Appendix Table F4. Infection control practices in studies that did not use statistical methods to attempt to control for confounding or secular trends

| **Author,****Year,****Country** | **MRSA Strategy** | **Control- ICP for MRSA+** | **Control-ICPW** | **Control- BICP** | **Intervention- ICP for MRSA+** | **Intervention-ICPW** | **Intervention-BICP** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Blumberg, et al., 1994,17 South Africa | Screening of ICU Risk Pts Vs No Screening | None | None | None | Isol/coh (only for patients admitted to ICU, not for those admitted to pediatric oncology unit), BP, INAM, TAMW, alcohol-based hand rubs. Attempt to perform cohort nursing. Repeat assays. | None | None |
| Bowler et al., 2010,18 USA | Screening of High Risk Pts Vs No Screening | None | None | None | None | INAM, TAMW, POAB, Repeat assays, screening of household contacts | None |
| Boyce et al., 2004,19 USA | Screening of ICU Risk Pts Vs No Screening | None | None | None | Contact precautions | None | None |
| Chen et al., 2012,20 US | Screening of surgical patients vs no screening |  |  |  | Screening performed prior to hospitalization | Intranasal antimicrobials; topical antimicrobials |  |
| Clancy et al., 2006,21 USA | Screening of ICU Risk Pts Vs No Screening | Isol/coh, BP,  | None | BP | Isol/coh, BP, HWCC, contact isolation compliance checks, repeat assays  | None | New MICU with 24 private rooms (prior unit with only 1 private room). Two new general medical and surgical floors, each with 22 private rooms (previously no private rooms). Increased availability of alcohol hand foam dispensers. |
| de la Cal et al., 2004,22 Spain | Screening of ICU Risk Pts Vs No Screening | Isol/coh, BP, HW | None | BP, HW, Decontaminate spaces,  | Interventions 1 and 2: Isol/coh, BP, TAMW, PO/IVAB, HW, PO antibiotics. | None | Intervention 1: BP, HW, Decontaminate spaces, Intervention 2: Same as intervention 1 plus oral antibiotics (for high risk patients), selective digestive decontamination with PO and IVAB, topical antibiotics, TAMW.  |
| Enoch, 2011, UK | Expanded screening vs limited screening | Decolonization until screen negative |  | Daily review of MRSA patients. Annual deep clean of clinical areas. Board provided with monthly review. |  | Opening of new isolation ward. Octenisan used to replace Aquasept for decolonization. Beginning in 4/09, decolonization of all pts admitted to ICU/HDU, irrespective of result. New inf control matron & secretary posts appointed. Wkly review of +ve pts by multi-disciplinary team (consultant microbiologist, inf control nurse, antibiotic pharmacist and ward matron)Peripheral cannula access nurse appointed. New inf control nurse appointed (one whole-time equivalent). Enhanced information provided of MRSA status on discharge from acute trust to community regarding ongoing Rx, monitoring and risk of recurrence | Antibiotic audit program. Care bundles introduced (adapted from Saving Lives). Central lines, peripheral lines, urinary catheters. Competencies for asepsis introducedChloraprep for catheter insertion introduced. Peripheral cannula access team created in Sept 2009. Close liaison between matrons/ facilities and cleaning contractor. Enhanced deep clean activities. Enhanced educationChlorclean introduced for environmental cleaning of contaminated bed spaces/ isolation facilities. New inf control matron and secretary posts appointed. Weekly review of positive patients by multi-disciplinary team ( |
| Eveillard et al., 2006,24 France | Expanded Vs Limited Screening | None | Isol/coh, BP | None | None | Isol/coh, BP | None |
| Girou et al., 2000,25 France | Expanded Vs Limited Screening | Isol/coh, BP, HW (for patients at high risk of MRSA acquisition only) | Isol/coh, BP, HW, repeat assays  | None | Isol/coh, BP, HW (for patients at high risk of MRSA acquisition only) | Isol/coh, BP, HW, repeat assays. | None. |
| Jog et al., 2008,26 UK | Screening of Surgical Pts Vs No Screening | None | Isol/coh, Computer alerts, Antibiotics Route Unspecified | Decontaminate spaces, Other- Ward audits on IC practices and education | INAM, Other- topical triclosan 2% | Isol/coh, INAM, IVAB, Computer alerts, Other- topical triclosan 2% | Unspec HH, Decontaminate spaces, Other- Ward audits on IC practices and education |
| Kelly et al., 2012,27 Ireland | Screening of surgical patients vs no screening |  |  |  | Where bed numbers allowed, patients from high risk populations (e.g., health care workers, nursing home residents and those known to be previously colonized or infected with MRSA) were nursed in isolation until results were available.  | Intranasal antimicrobials and/or chlorhexidine bodywash. Repeat swabs. Isolation. | Patients in the same room of a ward in which a MRSA patient had been staying were repeat swabbed and isolated if positive. Nursing and medical staff began wearing disposable aprons and gloves for all MRSA patient interactions. Alcohol hand rub containers were installed outside each ward room. The charge nurse was responsible for ensuring adherence to infection control standards. |
| Keshtgar et al., 2008,28 UK | Screening of High Risk Pts Vs No Screening |  None  |  None | None | INAM, TAMW for patients who required emergency surgery before results returned | INAM, TAMW , IVAB (if antibiotic prophylaxis required) | None  |
| Kim et al., 2010,29 USA | Screening of Surgical Pts Vs No Screening | None | None | None | None | Isol/coh, INAM, TAMW, IVAB, Repeat assays, Other- personalized education and instruction on the eradication by telephone | None |
| Kurup et al., 2010,30 Singapore | Screening of ICU Risk Pts Vs No Screening | None | None | None | Isol/coh, TAMW, Repeat assays | None for the 1st half of the intervention periodTAMW for the 2nd half of the intervention period | Staff education. HH campaign. HWCC.  |
| Lipke et al., 2010,31 USA | Screening of Surgical Pts Vs No Screening | None | None | None | None | INAM, TAMW, Other- Education booklet: Living with MRSA, which included facts, treatment and prevention related to MRSA infections | Other- The nurses had a pre-intervention in-service program that ensured that they understood nursing practice changes, change antiseptic cloth before surgery |
| Malde et al., 2006,32 UK | Screening of ICU Risk Pts Vs No Screening | None | None | None | Isol/coh, BP, Unspec HH | NoneIsol/coh, BP, INAM, TAMW, PO/IVAB, MW, Unspec HH, Repeat assays, Delayed admission | HW |
| Nixon et al., 2006,33 UK |  | Elective: NoneTrauma: | Elective: Isol/coh, BP, INAM, TAMW, HWTrauma: | Elective: NoneTrauma: | Elective: Other- delayed admission;Trauma: TAMW, Antibiotic route unspecified | Elective: TAMW, Delayed admission, Antibiotic route unspecified, Other- beds are "ring-fenced"Trauma: Isol/coh, BP, TAMW, IVAB, Repeat assays, Delayed admission | Elective and Trauma: Decontaminate spaces, Other- staff education program, Environmental cleaning guideline, Alcohol-based hand rubs |
| Pan et al., 2005,34 Italy | Screening of High Risk Pts Vs No Screening | None | None | None | None | Isol/coh, BP, INAM, TAMW, HW, Other- Colonized wounds were treated with TAM cream | None |
| Pofahl et al., 2009,35 USA | Screening of Surgical Pts Vs No Screening | Isol/coh | Isol/coh | None | None | INAM, TAMW | None |
| Salaripour et al., 2006,36 Canada | Screening of High Risk Pts Vs No Screening | None | None | None | None | Contact precautions, TAMW, PO/IVAB,, Decontaminate spaces, Signs, Computer alerts, patient and family education. Provided housekeeping with list of rooms of patients under precautions. | Revamp policies for contact precautions, environmental cleaning and transport. Calls to clinical units to remind them to culture high-risk patients. Education of staff. Hand hygiene campaign. |
| Sankar et al., 2005,37 UK | Screening of ICU Risk Pts Vs No Screening | None | IVAB | IVAB | None | INAM, TAMW, IVAB, Repeat assays, Delayed admission | Other- IV antibiotics |
| Schelenz et al., 2005,38 UK | Expanded Vs Limited Screening | None | INAM, TAM, Iso (if isolation room available), BP | None | Decolonization (INAM, TAM) of patients with pending screening test results 24 hours before surgery. Admission of patients from high-risk units (ICUs, other hospitals), only after MRSA status known. | INAM, TAM, Iso, BP, alcohol hand rub,  | Audit + feedback. Education. Closure of operating rooms to facilitate repairs. Designated nurses for MRSA + patients. Nursing care pathway for MRSA. Use of clippers to prepare the skin in the OR. Pre-operative skin disinfection with a rapidly drying solution. Improvements in environmental cleaning. Alternative in IV antibiotic prophylaxis. Recovery in the OR when possible, rather than admission to the ICU.  |
| Simmons et al., 2011,39 USA | Screening of ICU Risk Pts Vs No Screening | Contact isolation, decolonization (type unspecified), Repeat assays | None | None | Contact isolation, decolonization (INAM) an option, Repeat assays | None | Nurses given compliance reports for swab collection and initiation of isolation precautions |
| Sott et al., 2001,40 UK | Screening of Surgical Pts Vs No Screening | None | None | None | None | INAM, TAMW, Antibiotic route unspecified, Other- patient counseled by nurse | Other- standard antibiotic prophylaxis |
| Souweine et al., 2000,41 France |  | None | None | None | Isol/coh, BP, INAM, TAMW, HW, Repeat assays, Other- All soiled articles, moist body substances, and waste were wrapped in double bags before removal from rooms | Isol/coh (for patients transferred from another ICU) | Other- imipenem as empiric antibiotic treatment is discouraged; prompt discharge of patients is mandatory, Reinforcement of IC practices |
| Supriya et al., 2009,42 Scotland | Screening of Surgical Pts Vs No Screening | None | Isol/coh | None | Isol/coh | Isol/coh, CHKGL, Repeat assays | Repeat assays |
| Thomas et al., 2007,43 UK | Screening of ICU Risk Pts Vs No Screening | None | None | None | None | INAM, TAMW, IVAB, Delayed admission, Antibiotic route unspecified | Other- Prophylaxis: Antibiotic Rout Unspecified |
| Thompson et al., 2009,44 UK | Expanded Vs Limited Screening | None. | Isol/coh, BP, Unspec HH, Decontaminate spaces, TAM, INAMOther- Bed curtains replaced and unused items disposed of | Unspec HH, daily cleaning of each bed space. Campaigns to improve practice. | None | Isol/coh, BP, INAM, TAMW, Unspec HH, Other- bed curtains replaced and unused items disposed of.  | TAMW, Unspec HH, HWCC, Other- OR scrubs for medical staff and computer keyboards with wipeable surface introduced. Standardized central line care and care to prevent ventilator-associated pneumonia. |
| Trautmann et al., 2007,45 Germany | Expanded Vs Limited Screening | None | Isol/coh, BP (short/long sleeved gowns), INAM, TAMW, Decontaminate spaces. Oral rinses for some. | None | None | Isol/coh, BP (long sleeved gowns), INAM, TAMW, Decontaminate spaces, Oral rinses for some, written MRSA standard. Signs, Alcohol-based hand rubs, MRSA "carts" were placed outside MRSA patient room which supplied separate supplies for MRSA patients like reusable stethoscopes and blood pressure cuffs. Hand disinfectant, gloves, gowns and masks were also on the cart. Electronic flagging of patient charts. | Surveillance, feedback and staff training also implemented. |
| Walsh et al., 2011,46 USA | Screening of Surgical Pts Vs No Screening | None | Isol/coh, HW, Antibiotics Route Unspecified | TAMW, IVAB, Other- Glucose control | None | INAM, Repeat assays, Antibiotic route unspecified | Repeat assays, Other- Intranasal antimicrobial |
| Wernitz et al., 2005,47 Germany | Screening of High Risk Pts Vs No Screening | Isol/coh, BP, TAMW | Isol/coh, BP, INAM, TAMW, PO/IVAB (if necessary for clinical indications) HH, Repeat assays | None | Isol/coh, BP, TAMW (all for potential MRSA carriers only) | Isol/coh, BP, INAM, TAMW, PO/IVAB (if necessary for clinical indications) , Unspec HH ,Repeat assays | None |
| West et al., 2006,48 USA | Expanded Vs Limited Screening | Isol/coh, BP for patients with MRSA coloniza-tion or infection on previous admission | Isol/coh, BP, HW, Decontaminate spaces, Alcohol-based hand rubs | None | Isol/coh, BP for patients found to have MRSA colonization or infection on previous admission | Isol/coh, BP, HW, Decontaminate spaces, Alcohol-based hand rubs | None |

BICP: Background infection control practices; BP: Barrier precautions; CHKGL: Checklist/Guidelines; Coh: Cohorting; HH: hand hygiene; HWCC: hand hygiene compliance checks; ICP: Infection control practices; ICPW: Infection control practices while waiting for MRSA results; ICU: Intensive care unit; INAM: Intransal antimicrobial; Iso: isolation; IV: Intravenous; IVAB: Intravenous antibiotics; MICU: Medical intensive care unit; MRSA: Methicillin resistant infection control practices; NG: Nasogastric; OR: Operation room; PO: Oral; POAB: Oral antibiotics; TAMW: Topical antimicrobial wash; Unpsec: Unspecified; VRE: Vancomycin resistant enterococcus