

Surgical Antibiotic Prophylaxis Guidelines

Breast procedures / Endocrine procedures / Abdominal procedures (including Splenectomy) / Herniorrhaphy / Insertion of infusaport / Clean excision procedures

Pre-Operative Considerations

Consider individual risk factors for every patient – need for prophylaxis, drug choice or dose may alter (e.g. immune suppression, presence of prostheses, allergies, obesity, malnutrition, diabetes, infection at another site, available pathology or malignancy).

Pre-existing infections (known or suspected) – if present, use appropriate treatment regimen instead of prophylactic regimen for procedure. Doses should be scheduled to allow for re-dosing just prior to skin incision.

*For patients with cardiac conditions refer to [Antibiotic Prophylaxis Guidelines for Prevention of Endocarditis](#) for further information.

Practice Points

Drug administration

- > IV bolus – should be timed ≤ 60 minutes before skin incision (optimal 30 minutes). Administration after skin incision or > 60 minutes before incision reduces effectiveness
- > IV infusion – should be commenced 30-60 minutes prior to skin incision for metronidazole. See below for vancomycin administration.

MRSA risk (defined as history of MRSA colonisation or infection, OR inpatient of metropolitan or other high risk hospital for more than the last 5 days)

- > Add vancomycin to cefazolin

Vancomycin administration

- > Give vancomycin 1g (1.5g for patients >80kg **actual body weight**) by IV infusion started 30-120 minutes before surgical incision and given at a recommended rate of 1g per hour (1.5g over 90 minutes). Note: infusion can be completed after skin incision.

Repeat doses

A single pre-operative dose is sufficient for most procedures, however repeat intra-operative doses are advisable:

- > for delayed or prolonged surgery (> 4 hours from the time of first preoperative dose) when a short-acting agent is used (e.g. amoxicillin, cefazolin), OR
- > if major blood loss occurs, following fluid resuscitation.

Obese patients

- > Consider increased dose of cefazolin (3g) if patient is obese (>120kg). Consult ID for advice.

Recommended Prophylaxis

Recommended Prophylaxis

*High risk penicillin/cephalosporin allergy

Breast Clean contaminated procedures (microdochectomy, mastectomy, reconstruction (incl. implants), reduction, sentinel node biopsy, re-operative surgery <6wks prior).	cefazolin 2g IV (child: 30mg/kg up to 2g) <u>High risk of MRSA infection:</u> ADD vancomycin 1g IV infusion (1.5g for patients > 80kg actual body weight)	vancomycin 1g IV infusion (1.5g for patients > 80kg actual body weight)
Uncomplicated clean procedures (wound revision, excision scar tissue, local excision, lumpectomy).	Prophylaxis NOT recommended	
Endocrine Thyroidectomy (or similar)	Prophylaxis NOT recommended	
Abdominal Procedures involving viscera (e.g. appendectomy, division of adhesions, resection)	metronidazole 500mg IV infusion (child: 12.5mg/kg), PLUS either cefazolin 2g IV (child: 30mg/kg up to 2g) OR gentamicin 2mg/kg IV <u>High risk of MRSA infection:</u> ADD vancomycin 1g IV infusion (1.5g for patients > 80kg actual body weight)	metronidazole 500mg IV infusion (child: 12.5mg/kg), PLUS gentamicin 2mg/kg IV <u>High risk of MRSA infection:</u> ADD vancomycin 1g IV infusion (1.5g for patients > 80kg actual body weight)
Procedures not involving viscera (e.g. abdominoplasty)	cefazolin 2g IV (child: 30mg/kg up to 2g) <u>High risk of MRSA infection:</u> ADD vancomycin 1g IV infusion (1.5g for patients > 80kg actual body weight)	vancomycin 1g IV infusion (1.5g for patients > 80kg actual body weight)
Splenectomy (Vaccination and post-splenectomy antibiotic prophylaxis required in all cases)	cefazolin 2g IV (child: 30mg/kg up to 2g) <u>High risk of MRSA infection:</u> ADD vancomycin 1g IV infusion (1.5g for patients > 80kg actual body weight)	vancomycin 1g IV infusion (1.5g for patients > 80kg actual body weight)

SA Health Clinical Guideline for Vaccination and Antimicrobial Prophylaxis for Adult Asplenic (Splenectomy) and Hyposplenic Patients [available here](#).

Recommended Prophylaxis

	Recommended Prophylaxis	*High risk penicillin/cephalosporin allergy
Herniorrhaphy > with mesh insert	cefazolin 2g IV (child: 30mg/kg up to 2g) <u>High risk of MRSA infection:</u> ADD vancomycin 1g IV infusion (1.5g for patients > 80kg actual body weight)	vancomycin 1g IV infusion (1.5g for patients >80kg actual body weight)
> without mesh insert	Prophylaxis NOT recommended	
Other Insertion of infusaport/other devices	cefazolin 2g IV (child: 30mg/kg up to 2g) <u>High risk of MRSA infection:</u> ADD vancomycin 1g IV infusion (1.5g for patients > 80kg actual body weight)	vancomycin 1g IV infusion (1.5g for patients > 80kg actual body weight)
Clean excision procedures	Prophylaxis NOT recommended	

Post-Operative Care

Except where included above, post-operative 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

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

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

References

- Antibiotic Expert Groups (2014). [Therapeutic Guidelines: Antibiotic. Version 15](#). Melbourne, Therapeutic Guidelines Limited.
- Bratzler, D, et al (2013). "Clinical practice guidelines for antimicrobial prophylaxis in surgery." [Am J Health Syst Pharm](#) 70 (3): 195-283.
- Berrios-Torres, S., et al. (2017). "Centres for Disease Control and Prevention Guideline for the Prevention of Surgical Site Infection " [JAMA Surgery](#) May 3. doi: 10.1001/jamasurg.2017.0904. [Epub ahead of print].

Endorsed by South Australian expert Advisory Group on Antibiotic Resistance (SAAGAR) March 2012, Last reviewed and amended August 2017

SAAGAR has endeavored to ensure that the information in this publication is accurate; however it makes no representation or warranty to this effect. You rely on this publication at your own risk. SAAGAR disclaims all liability for any claims, losses, damages, costs and expenses suffered or incurred as a result of reliance on this publication. As the information in this publication is subject to review, please contact a medical or health professional before using this publication.