



Top Photo Left to Right: Cynthia Hiller and Joanne Vigue, NSQIP team

Left Bottom Photo: Dr. Paul Van Zyl, Orthopedic Surgeon

Right Bottom Photo Left to Right: Cynthia Hiller, Joanne Vigue and Dr. Paul Van Zyl, NSQIP team

NSQIP team at UHNBC successfully reduces the number of post-op surgical site infections by 62% for total hip replacement and 39% for total knee replacement

A Quality Improvement project by orthopedic surgeons and the National Surgical Quality Improvement Program (NSQIP) team at University Hospital of Northern British Columbia (UHNBC) has successfully reduced the number of post-op surgical site infections by 62% for total hip replacement (THR) and 39% for total knee replacement (TKR) during 2024.

Why it matters

Post operative orthopedic surgical site infections following joint replacement result in significant patient morbidity, increased hospital stays and often revision surgeries. Reducing post operative deep site infections improves joint function and mobility and reduces costs to the healthcare system. Infection rates are monitored provincially and facilities with low infection rates demonstrate improved patient outcomes and maintain a positive reputation. Once again, QI science and methodology has proven itself capable of tackling multifactorial, complex healthcare problems with positive results.

How they did it

In response to a higher-than-normal run of surgical total hip and total knee replacement surgical site infections (SSIs), a team consisting of UHNBC orthopedic surgeons Dr. Paul Van Zyl, Dr. Tyson Boettcher and Northern Health NSQIP team members Cynthia Hiller and Joanne Vigue, enrolled in Northern Health's Physician Quality Improvement (PQI) Program's Advanced Level 3 QI training (Virtual Action Learning Series Cohort 6). By applying QI science and methodology, they set themselves the aim of reducing THA and TKA site infections to below 2.5% for hips and 2.0% for knees within one year. Sequential introduction of change interventions helped cut the SSI rate for THR from baseline 3.7% to 1.4% and TKR from 3.0% to 1.9% achieving their goals and exceeding provincial standards. Plan-Do-Study-Act (PDSA) interventions were: antibiotic infused sutures, regular Sage wipe usage, Mepilex AG dressings, MRSA nasal decolonization protocols, improved shave prep and specific SSI education to ED and Family physicians. Congratulations to the UHNBC orthopedic surgery and NSQIP team on their project success improving patient care and becoming PQI Alumni.