Table 3, Chapter 13. Studies of wrong-site-surgery checklists implementing the universal protocol

| **Author/Year** | **Description of PSP** | **Study Design** | **Theory or Logic Model** | **Description of Organization** | **Safety Context** | **Implementation Details** |
| --- | --- | --- | --- | --- | --- | --- |
| Garnerin et al. 200811 | Verification protocol for checking patient identity and the site of surgery | Case series | “…the prevention of wrong patients and wrong site surgery, not to mention accountability, demanded an intervention aimed at improving the way both patient identity and site of surgery checks were performed, while acquiring the ability to identify and correct deficiencies” | Swiss anaesthesiology service located within a 1200 bed university hospital | Prior to introduction of the checklist, all patients were required to wear ID bracelets, and the operative site had to be signed by the surgeon. Anesthesiologists were made aware that they were being monitored. | Verification protocol developed by an interdisciplinary team. It required patients to state their identity, comparing the statement to the ID bracelet, OR schedule, and medical record. Similar types of checks for correct site of surgery. Nine consecutive months of data were obtained (October 2003 to June 2004), and later three subsequent months (October 2004, March 2005, and October 2005).  Compared to the first three months of implementation, the next three months saw better compliance in checking patient identify (63% up to 81%), complete compliance with identity checks (10% up to 38%), proportion of surgical site checks performed (77% up to 93%), and complete compliance with surgical site checks (32% up to 52%). Compliance was stable in subsequent periods.  Authors attributed the improvements to increased use of wristbands upon admission into the OR, the switch from to using an open-ended questioning format, and the use of three different sources for verification.  Barriers included 1) surgeons saying they already knew that patients or the surgical site was obvious, and 2) the failure to develop the protocol with the input of ALL surgical services |
| Nilsson et al. 201012 | Preoperative “time-out” checklist | Questionnaire after implementation | None explicitly stated | Two Swedish hospitals, bed sizes not reported | In the autumn of 2007, there were two incidents of wrong-side surgery at these hospitals, and a root-causes analysis suggested that a time-out procedure might help. The checklist was pre-approved by the heads of the operating and anesthesia departments. | Implementation began in December 2007. Checklist was a shared responsibility of the OR team. One year later, a questionnaire was sent to all 704 surgeons, anesthesiologists, operation nurses, anesthetic nurses, and nurse assistants, soliciting their opinions about the new time-out checklist.  Of the 331 responders, 93% felt that the checklist contributes to increased patient safety (either “without a doubt,” or “probably”). When asked about eight specific components of the time-out checklists, the percentage of respondents who felt the component was “very important” varied widely, from a low of 14% for the introduction of team members to highs of over 80% for patient identity, correct procedure, and correct side. Regarding the sign-out, 91% felt that the item involving the count of surgical instruments and sponges was very important. |
| Owers et al. 201013 | Correct site surgery checklist incorporate into an existing preoperative checklist | Case series | None explicitly stated | English children’s hospital, bed size not reported | A preoperative checklist already existed at this facility; they added a correct site surgery component | Five people were required to sign the documentation: marking surgeon, operating surgeon, ward nurse, scrub nurse, and anesthetist. Two audit cycles: once in 2006 (sooner after implementation) and once in 2008 (two years later).  Comparing 2008 to 2006, correct completion of the eight items was not at all improved for four items (ward nurse signed, operating surgeon signed, scrub nurse, signed, and operating department practitioner signed) but was improved for the other four (mark site documented, no mark required documented, entries legible, and marking surgeon signed).  “The lack of documentation, of course, may not reflect that the new guidance and processes are not being followed, but rather that the documentation is regarded as a low priority part of the process.” |
| Anonymous 200711 | Checklist to implement the Universal Protocol, tailored to this hospital’s preferences and procedures | Case series | Stated that the checklist provides cues for staff when preparing for a procedure. | Hospital in North Carolina, bed size not reported | Before this checklist, they were using a “cumbersome form” to document their compliance with the Universal Protocol. | Original checklist in 2005, minor revisions for 2006. Demonstrated the checklist during educational staff meetings, and new staff were given a primer. Staff gave positive comments that they no longer had to remember everything. The completed checklist is kept as part of the medical record. |

**Notes:** NS=Not stated; Int=Intervention