

Surgical Antimicrobial Prophylaxis Guidelines (adult)

Appendix 3: Breast Procedures / Insertion of Infusaport / Skin Excision / Biopsy Procedures

Preoperative Considerations

Consider individual risk factors for every patient including the need for prophylaxis. Antibiotic choice/dose may need to be modified according to patient factors (e.g. immune suppression, presence of prostheses, allergies, renal function, obesity, malnutrition, diabetes, malignancy, infection at another site, colonisation with multi-drug resistant bacteria and available pathology).

Consider surgical wound classification (clean, clean-contaminated, contaminated, dirty-infected) when determining the need for, or choice of, antibiotic prophylaxis. Refer to [Surgical Antimicrobial Prophylaxis Prescribing Guideline](#) for further information.

Pre-existing infections (known or suspected) – if present, use appropriate treatment regimen instead of prophylactic regimen for procedure but ensure the treatment regimen has activity against the organism(s) most likely to cause postoperative infection. Adjust the timing of the treatment dose to achieve adequate plasma and tissue concentrations at the time of surgical incision and for the duration of the procedure - seek advice from ID or the AMS team if unsure.

Practice Points

Timing and administration of antibiotics

Surgical antibiotic prophylaxis must be administered before surgical incision to achieve effective plasma and tissue concentrations at the time of incision. Administration of any antibiotic after skin incision reduces effectiveness.

- > IV **cefazolin** can be given over 5 minutes and should be administered no more than 60 minutes before skin incision.
- > IV **vancomycin** infusion should be given at a rate of 1g over at least 60 minutes and 1.5g over at least 90 minutes. Vancomycin should be timed to begin 15 to 120 minutes before skin incision. This ensures adequate concentration at the time of incision and allows for any potential infusion-related toxicity to be recognised before induction. The infusion can be completed after skin incision.

Dosing in patients with obesity

- > **Cefazolin**: Consider increased dose of cefazolin (3g) for adult patients weighing more than 120kg.
- > **Vancomycin**: Consider increased dose of vancomycin (1.5g) for adult patients weighing more than 80kg.

High MRSA risk (defined as history of MRSA colonisation or infection OR frequent stays or a current prolonged stay in hospital with a high prevalence of MRSA OR residence in an area or aged care facility with high prevalence of MRSA OR current residence, or residence in the past 12 months, in a correctional facility):

- > Add vancomycin

Repeat dosing

A single preoperative dose is sufficient for most procedures; however repeat intraoperative doses are advisable:

- > for prolonged surgery (more than 4 hours from the time of first preoperative dose) when a short-acting agent is used (e.g. cefazolin dose should be repeated after 4 hours), OR
- > if major blood loss occurs (e.g. more than 1500 mL in adults), following fluid resuscitation.

When measuring the time to a second intraoperative dose, measure the interval from the time of the first preoperative dose rather than the surgical incision time.

Recommended Prophylaxis

Surgery	Recommended Prophylaxis	High Risk Penicillin / Cephalosporin Allergy*
Breast Procedures		
Uncomplicated clean procedures (diagnostic excisional biopsy, stand-alone sentinel node biopsy, excision of scar tissue, lumpectomy (with or without needle or wire localisation))	Prophylaxis NOT recommended	
Clean-contaminated procedures (reduction mammoplasty, simple mastectomy, wide local excision, axillary lymph node clearance, nipple surgery, all repeat or revision procedures)	cefazolin 2g IV <u>High risk of MRSA infection:</u> ADD vancomycin 1g IV infusion (1.5g for patients more than 80kg actual body weight)	vancomycin 1g IV infusion (1.5g for patients more than 80kg actual body weight)
Complicated clean-contaminated procedures (prosthetic breast reconstruction surgery, prosthetic implant or acellular dermal matrix, autologous breast reconstruction surgery, breast augmentation surgery)	cefazolin 2g IV <u>High risk of MRSA infection:</u> ADD vancomycin 1g IV infusion (1.5g for patients more than 80kg actual body weight) POST-OPERATIVE: For breast reconstruction or augmentation surgery, a further 2 doses of cefazolin (8 hours apart) can be considered	vancomycin 1g IV infusion (1.5g for patients more than 80kg actual body weight) POST-OPERATIVE: For breast reconstruction or augmentation surgery, a single additional vancomycin dose 12 hours after the first dose can be considered
Postoperative doses can be considered but prophylaxis (intravenous or oral) should not continue beyond 24 hours , even in the presence of surgical drains adjacent to the implant		

Recommended Prophylaxis

Surgery	Recommended Prophylaxis	High Risk Penicillin / Cephalosporin Allergy*
Other		
Insertion of infusaport or other devices (for procedures using either local & sedation or general anaesthetic)	cefazolin 2g IV <u>High risk of MRSA infection:</u> ADD vancomycin 1g IV infusion (1.5g for patients more than 80kg actual body weight)	vancomycin 1g IV infusion (1.5g for patients more than 80kg actual body weight)
Clean or clean-contaminated skin procedures (diagnostic excisional biopsy, stand-alone biopsy)	Prophylaxis NOT recommended	

*High risk penicillin/cephalosporin allergy: History suggestive of high risk (e.g. anaphylaxis, angioedema, bronchospasm, urticaria, DRESS/SJS/TEN)

Postoperative Care

Except where included above, postoperative antibiotics are NOT indicated unless infection is confirmed or suspected, regardless of the presence of surgical drains. If infection is suspected, consider modification of antibiotic regimen according to clinical condition and microbiology results.

Definitions / Acronyms

AMS	Antimicrobial Stewardship	DRESS	Drug rash with eosinophilia and systemic symptoms
ID	Infectious Diseases	IV	Intravenous
MRSA	Methicillin-resistant <i>Staphylococcus aureus</i>	SJS / TEN	Stevens-Johnson syndrome / toxic epidermal necrolysis

References

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Endorsed by South Australian expert Advisory Group on Antibiotic Resistance (SAAGAR). Last reviewed and amended December 2021.

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