Surgical Antibiotic Prophylaxis Guidelines

Plastic and Reconstructive Surgery

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, diabetes, remote infection, 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.

Practice Points

Unless otherwise stated, antibiotic prophylaxis is NOT required for the following plastic surgery indications:

> Clean elective surgery with no implants
> Clean trauma with no fracture and less than 24 hours since injury

Drug administration

> IV bolus – should be timed ≤ 60 minutes before skin incision (optimal 15-30 minutes). Administration after skin incision or > 60 minutes before incision reduces effectiveness
> IV infusion – vancomycin should be commenced 30-120 minutes prior to skin incision. See under vancomycin administration.

MRSA risk (defined as history of MRSA colonisation or infection, OR inpatient of high risk hospital or unit (where MRSA is endemic) for more than the last five days)

> Add vancomycin to cefazolin

Vancomycin administration

> Give vancomycin 1g (1.5g for patients > 80kg **actual body weight**) started 30 to 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 prolonged surgery (> 4 hours from the time of first preoperative dose) when a short-acting agent is used (e.g. 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.

Topical antibiotics should NOT be applied to the wound during or after surgery

Recommended Prophylaxis

	Recommended Prophylaxis	*High risk penicillin/cephalosporin allergy
Groin/axilla/neck dissections **Open reduction and internal fixation of fractures** **Insertion of implants, mesh, prostheses, screws, plates etc.**	**cefazolin 2g** IV (child: 30mg/kg up to 2g) High risk of MRSA infection : **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 bone or soft tissue injury **Hand surgery (without implants)** **Non-infected lesions & minor excisions**	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 *Staphylococcus aureus*
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

Anderson, DJ., Sexton, DJ. (2017). "Antimicrobial prophylaxis for prevention of surgical site infection in adults". In: Harris, A (ed). UptoDate. Waltham, MA. [www.uptodate.com] Accessed July 2017.

Antibiotic Expert Group.(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.

Endorsed by South Australian expert Advisory Group on Antibiotic Resistance (SAAGAR) March 2012, Last reviewed and amended November 2015