Appendix Table C5b-LQ(3). Adherence outcomes for SSI which do not control for secular trend or confounding

| **Study** | **Infection** | **Intervention(s)** | **Pre-intervention Adherence rate** | **Post-Intervention Adherence Rate** | **Adherence Rate Statistical Analysis** | **Follow-up (months)** |
| --- | --- | --- | --- | --- | --- | --- |
| Acklin, Switzerland - 2011 | SSI | bundle - antibiotic prophylaxis, skin prep, sterile dressing | antibiotic timing: 57.6% | antibiotic timing: 69.9% | chi square, p=0.016 | 12 |
| Awad, United States - 2009 | SSI | MRSA bundle | screening on admission: 94%; screening on discharge: 82% | screening on admission: 95%; screening on discharge: 86% | chi square: p=NS | 24 |
| Berenguer, United States - 2010 | SSI | implementing SCIP measures | SCIP compliance: 38% | SCIP compliance: 92% |  | 12 |
| Berry, United States - 2009 | SSI | ProvenCare |  | initial: 59%; 3 mos: 100%; 12 mos: 100% |  | 12 |
| Carles, France - 2006 | SSI | surgical antibiotic prophylaxis kit (SAPK) | overall: 41%; antibiotic choice error: 28%; dose error: 0%; timing error: 24%; injection after incision: 1%; SAP duration error: 22% | overall: 82%; antibiotic choice error: 3%; dose error: 0.5%; timing error: 12%; injection after incision: 1.6%; SAP duration error: 1.5% | Overall, t test: p<0.001; antibiotic choice error, RR: 0.74, 95% CI: (0.6-0.88), t test: p<0.001; dose error, RR: 1.01 (0.99-1.02) t test: p=NS; timing error, RR: 0.86 95% CI: (0.78-0.98) t test: p=0.003; injection after incision, RR: 0.65 95% CI: (0.11-1 | 2 |
| Forbes, Canada - 2008 | SSI | bundle - glucose control by screening all pts prior to surgery, administering weight-based regimen of insulin to diabetics, monthly performance figures posted in OR | glucose <4 mmol/L: 4.8%; glucose >11 mmol?L: 17.7% | glucose <4 mmol/L: 0.4%; glucose >11 mmol/L: 14.2% | glucose <4 mmol/L, chi square: p<0.003 glucose >11 mmol/L, chi square: p=0.23 | 11 |
| Forbes, Canada - 2008 | SSI | bundle - maintain normothermia by warming OR to 22 C, standardizing IV warmers and forced air devices, monthly performance figures posted in OR | pts with temp >36 C: at start: 53.8%, at end: 60.5%, on arrival at ward: 90.1% | pts with temp >36 C: at start: 54.7%, at end: 97.6%, on arrival at ward: 100% | at start: RR=1.01 (0.77-1.34) p=0.90; at end: RR=1.61 (1.34-1.94) p<0.001; on arrival at ward, chi square: p=0.003 | 11 |
| Forbes, Canada - 2008 | SSI | bundle - antibiotic administration in OR, pre-printed order form to standardize choice of antibiotic, monthly performance figures posted in OR | antibiotic 1: <60min: 5.9%, 61-120min: 48.2%, 121-180min: 36.5%, >180min: 9.4%; antibiotic 2: <60min: 12.1%, 61-120 min: 50%, 121-180min: 29.3%, >180min: 8.6% | antibiotic 1: <60min: 92.6%, 61-120min: 3.2%, 121-180min: 2.1%, >180min: 0%; antibiotic 2: <60min: 93.8%, 61-120min: 1.5%, 121-180min: 0%, >180min: 0% | Only values 92.6% and 93.8% in <60min were significant for both antibiotic 1 and 2, chi square: p<0.001; all other p=NS | 11 |
| Gomez, Argentina - 2006 | SSI | automatic stop prophylaxis form | timing: 55%; choice: 74%; duration: 44% | timing: 88%; choice: 87%; duration: 55% | timing: RR 0.27 95% CI:(0.25-0.30) p<.01; choice: RR 0.50 (0.45-0.55) p<.01; duration: RR 0.80 (0.77-0.84) p<.01 | 36 |
| Graf, Germany - 2009 | SSI | bundle - SSI |  |  |  |  |
| Hermsen, United States - 2008 | SSI | Standardized order form | compliance with recommendations on form: 25%; appropriate antibiotic: 62.3%; appropriate duration: 77.8% | compliance with recommendations on form: 66%; appropriate antibiotic: 84.9%; appropriate duration: 89.1% | compliance with recommendations, Fisher: p<0.001; appropriate antibiotic, Fisher: p<.001; appropriate duration, Fisher: p<.001 | 9 |
| Ichikawa, Japan - 2007 | SSI | Implementation of Antibiotic Protocols | Correct admin of pre-operative Abs: 67%; post-operative Abs: 100% | Correct admin of pre-operative Abs: 100%; post-operative Abs: 100% |  | 15 |
| Kable, Australia - 2008 | SSI | bundle - antibiotic prophylaxis | TURP: 46%; cholecystectomy: 15%; herniorrhaphy: 56%; hysterectomy: 1%; joint arthroplasty: 95%; overall: 46% | TURP: 73%; cholecystectomy: 17%; herniorrhaphy: 70%; hysterectomy: 25%; joint arthroplasty: 95%; overall: 64% | overall: 18%, 95% CI:(12%-23%) | 6 |
| Kramer, United States - 2008 | SSI | nomogram for glycemic control |  |  |  |  |
| Liau, Singapore - 2010 | SSI | bundle - antibiotic, glucose control, clippers, normothermia |  | timing of antibiotic: 89%; clipper use: 91%; normoglycemia: 76%; normothermia: 44% |  | 24 |
| Martin, United States - 2010 | SSI | surgical wear changes in Mohs surgery |  |  |  |  |
| Nemeth, United States - 2010 | SSI | Education program | Timely administration: 90% | Timely administration: 85% | p=.223 | .16 |
| Ozgun, Turkey - 2010 | SSI | antibiotic prophylaxis education | total compliance: 34.3%; incorrect choice: 8%; inappropriate dose: 5%; prolonged use: 35%; appropriate choice, dose, duration: 52% | total compliance: 28.5%; incorrect choice: 6%; inappropriate dose: 0%; prolonged use: 52%; appropriate choice, dose, duration: 42% | total compliance χ2/Fishers exact: p=0.59; incorrect choice χ2/Fishers exact: p=0.51; inappropriate dose χ2/Fishers exact: p<0.001; prolonged use χ2/Fishers exact: p=0.01; appropriate choice, dose, duration χ2/Fishers exact: p=0.09 | 3 |
| Parker, United States - 2007 | SSI | Six Sigma methodology and antibiotic prophylaxis | overall: 38% | overall: 86%; orthopedic: 37-87%; colorectal: 31-89%; gynecologic: 43-92%; vascular: 67-61% | orthopedic p<0.01; colorectal p<0.01; gynecologic p<0.01; vascular p=0.6 |  |
| Pastor, United States - 2010 | SSI | task force to meet SCIP process measures | global compliance with SCIP measures: 40%; global compliance with all measures: 30% | global compliance with SCIP measures: 68%; global compliance with all measures: 50% | for both measures, Pearson: p<0.001 | 14 |
| Paull, United States - 2010 | SSI | The Briefing Guide (BiG) | antibiotic prophylaxis: 92% +/- 1.5% | antibiotic prophylaxis: 97.0% +/- 0.1% | t test, p=0.01 | 12 |
| Potenza, United States - 2009 | SSI | bundle - glucose control | 100% | 91% | chi square, p=.19 | 27 |
| Potenza, United States - 2009 | SSI | bundle - appropriate hair removal | 100% | 100% | chi square, p=NA | 27 |
| Potenza, United States - 2009 | SSI | bundle - antibiotic prophylaxis | timing: 81%; selection: 89%; discontinuation: 58% | timing: 98%; selection: 100%; discontinuation: 91% | timing, chi square: p=.02; selection, chi square: p=.01; discontinuation, chi square: p=.01 | 27 |
| Potenza, United States - 2009 | SSI | bundle - normothermia | 91% | 94% | chi square, p=.73 |  |
| Rauk, United States - 2010 | SSI | bundle - skin prep and instrument sterilization |  |  |  |  |
| Shimoni, Israel - 2009 | SSI | Empowering surgical nurses | compliance: 25.2% | compliance: 100% | Chi-Square: p<0.001 | 12 |
| Suchitra, India - 2009 | CAUTI;SSI | Education Program |  |  |  |  |
| Takahashi, Japan - 2010 | SSI | Departmental Education | duration of AMP (days): mean 2.42 (SD 1.86); initial dose w/in 1 hr of incision (% of patients): 95% | duration of AMP (days): mean 1.56 (SD 1.53); initial dose w/in 1 hr of incision (% of patients): 100% | duration of AMP, t test: p<0.001; initial dose w/in 1 hr of incision, chi square: p<.001 | 3 |
| Wax, United States - 2007 | SSI | Electronic reminder for provider | 82.4% | overall: 89.1%; acknowledged reminder: 93.4%; did not acknowledge reminder: 83.8% | overall, chi square: p<0.01; acknowledged reminder, chi square: p<0.01; did not acknowledge reminder, chi square: p<0.05 | 10 |
| Whitman, United States - 2008 | SSI | Multiple ‘forced functions’ | abx selection: 76% (95% CI 0.72-0.79); timing of abx admin: 55% (95% CI 0.52-0.58); abx cessation: 60% (95% CI 0.57-0.63) | post1 abx selection: 91% (95% CI 0.89-0.93); post1 timing of abx admin: 78% (95% CI 0.70-0.84); post2 timing of abx admin: 90% (95% CI 0.84-0.94); post3 timing of abx admin: 95% (95% CI 0.91-0.97); abx cessation: 86% (95% CI 0.82-0.89) | abx selection, no statistical tests specified, p<0.001; post1 vs. pre timing of abx admin p<0.001; post1 vs. post2 timing of abx admin: p=0.008; post2 vs. post 3 timing of abx admin p=0.07; abx cessation p<0.001 | 18 |
| Willemsen, Netherlands - 2007 | SSI | standardized antibiotic protocol | timing: 20% after incision | timing: 7% after incision | RR: 0.35 (95% CI: 0.18-0.68), p=.002 | 2 |
| Zvonar, Canada - 2008 | SSI | Appropriate antibiotic prophylaxis administration | appropriate agent: 93.4%; appropriate dose: 72.4%; appropriate administration: 36% | post1 appropriate agent: 92.3%; post1 appropriate dose: 83%; post1 appropriate administration: 67.7%; post2 appropriate agent: 92.5%; post2 appropriate dose: 89.7%; post2 appropriate administration: 78.5% | post1 agent: OR 0.8 (95% CI .4-1.8), p=.64; post1 dose: OR 1.9(95%CI 1.2-3.0), p=.007); post1 admin OR 3.7 (95%CI 2.5-5.5), p<.001; post2 agent OR 1.0 (95%CI .5-2.1), p=.9; post2 dose OR 1.8 (95%CI 0.9-3.2), p=.04; post2 admin OR 1.7 (95CI 1.2-2.6), p.00 |  |