

Six Steps of SURGICAL ANTIBIOTIC PROPHYLAXIS IN DOGS

Are prophylactic
antibiotics indicated
for this surgery?

NO

YES

Exclude antibiotics
for clean surgical procedures

Check the BSAVA ProtectMe
Poster or national guidelines
for more information.



Swiss Cheese Model

Multiple preventive measures should be
taken to minimize surgical site infections.

NOTE. If you decide to use
antibiotics, do it right!

2 What kind of
contamination
do you expect?

Skin microbiota
(most commonly
S. pseudintermedius)

Gastro-intestinal microbiota
(most commonly *E.coli*)

3 Choose
antibiotic

with an appropriate
spectrum of activity*

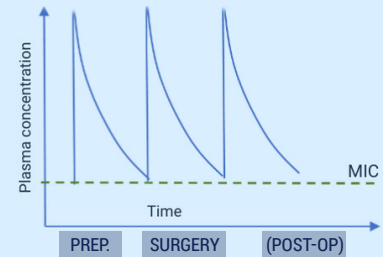
4 Use
appropriate
IV dose

identified from
the current antimicrobial
use guidelines

5 Choose the correct
peri-operative timing
for IV application

based on time to achieve tissue peak
concentration of a specific antibiotic

6 Plan re-administration
intervals during surgery
based on the pharmacokinetic
profile of the selected antibiotic
and duration of surgery



*susceptibility pattern may vary regionally and might influence the antibiotic choice

Type of Expected Contamination	Antibiotic Choice (IV)	Dose (IV)	Time of peri-operative application before the first incision	Re-administration interval for the duration of surgery
Skin microbiota	Cefazolin	22-25 mg/kg	30 min	2h or earlier (22 mg/kg) or 3h (25 mg/kg)
	Cefuroxime	20 mg/kg		2h or earlier
	Cefalexin	15 mg/kg	30 min	3h or earlier
	Amoxicillin/clavulanic acid	20 mg/kg as 16.67 mg/kg of amoxicillin	30 min	4h or earlier
	Ampicillin	20 mg/kg	80 min	
Gastro-intestinal microbiota	Cefazolin	22-25 mg/kg	30 min	2h or earlier
	Amoxicillin/clavulanic acid (only critically ill)	20 mg/kg as 16.67 mg/kg of amoxicillin	30 min	1.5h or earlier
	Ampicillin	20 mg/kg	80 min	
	Cefalexin			ineffective
	Cefuroxime			ineffective

Surgical preparation

Good aseptic and surgical technique

Perioperative antibiotic prophylaxis (if indicated)

Post-operative wound care: e.g. dressing barrier

Surgical Site Infections



For more information
check the study

Population pharmacokinetic
meta-analysis of five beta-lactams antibiotics
to support dosing regimens
in dogs for surgical antimicrobial prophylaxis

Pelligand L, Møller Sørensen T, Cagnardi P,
Toutain PL, Allerton F • Vet J. 2024 June



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