

# MARCQI Infection Prevention Toolkit

| Prevention Period   | Evidence Based Recommendations  | Best Practice Recommendations  |
|---|---|--|
| <p style="text-align: center; font-size: 24pt; font-weight: bold;">Pre-Operative</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px; color: red; font-weight: bold;"> <p><i>Greatest opportunity to impact patient risk factors</i></p> </div> | <ul style="list-style-type: none"> <li>● <b>EDUCATION:</b> <ul style="list-style-type: none"> <li>○ SSI prevention (CHG bathing instructions, hand washing, clean linens) [1]</li> <li>○ CHG pre-op cleanse, <b>following the product instructions</b> [1,2]</li> <li>○ Cessation of smoking <b>at least</b> 30 days pre-operatively [3,4]</li> <li>○ Hand hygiene – Staff, patients and family [1,2]</li> </ul> </li> <li>● <b>MRSA/MSSA SCREENING:</b> Recommend screening of nares for Staphylococcus aureus (MSSA, MRSA) using a method that your facility determines is optimal for the population you serve [5]           <ul style="list-style-type: none"> <li>○ If positive for MRSA, use this result to guide selection of pre-op antibiotic prophylaxis</li> </ul> </li> <li>● <b>MRSA/MSSA DECOLONIZATION:</b> For those found to be colonized with Staphylococcus aureus (MRSA, MSSA or both), treat as follows <b>per product instructions and facility-specific policy:</b> [5]           <ul style="list-style-type: none"> <li>○ Nasal Decolonization: Apply Intranasal Mupirocin for 5 days beginning <math>\geq</math> 2 days prior to day of surgery and continue for full 5 days <b>OR Intranasal</b> Povidone-Iodine Solution 5%, 2 applications <math>\geq</math> 1 hour prior to incision</li> <li>○ Body Cleanse - CHG 2% [2,6,7,8]               <ul style="list-style-type: none"> <li>▪ <b>DO NOT</b> use CHG on face, hair or genital area. Apply from chin to toes.</li> <li>▪ If using CHG liquid soap, shower or bathe at least the night before and morning of procedure</li> <li>▪ If using CHG cloth, use at least the night before surgery</li> <li>▪ If sensitive to CHG, use any antimicrobial or regular soap</li> </ul> </li> </ul> </li> <li>● <b>ANTIBIOTICS:</b> Select appropriate antibiotic prophylaxis according to guidelines: [9,10,11]           <ul style="list-style-type: none"> <li>○ Cefazolin for all patients except b-lactam allergic</li> <li>○ Clindamycin <i>or</i> Vancomycin for b-lactam allergic</li> <li>○ Vancomycin + Cefazolin for MRSA positive</li> <li>○ Administer pre-op antibiotics consistent with National Guidelines (Within 1-hour pre-incision and 2 hours when using Vancomycin) [9,10]</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>● Clean pajamas worn by everyone in your bed, keep pets out of the bed from night before surgery through post-operative period</li> <li>● Optimize treatment/management of medical co-morbidities</li> <li>● Counsel patient on nutrition and weight management.</li> <li>● Treat remote infections prior to surgery or delay the case (Microbial colonization without infection should not be treated with antimicrobials, except with Staph Aureus nasal colonization)</li> <li>● If MRSA positive, follow facility-specific policy for isolation and/or refer to HICPAC/CDC Isolation Guidelines; 2017 [14]</li> </ul> |

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| <p style="text-align: center;">Pre-Operative</p>   | <ul style="list-style-type: none"> <li>○ Use weight based dosing and repeat doses during prolonged procedures per national guidelines and facility-specific policy</li> <li>● <b>HAIR REMOVAL:</b> Do not remove hair unless absolutely necessary [6,13]               <ul style="list-style-type: none"> <li>○ If removing, use clippers or depilatory creams, not a razor</li> <li>○ Preferably remove hair in pre-operative area</li> </ul> </li> </ul>   | <ul style="list-style-type: none"> <li>● Instruct patient to not use razor around affected joint for 1-2 weeks prior to scheduled surgery. Rationale is to avoid any abrasions on skin near planned surgical site.</li> </ul> |
| <p style="text-align: center;">Intra-Operative</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px; color: red; font-weight: bold;"> <p>Many surgical site infections are seeded during surgery</p> </div> | <ul style="list-style-type: none"> <li>● Intra-op re-dosing is recommended per policy [10]</li> <li>● Prep with an alcohol-based agent, unless contraindicated [2,14]               <ul style="list-style-type: none"> <li>○ Follow product instructions</li> <li>○ Ensure compatibility if using incise drape</li> <li>○ Ensure competency of peri-operative staff on hire and annually per facility specific policy</li> </ul> </li> <li>● Open trays/ containers of sterile surgical instruments and implants as close to the start of the surgical procedure as possible. [6]</li> <li>● Minimize intraoperative foot traffic, door opening and total personnel in room [14,15,16]               <ul style="list-style-type: none"> <li>○ Use banners or signs at points of entry to Operating Room, e.g. "<b>DO NOT ENTER</b> except for emergency; <b>JOINT REPLACEMENT</b> underway"</li> </ul> </li> <li>● Maintain HVAC parameters consistent with ASHRAE 170 standard [14,17]</li> <li>● Maintain perioperative normothermia [2]</li> <li>● Consider implementing perioperative glycemic control; blood glucose target &lt;200mg/dL [2]</li> <li>● Scrub team to follow your facility's policy for attire [14,19]</li> </ul> | <ul style="list-style-type: none"> <li>● Consider routine use of pre-incision checklist (Rebecca: I checked several sources-WHO, CDC, NHI and they are all older sources for using surgical checklist.</li> </ul>             |
| <p style="text-align: center;">Post-Operative</p>  | <ul style="list-style-type: none"> <li>● Discontinue antibiotic prophylaxis within 24 hrs after closure of incision. [10,12,15]</li> <li>● Consider not using an indwelling urinary catheter [18,19]               <ul style="list-style-type: none"> <li>○ If used, remove <b>ASAP</b> and &lt; 24 hours after placement [18,19]</li> </ul> </li> </ul>   | <ul style="list-style-type: none"> <li>● Apply sterile dressing and ensure it stays clean/dry/intact for at least 24-48 hrs post operatively</li> </ul>   |

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| Additional Strategies | <ul style="list-style-type: none"> <li>• Share SSI rates with surgeons and perioperative team [14,16]</li> <li>• Ensure <b>ongoing education</b> with staff on hire and annually thereafter to prevent SSI's [14]</li> <li>• Collaborate with Quality Leadership to improve compliance with the above strategies               <ul style="list-style-type: none"> <li>○ Create processes to monitor and analyze the evidence based and best practice recommendations in this toolkit [14]</li> </ul> </li> </ul> |                               |

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