Implementation of a Care Bundle to Reduce Surgical Site Infection in Orthopaedic Surgery of NDH

Tam OY(1)(5), Lee KP(1)(5), Yung ML(1)(5), Ip SY(1)(5), Ngai WK(2)(5), Wong WB(2)(5), Tam KT(2)(5), Li WS(2)(5), Li YN(2)(5), Chen PP(3)(5), Li TY(3)(5), Chiu HF(4)(5), Kwan WY(4)(5)
(1)Infection Control Team, (2)Department of Orthopaedics & Traumatology, (3)Department of Anaesthesia, (4)Department of Operating Theatre, (5)North District Hospital

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Introduction
Since 2014, an increasing trend of surgical site infections (SSI) was noted in Orthopaedic Surgery. SSI increased from to 6 cases in 2013 to 11 cases in 2014. The trend of compliance in antibiotic prophylaxis “within 30 minutes before incision” was decreasing from 88.1% in 2012 to 83.6% in 2014. Further breakdown of the compliance rate in 2014, the rate continuous dropping from 83.93% in 1Q to 85.94% in 2Q and reached 78.9% in 3Q, 85.71% in 4Q 2014.

Objectives
To implement care bundles to reduce the risk of surgical site infection for Orthopaedic Surgery from February 2015 in NDH.

Methodology
In addition to the Recommendations on Prevention of SSI by SCIC, ICB & CHP 2009, the care bundle was implemented to reduce the risk of SSI in patients undergoing orthopaedic surgery from February 2015. It was consists of 5 elements including:
1). Appropriate Time of Antibiotic Prophylaxis (timing and re-dosing): Administration of prophylactic antibiotic at the time of draping is adopted - Draping time should be confirmed at timeout and write down in the MARv by surgeon accordingly - Antibiotic prophylaxis should be injected before application of tourniquet - "Re-dosing after ___ hours" would be written on the white board in the operating room (OR) 2). Surgical Scrubbing - Keep maximum one bottle of Povidone iodine and three bottles of Chlorhexidine in each scrub bay area 3). Surgical skin preparation - Pilot use of 2% chlorhexidine with 70% alcohol in Laminectomy surgery 4). Post-operation care - Silver dressing material is used to keep intact for 1 week if not contraindicated - Special OT wound drape is used during wound inspection in Ward - Should preform hand hygiene before handling sterile equipment and applying outer dressing of the post-operation wound 5).
Result
The SSI rate in Orthopaedic Surgery was decreased from 3.8% in 2014 and 2.6% in 1Q 2015 to zero in 2Q & 3Q 2015. The compliance in antibiotic prophylaxis was increased from 83.6% in 2014 to 89.9% in 1Q, 92% in 2Q and 100% in 3Q 2015. The care bundle could be successfully implemented to improve patient safety and reduce SSI's in patients undergoing Orthopaedic Surgery through a multidisciplinary teamwork and collaboration among healthcare professionals.