

# Questionnaire to assess clinical routine for prevention of surgical site infections in spine surgery

We would like to assess your clinical routine for the prevention of surgical site infections in spine surgery. Please answer each of the following questions.

A. General information	
1. Name of participation center:	2. Country:
3. In what kind of department are you working? <ul style="list-style-type: none"><li><input type="radio"/> Neurosurgery</li><li><input type="radio"/> Orthopedics</li><li><input type="radio"/> Traumatology</li></ul>	4. What are your fields of specialty in spine surgery (please select two at maximum) <ul style="list-style-type: none"><li><input type="radio"/> MIS</li><li><input type="radio"/> Degenerative</li><li><input type="radio"/> Deformity</li><li><input type="radio"/> Tumor</li><li><input type="radio"/> Trauma</li></ul>
5. To which sector is your hospital affiliated? <ul style="list-style-type: none"><li><input type="radio"/> University</li><li><input type="radio"/> Private hospital</li><li><input type="radio"/> Public hospital</li><li><input type="radio"/> Other (please specify)</li></ul>	6. Are you working in a teaching hospital? <ul style="list-style-type: none"><li><input type="radio"/> yes</li><li><input type="radio"/> no</li></ul>
7. How many years of practice do you have? <ul style="list-style-type: none"><li><input type="radio"/> 1-3 years</li><li><input type="radio"/> 4-6 years</li><li><input type="radio"/> 6-9 years</li><li><input type="radio"/> &gt;9 years</li></ul>	8. Did you receive fellowship training in spine surgery? <ul style="list-style-type: none"><li><input type="radio"/> yes</li><li><input type="radio"/> no</li></ul>

<p>9. How many spine surgeries are performed in your institution per year?</p> <ul style="list-style-type: none"> <li><input type="radio"/> &lt;500</li> <li><input type="radio"/> 500-700</li> <li><input type="radio"/> 700-1000</li> <li><input type="radio"/> 1000-1500</li> <li><input type="radio"/> &gt;1500</li> </ul>	
<p>10. What is the percentage of spine surgical approaches in your department?</p> <ul style="list-style-type: none"> <li><input type="radio"/> MIS                    ___ %</li> <li><input type="radio"/> Open                    ___ %</li> </ul>	<p>11. What is the percentage of spine cases in your department?</p> <ul style="list-style-type: none"> <li><input type="radio"/> Septic Spine Surgery/Infections ___ %</li> <li><input type="radio"/> Degenerative            ___ %</li> <li><input type="radio"/> Deformity                ___ %</li> <li><input type="radio"/> Tumor                    ___ %</li> <li><input type="radio"/> Trauma                    ___ %</li> </ul>
<p>12. What is your current SSI rate needing revision surgery?</p> <ul style="list-style-type: none"> <li><input type="radio"/> 0-3%</li> <li><input type="radio"/> 4-7%</li> <li><input type="radio"/> 7-12%</li> <li><input type="radio"/> &gt;12%</li> </ul>	<p>13. How many spine revision surgeries are performed in your institution per year?</p> <ul style="list-style-type: none"> <li><input type="radio"/> &lt;500</li> <li><input type="radio"/> 500-700</li> <li><input type="radio"/> 700-1000</li> <li><input type="radio"/> 1000-1500</li> <li><input type="radio"/> &gt;1500</li> </ul>
<p>14. What is the percentage of elective vs urgent cases in your department?</p> <ul style="list-style-type: none"> <li><input type="radio"/> Elective ___ %</li> <li><input type="radio"/> Urgent ___ %</li> </ul>	

## B. Preoperative management

15.	Do you perform regular screening for Staphylococcus aureus (SA) colonization prior to elective surgery?	<input type="radio"/> yes	<input type="radio"/> no
16.	Which body areas do you screen for SA colonialization / carriage? <ul style="list-style-type: none"> <li><input type="radio"/> Nasal</li> <li><input type="radio"/> Inguinal</li> <li><input type="radio"/> Both nasal and inguinal</li> <li><input type="radio"/> Other (please specify)</li> </ul>		
17.	Do you perform SA decolonization prior to surgery? <ul style="list-style-type: none"> <li><input type="radio"/> Yes, for every elective patient</li> <li><input type="radio"/> Yes, for patients with positive SA Screening results</li> <li><input type="radio"/> No</li> </ul>		
18.	When/where do you/your patients perform SA decolonialization? <ul style="list-style-type: none"> <li><input type="radio"/> At home</li> <li><input type="radio"/> On ward</li> <li><input type="radio"/> For 5 days (day 5 being the day of surgery)</li> <li><input type="radio"/> For 3 days (day 3 being the day of surgery)</li> <li><input type="radio"/> The day before surgery and on the day of surgery</li> <li><input type="radio"/> Other (please specify)</li> </ul>		
19.	Which agent do you use for preoperative decolonization? (multiple answers possible) <ul style="list-style-type: none"> <li><input type="radio"/> Chlorhexidine-based body and hair wash</li> <li><input type="radio"/> Octenidine-based body and hair wash</li> <li><input type="radio"/> Polyhexanide-based body and hair wash</li> <li><input type="radio"/> Nasal Mupirocin</li> <li><input type="radio"/> Nasal Octenidine</li> <li><input type="radio"/> Chlorhexidine-based mouth irrigation</li> <li><input type="radio"/> Betaiodine showers prior to elective surgery</li> </ul>		

	○ Other, please specify: _____		
20.	Do you have an upper limit for BMI in elective spine cases?	<input type="radio"/> yes	<input type="radio"/> no
21.	If yes, where is your upper limit?		
22.	Do you pause immunosuppressive drugs (i.e. steroids) before surgery if medically possible?	<input type="radio"/> yes	<input type="radio"/> no
23.	If yes, for how long? Enter number of days.		
24.	Do you abstain from surgery if the patient received steroid injection?	<input type="radio"/> yes	<input type="radio"/> no
25.	If yes, for how long? Enter number of days.		
26.	Do you regularly assess nutritional status?	<input type="radio"/> yes	<input type="radio"/> no
27.	Do you postpone surgery in case of manifest hypalbuminemia?	<input type="radio"/> yes	<input type="radio"/> no
28.	Do you substitute albumin in case of manifest albumin deficiency?	<input type="radio"/> yes	<input type="radio"/> no
29.	Do you control HbA1c prior surgery in diabetes patients?	<input type="radio"/> yes	<input type="radio"/> no
30.	Do you postpone surgery if HbA1c is uncontrolled?	<input type="radio"/> yes	<input type="radio"/> no
31.	Do you substitute asymptomatic anemia prior to elective spine surgery?	<input type="radio"/> yes	<input type="radio"/> no
32.	What is your method for preoperative hair removal? <ul style="list-style-type: none"> <li>○ No hair removal</li> <li>○ Shaving with razor the day/night before surgery</li> <li>○ Shaving with razor immediately before surgery</li> <li>○ Depilatory cream</li> <li>○ Clipping</li> </ul>		

	<ul style="list-style-type: none"> <li>○ No standard method</li> <li>○ Other (please specify)</li> </ul>
33.	Please add any further comments relating to preoperative management.

### C. Perioperative infection prevention (general aspects)

34.	Do you perform Team-time-out (i.e. WHO surgical safety checklist) in the OR?	<input type="radio"/> yes	<input type="radio"/> no
35.	Do you use an additional "Infection Prevention and Control" protocol/checklist in the OR?	<input type="radio"/> yes	<input type="radio"/> no
36.	If yes, please attach protocol		
37.	What substance of surgical antimicrobial prophylaxis (AMP) do you use?		
38.	What substance of surgical antimicrobial prophylaxis (AMP) do you use in case of allergic reactions?		
39.	How long before skin incision do you administer AMP?		
	<ul style="list-style-type: none"> <li>○ 30 min</li> <li>○ 60 min</li> <li>○ 90 min</li> <li>○ 120 min</li> <li>○ Other (please specify)</li> </ul>		

40.	Who is responsible for AMP administration? <ul style="list-style-type: none"> <li>○ Surgeon</li> <li>○ Anesthesiologist</li> <li>○ Nurse</li> <li>○ Other (please specify)</li> </ul>		
41.	How is the AMP administered? <ul style="list-style-type: none"> <li>○ Single dose</li> <li>○ Repeated dose after 4 hours in long operations</li> <li>○ Continuous administration after the operation on the ward</li> <li>○ Other (please specify)</li> </ul>		
42.	In case of “Continuous administration after the operation”: Is there a stop order on your ward? <ul style="list-style-type: none"> <li>○ Yes</li> <li>○ Yes, after removal of drains</li> <li>○ Yes, automatic discontinuation of the AMP after a defined number of days (specify below)</li> </ul>		
43.	Do you re-administer antibiotics during surgery?	<input type="radio"/> yes	<input type="radio"/> no
44.	Under which condition? <ul style="list-style-type: none"> <li>○ Time dependent</li> <li>○ Blood loss dependent</li> <li>○ Drains <i>in situ</i></li> <li>○ Other (please specify)</li> </ul>		
45.	Is there a routine control of blood sugar perioperatively?	<input type="radio"/> yes	<input type="radio"/> no
46.	Is there a routine control of body temperature perioperatively?	<input type="radio"/> yes	<input type="radio"/> no
47.	Is there a routine control of hemoglobin perioperatively?	<input type="radio"/> yes	<input type="radio"/> no

48.	How many persons are allowed in the OR? <ul style="list-style-type: none"> <li><input type="radio"/> &lt;6</li> <li><input type="radio"/> 6-10</li> <li><input type="radio"/> &gt;10</li> </ul>		
49.	Do you have an agreed limit of door openings (from start of incision to closure of skin)? <ul style="list-style-type: none"> <li><input type="radio"/> No</li> <li><input type="radio"/> Yes, doors are only opened, when there is shift change of staff</li> <li><input type="radio"/> Yes, there is an agreed limit of less than ____ times (please specify)</li> </ul>		
50.	Is laminar air flow available in your OR?	<input type="radio"/> yes	<input type="radio"/> no
51.	Please add any further comments relating to perioperative infection prevention (general aspects):		
D. Perioperative infection prevention (surgical aspects):			
52.	Which agent do you use for surgical skin disinfection? <ul style="list-style-type: none"> <li><input type="radio"/> Alcohol based Chlorhexidine</li> <li><input type="radio"/> Non-Alcoholic Chlorhexidine</li> <li><input type="radio"/> Alcohol based Iodine</li> <li><input type="radio"/> Non-Alcoholic Iodine</li> <li><input type="radio"/> Alcohol based Octenidine</li> <li><input type="radio"/> Alcohol (e.g., Ethanol, Isopropanyl)</li> <li><input type="radio"/> Other (please specify)</li> </ul>		
53.	Do you use a marker for skin incision marking? <ul style="list-style-type: none"> <li><input type="radio"/> Yes, non-sterile before skin disinfection</li> <li><input type="radio"/> Yes, sterile</li> <li><input type="radio"/> No</li> </ul>		

54.	Do you wear double gloves routinely?	<input type="radio"/> yes	<input type="radio"/> no
55.	Do you change gloves routinely during surgery?	<input type="radio"/> yes	<input type="radio"/> no
56.	Who is dressing the surgeon with gloves? <input type="radio"/> Surgeon <input type="radio"/> Nurse		
57.	Do you change gloves routinely before opening of the dura/ implant contact?	<input type="radio"/> yes	<input type="radio"/> no
58.	Do you routinely change positioning of surgical retractors to reduce pressure from the wound margin?	<input type="radio"/> yes	<input type="radio"/> no
59.	Do you use special hemostatic agents? <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> If yes, please specify:		
60.	Do you cut out the margin of the wound/scar tissue?	<input type="radio"/> yes	<input type="radio"/> no
61.	Do you use monopolar cutting cautery? If yes, please specify for which layer <input type="radio"/> Yes - epidermal <input type="radio"/> Yes – subcutaneous <input type="radio"/> Yes - subfascial <input type="radio"/> No		
62.	Do you perform routine lavage of wound cavity at the end of the procedure?	<input type="radio"/> yes	<input type="radio"/> no
63.	If yes, please specify which <b>agent</b> you use for lavage of the wound cavity. <input type="radio"/> NaCl <input type="radio"/> Hydrogen peroxide <input type="radio"/> Iodide <input type="radio"/> Serasept		



	<input type="radio"/> Other (please specify)		
64.	If yes, please specify which <b>technique</b> you use for lavage of the wound cavity. <ul style="list-style-type: none"> <li><input type="radio"/> Pulsed irrigation (jet lavage)</li> <li><input type="radio"/> Continuous irrigation</li> <li><input type="radio"/> Fill cavity with agent and allow to soak</li> <li><input type="radio"/> Other (please specify)</li> </ul>		
65.	Do you place wound drainage routinely?	<input type="radio"/> yes	<input type="radio"/> no
66.	Do you use antimicrobially impregnated or antiseptic sutures? If yes, please specify name of suture and manufacturer:	<input type="radio"/> yes	<input type="radio"/> no
67.	Do you use antibiotic powder (i.e. Vancomycin powder) before closing? <ul style="list-style-type: none"> <li><input type="radio"/> Yes, subfascial</li> <li><input type="radio"/> Yes, subcutaneous</li> <li><input type="radio"/> No</li> </ul>		
68.	What kind of skin suture technique do you use? <ul style="list-style-type: none"> <li><input type="radio"/> Single interrupted sutures</li> <li><input type="radio"/> Donati sutures</li> <li><input type="radio"/> Continuous sutures</li> <li><input type="radio"/> Stapler</li> <li><input type="radio"/> Glow</li> </ul>		
69.	What kind of wound dressing do you use? Please specify name and manufacturer.		
70.	Do you ensure that implants are not removed from the packing unless immediately before insertion?	<input type="radio"/> yes	<input type="radio"/> no
71.	Please add any further comments relating to perioperative infection prevention (surgical aspects):		

E. Postoperative infection prevention:

72.	Do you routinely check hemoglobin?	<input type="radio"/> yes	<input type="radio"/> no
73.	In case of asymptomatic anemia, do you substitute in patients who underwent spine surgery?	<input type="radio"/> yes	<input type="radio"/> no
74.	In case of non-secreting and proper wound dressing, how frequent do you routinely change the wound dressing? <input type="radio"/> Daily <input type="radio"/> Every other day <input type="radio"/> Once a week <input type="radio"/> Other (please specify)		
75.	Do you use standardized operating procedures (SOP) for wound drainage removal?	<input type="radio"/> yes	<input type="radio"/> no
76.	When do you usually remove wound drainages? <input type="radio"/> After a certain number of days (please specify) <input type="radio"/> Based on volume of secretion into drainage, less than ...cc per shift (please specify volume in cc)		
77.	Are patients allowed to shower without covering the wound? <input type="radio"/> No <input type="radio"/> Yes, at anytime <input type="radio"/> Yes, in case of dry wound <input type="radio"/> Yes, after removal of stitches/staples <input type="radio"/> Yes, after .... Days (please specify number of days)		
78.	Do you have any statistics/surveillance of SSI in your department?	<input type="radio"/> yes	<input type="radio"/> no
79	Is there a surgeon in your team, who is responsible or received training for “infection prevention and control”?	<input type="radio"/> yes	<input type="radio"/> no

80.	Please add any further comments relating to postoperative infection prevention:
-----	---