

To people with a Spinal Cord Injury (SCI),

When living with a spinal cord injury (SCI), you face a lot of new challenges. One common problem is battling frequent urinary tract infections (UTIs), which you may already be familiar with along with its bothersome symptoms.

We are looking for people who use catheters long term to partner with us in developing a new predictive tool to diagnose UTI before it becomes a full-blown infection as well as devising preventive methods for frequent infections that follows long term use of catheters. With the help of the SCI community, we conducted a pilot study that showed each person has their own signature bacterial community that changes with a disturbance event such as infection. We now want to devise a simple, cheap, and fast way to predict and prevent UTIs in SCI community.

<https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0177633>

We would ask you to kindly donate your catheter when you would normally change it or think you have UTI Symptoms, along with a fresh urine sample. These samples will be sent to diagnostic laboratory each time as well as our research facility in University of Technology Sydney. We will also monitor your health with phone call every time after donating a sample.

We are looking for 60 participants with SCI (and their local doctors) to help us in developing this diagnostic tool that would benefit anyone who must use catheters long term. To join, you will need to have a Spinal Cord Injury, meet eligibility criteria (below), provide us with your consent to participate, and give permission to contact you and your local doctor to distribute health education materials about the study.

If you are interested in this study or have any further question, please contact our research team on 0295143367.

Yours sincerely,

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Inclusion criteria for participants taking part in this study includes:

- 1) Adults, age 18 years and older;
- 2) Had a known neurogenic bladder;
- 3) Had a stable SCI or stable multiple sclerosis with a known spinal demyelinating lesion;
- 4) Had a stable bladder management technique [i.e. not expected to change their bladder management technique, and having performed their (stable) bladder management technique for at least 4 weeks] and using a bladder management technique such as indwelling catheter, suprapubic catheter, clean intermittent self-catheterisation or reflex/condom drainage;
- 5) Agreed to fortnightly telephone consultation for themselves and their care team during the eighteen-month study period;
- 6) Agreed that the microbial samples and DNA from the catheter and urine samples you provide to be extracted and stored long-term.

Exclusion criteria for those who are *not eligible* to participate in the study includes:

1. Expected to change their bladder management technique or have changed bladder management technique within the past 4 weeks;
2. External condom drainage (ECD) is the only type of catheter used (ECD alongside intermittent catheter (IMC) is allowed);
3. Being treated for, or symptomatic from a current infection or longstanding pressure sore;
4. Known to have a complex bladder disturbance requiring surgical intervention e.g., known cystoplasty, renal or bladder calculus, significant hydronephrosis, or current pyelonephritis;
5. Known to have chronic open wound/s or known longstanding osteomyelitis [greater than 6 weeks];
6. On long-term antibiotic therapy for any indication;
7. Known to have severe renal or hepatic failure;
8. Requiring full [invasive] mechanical ventilation;
9. Receiving immunosuppressant medications or have an underlying immunosuppressive disease [for example HIV or endstage/Progressive diabetes mellitus, multiple sclerosis or cerebrovascular disease];
10. Concurrently enrolled in an intervention study which involves probiotics, bladder instrumentation, antibiotics of any sort or involving medications which would suppress the immune system; (observational studies or inclusion following completion of another study is allowed).