (2022). [DOI: 10.1007/s00345-022-03939-y](https://doi.org/10.1007/s00345-022-03939-y)

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