



2023 TheSkinVet Recommendations for Appropriate Antimicrobial Use in Canine Dermatology & Otitis Cases

	CONDITION	EXAMPLES	INVESTIGATION	LIKELY PATHOGEN(S)	EMPIRICAL ANTIMICROBIAL CHOICE		NOTES
					Topical	Systemic	
FUNGAL	DERMATOPHYTOSIS (RINGWORM)	Superficial	TG wWL hC	<i>Microsporum Canis</i> <i>Trichophyton mentagropytes</i> <i>M persicolor</i>	?Clipping → Chlorhexidine ± -Azole shampoo + Lime Sulphur or Enilconazole rinse; (Miconazole cream)	-Azoles (Terbinafine)	Always use systemics too Age (young/old), Breed, Zoonosis, Environment
	Pseudo-Mycetoma		tC&S	<i>Microsporum Canis</i>	-	-Azoles	Breed Surgical excision
	YEAST OVER-GROWTH		ATS IS (C)	<i>Malassezia Pachydermatis</i>	Chlorhexidine ± Miconazole/Ophytrium shampoo/mousse /wipes	-Azoles (possible long term pulsed)	Breed Secondary esp. hypersensitivity
	OTITIS		IS (rarely sC&S)	<i>Malassezia Pachydermatis</i>	Always Cleanser first: esp. PCMX etc Aural polypharmacy: -Azole or other AFs + Glucocorticoid Lifelong pulsed: Topical Cleanser then HCA	Short term: Glucocorticoids Long term: CyclosporinA Possible long term pulsed: -Azoles	Treatment tuition/Compliance! Treat Primary Cause, Secondary Microbial infection, plus predisposing & perpetuating factors http://www.theskinvet.net/clients/recurrent-ear-infections/
BACTERIA	SURFACE PYODERMA	Microbial overgrowth Intertrigo (fold 'pyoderma')	IS ATS (sC&S)	<i>Staphylococcus pseudintermedius</i> /schleiferi	Chlorhexidine ± -Azole/Ophytrium shampoo /mousse/wipes ± Hypochlorous spray/gel	(ideally avoid)	Treat Primary Cause Secondary esp. hypersensitivity (esp Canine Atopic Dermatitis)
		Pyotraumatic Dermatitis ('hotspot', acute moist dermatitis)	IS (sC&S)	<i>Staphylococcus pseudintermedius</i> /schleiferi	Chlorhexidine + -Azole/Ophytrium shampoo /mousse/wipes ± HCA or astringent spray (Isoxazoline)	Short term Glucocorticoids / Oclacitinib	Breed Secondary esp. hypersensitivity/ ectoparasitism



SUPERFICIAL PYODERMA	Folliculitis 'Impetigo'	IS (sC&S)	<i>Staphylococcus pseudintermedi us /schleiferi</i>	Always Chorhexidine + -Azole/Ophytrium shampoo /mousse/wipes ± Hypochlorous spray/gel ± Fluorescence Biomodulation (Isoxazoline)	Possibly 1 st : clindamycin 2 nd : cephalixin or amoxycillin- clavulanate 3 rd fluoroquinolones <i>The latter after sC&S only</i>	Treat Primary Cause Secondary esp. hypersensitivity (esp Canine Atopic Dermatitis)/ Ectoparasitism <i>Consider autogenous vaccine/Staph lysate in recurrent cases without confirmed underlying issues</i> <a href="http://www.theskinvet.net/veterinary-
surgeons/bacterial-pyoderma/">http://www.theskinvet.net/veterinary- surgeons/bacterial-pyoderma/
DEEP PYODERMA	Cellulitis Furunculosis	FNA tC&S → Biochem/Haem T4:TsH UCCR-LDDST	<i>Staphylococcus pseudintermedi us /schleiferi /Pseudomonas Sp. etc</i>	Chorhexidine + - Azole/Ophytrium Shampoo ± Hypochlorous spray ± Fluorescence Biomodulation ± Whirlpool baths (Isoxazoline)	Choice based on tC&S (definitely if used empirical antibiotics before) Consider analgesia too	Breed Secondary to immunosuppression, demodicosis etc Treatment for some weeks past visible/palpable/ <i>cytological</i> 'cure'
OTITIS EXTERNA		IS Pre & post treatment (rarely sC&S)	<i>Staphylococcus pseudintermedi us Pseudomonas aeruginosa etc</i>	Always Cleanser first: Chlorhexidine/PCMX/ EDTA/acid/ Monosaccharides ± AMP ± alternate with TrisEDTA/ ± N-acetylcysteine flushes Aural polypharmacy: Glucocorticoid + aminoglycoside/ fluoroquinolone	Glucocorticoids No systemic AB unless (proven/ highly suspected) Otitis Media	Treatment tuition/Compliance! Treat Primary Cause (esp Canine Atopic Dermatitis), Secondary Microbial infection, plus predisposing & perpetuating factors Biofilms may physically prevent efficacious topical therapy <a href="http://www.theskinvet.net/clients/rec
urrent-ear-infections/">http://www.theskinvet.net/clients/rec urrent-ear-infections/
WOUND SC INFECTIONS	Dog Bite	IS (sC&S)	Any	Saline flushing+ TrisEDTA flush/ Chlorhexidine gel ± Hypochlorous spray/gel	± 1 st Amoxycillin- Clavulanate + Analgesia	Drainage/Flushing/Packing



Antimicrobial Treatment Examples (alphabetical, topical unless stated otherwise):

AB/glucocorticoid gel	Isaderm Gel®
Aminoglycosides	Easotic®, Otomax®
Amoxicillin-Clavulanate (systemic)	Clavaseptin®, Kesium®, Noroclav®, Synulox® etc.
AMP (antimicrobial peptide)	Shampoo/Topical solution/Aural - Peptivet®
-Azoles	LimePlus Dip® rinse (lime sulphur - unlicensed), Imaverol® rinse (enilconazole), Daktarin cream® (miconazole - unlicensed)
(aural)	Posatex® (posaconazole), Easotic® (miconazole)
(systemic)	Fungiconazol® (ketoconazole); Sporanox® (itraconazole unlicensed)
Capryloyl Glycine & Undecylenoyl Glycine.	Sonotix®
Cephalexin	Ceporex®, Cephacare®, Rilexine®, Therios® etc.
Chlorhexidine ± Ophytium ± -Azole	Shampoo – Adaxio®, Douxo Pyo S3®, Malaseb®, Microbex®, Clorexyderm 4% Mousse/Foam/Sprays/Gel/Wipes – Clorexyderm Spot Gel/Solution (spray); CLX®, Douxo Pyo S3®
Chlorhexidine/EDTA (aural)	Otodine®, Peptivet Oto®, TrisChlor®
Clindamycin	Antirobe®, Clinacin®, Zodon® etc.
Fluoroquinolones (aural)	Aurizon®, Posatex®
(systemic)	Baytril®, Enrox®, Marbocyl®, Xeden®, (Veraflox®)
HCA (hydrocortisone aceponate)	Cortavance Spray® (<i>control primary inflammation to stop secondary infection</i>); Easotic®
Hypochlorous spray/gel	Contego Ecodermal®, Renasan®, Vetericyn VF™,
Other AFs (antifungals) (aural)	Aurizon® (clotrimazole), Otomax® (nystatin)
PCMX/EDTA/acid/monosaccharides	EpiOtic, Sancerum®, Surosolve®

- 🕒 BSAVA Client Information sheets are available on-line for Antibacterials, Steroids, Ketoconazole & Itraconazole
- 🕒 Pay good attention to clinical practice, hygiene and infectious disease control
- 🕒 Understand how and why antimicrobial resistance arises & spreads & hence use antimicrobials appropriately
- 🕒 Seldom ever rely on systemic antimicrobials alone
- 🕒 Perform cultures and antibacterial sensitivity testing whenever possible
 - Use Laboratory with MALDI-TOF - provide relevant clinical history incl. treatments used, sensitivity will be tested taking these drugs into account, as well as the drugs that can be used in the specific clinical condition involved, plus both systemic & topical antimicrobials can be tested if requested
 - Do not accept a culture result of *Staphylococcal sp.* – actual speciation mandatory
 - Aural C&S is costly & relevance of the results is questionable as much higher AB concentrations are attainable by topical aural application plus efficacy of systemic antibacterials is unproven with treatment of bacterial otitis
- 🕒 Likely future new (or re-released) products with antimicrobial ingredients will include:
 - Topical: benzoyl peroxide; microsilver; more antimicrobial peptides, (bacteria species-specific) bacteriophage viruses
 - Systemic: monoclonal antibodies (bacteria species-specific)