

Laparotomy Wound (Surgical Site) Infection - Antibiotic Guideline

Reference no.: CG-ANTI/2017/034

Culture and sensitivity testing

- Send samples before starting antibiotics
- If suspect deep surgical site infection (SSI) send a pus or tissue sample or deep tissue aspirate rather than a wound swab
- Always send an MRSA screening swab from the wound
- If sending a wound swab, there should be at least one of cardinal signs of infection (pus, redness, swelling, heat, pain).

Please note: Surface swab from dried wounds or post antibiotic specimens/swabs may yield skin flora or antibiotic selected colonising organisms which could mislead the management of infection.

Superficial SSI

Superficial surgical site infection is defined as an infection involving only the skin or subcutaneous tissue occurring within 30 days of an operation. Additionally, at least one of the following must be present: 1) diagnosis by the surgeon or attending physician; 2) purulent drainage with or without laboratory confirmation from the surgical site; 3) aseptically obtained culture (tissue or fluid) demonstrating causative organisms; 4) presence of symptoms such as pain/tenderness, redness, localized swelling, or heat and the site opened by the surgeon if the culture is positive.

The guidelines below are for empirical treatment whilst awaiting culture and sensitivity results. Before starting antibiotics, check previous results for the presence of resistant bacteria.

Empirical treatment of superficial SSI

No penicillin allergy MRSA negative	Penicillin allergy – <u>non immediate reaction without systemic involvement</u> MRSA negative	Penicillin allergy - <u>immediate rapidly evolving reaction or non-immediate with systemic involvement</u> OR MRSA positive
Flucloxacillin 2 G 6 hourly plus metronidazole IV 500 mg 8 hourly If oral, flucloxacillin 1 G 6 hourly plus metronidazole 400mg 8 hourly	Cefuroxime 750mg-1.5g 8 hourly plus metronidazole IV 500mg 8 hourly If oral, cefaclor PO 500mg 8 hourly plus metronidazole 400mg 8 hourly	<u>Vancomycin/teicoplanin</u> IV dosed according to guideline plus metronidazole IV 500mg 8 hourly If oral, doxycycline 200mg stat then 100mg daily plus metronidazole 400mg 8 hourly.

Review culture and sensitivity results at 48hrs and adjust treatment accordingly. Usual duration 5-7 days

Deep tissue SSI

Deep incisional SSIs involve the deep soft tissues including the fascia and muscle layers of the incision and occurs within 30 days after the operation or within 1 year if an implant is in place and the infection appears to be associated with the surgery. Deep tissue SSIs require surgical debridement and operative or interventional drainage of the infected fluid collection. Empiric systemic antibiotics should be started as soon as a deep tissue SSI is suspected and when clinical signs of infection are present (ie, fever >38.5°C, abnormal vital signs, erythema and induration extending >5 cm from the wound edge, white blood cell count >12,000/μL). Necrotizing fasciitis is a more severe infection that is often grouped among SSIs and requires immediate surgical consultation and intervention.

Empirical treatment of deep tissue SSI

No penicillin allergy	Penicillin allergy
Piperacillin/tazobactam 4.5G 6 hourly	Metronidazole IV 500 mg 8 hourly plus ciprofloxacin IV 400 mg 8 hourly plus glycopeptide (Vancomycin or teicoplanin), dose as per hospital guidelines, vancomycin target pre dose level 15-20 mg/l, teicoplanin target pre dose level 15-30 mg/l.

Review culture and sensitivity results at 48hrs and adjust treatment accordingly.

For further information, see the guideline for hospital acquired [peritonitis](#) or [intra-peritoneal abscess](#)

Duration

- Deep or organ/space infections with no collection: usual maximum 14 days
- If an intrabdominal collection is present, treatment should be guided by the C&S results and duration discussed with a consultant microbiologist

References

PHE 2013 Protocol for the surveillance of surgical site infections V6 (accessed 10/11/2020)

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/633775/surgical_site_infections_protocol_version_6.pdf

Azoury S, Farrow N, Hu Q, Soares K, Hicks C, Azar F, Rodriguez-Unda N, Poruk K, Cornell P, Burce K, Cooney C, Nguyen H, Eckhauser F. Postoperative abdominal wound infection – epidemiology, risk factors, identification, and management. *Chronic Wound Care Management and Research*. 2015;2:137-148

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Document Controls

Development of Guideline:	Dr Milind Khare Consultant Microbiologist
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