

Convenia[®] for Canine Infectious Skin Disease



convenia[®]
cefovecin sodium



Incidence of skin infections



Due to the fact that 25% of dogs and 18% of cats presented in practice suffer from skin disorders, dermatology is one of the routine challenges veterinary surgeons face¹. To find the cause of the disorder and to achieve a successful therapy, it is important to perform a detailed diagnosis.



Superficial pyoderma



Deep pyoderma



Superficial pyoderma: epidermal collarette



Deep pyoderma (furunculosis) of a foreleg in a 1 year old, male Doberman



Bacterial folliculitis: many follicular papules and pustules



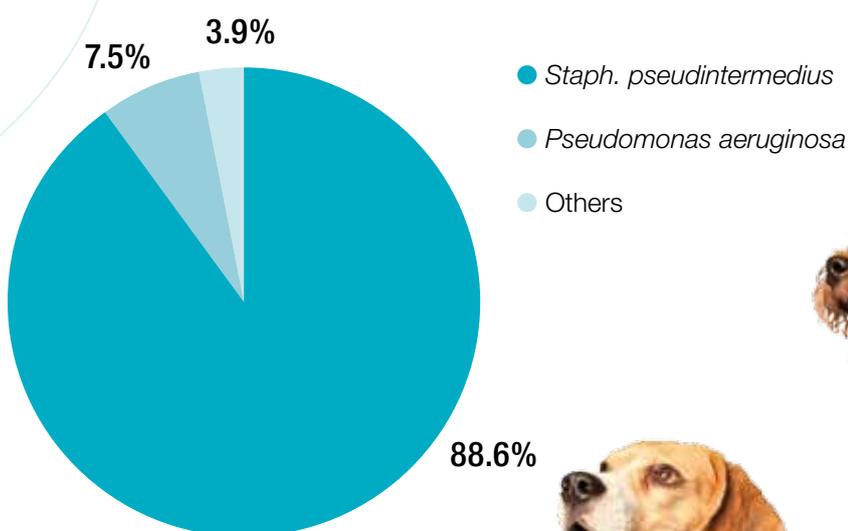
Types of skin infection



Canine skin disease can manifest in a variety of ways:

Surface/Superficial Pyodermas	Skin fold pyoderma (Intertrigo)
	Mucocutaneous pyoderma
	Bacterial overgrowth syndrome
	Impetigo
	Folliculitis
Deep Pyodermas	Furunculosis
	Cellulitis
Pseudo-Pyodermas	Pyotraumatic dermatitis (e.g. Hotspots)
	Juvenile cellulitis
	Eosinophilic furunculosis
	Idiopathic sterile granulomatous panniculitis
Otitis externa	
Wound infections	
Pododermatitis	

The pathogens isolated from canine skin infections are as follows²:

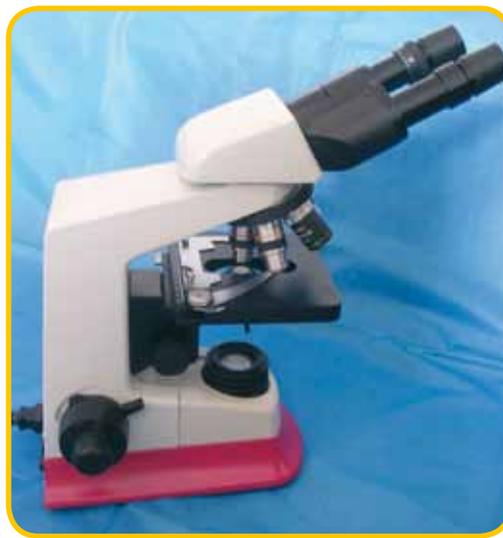




Diagnosis of skin disease



There are a number of dermatologic tests to determine the cause of infection, and not all require a specialist laboratory. Some of these tests can easily and quickly be performed in practice. They do not require specialist equipment and can in most cases deliver a definite result while the patient is still in the practice.



Equipment needed for "in-practice" dermatological tests

Ask your Pfizer Account Manager for a copy of our Skin Diagnostic Guide. This is also available on a specialist Dermatology CPD site at www.undertheskin.com





Treatment of skin infection

Treatment of infectious skin disease in dogs will depend on such factors as the causal agent, severity, duration and general health of the dog. With pyodermas, for example, it is important to treat with the appropriate antibiotic for a sufficient time period. Cytology is a very important diagnostic procedure here.

The photos and micrographs below demonstrate that although skin can appear normal on physical examination there are often levels of bacteria still present requiring further treatment to prevent relapse. Prolonged therapy may be indicated to help prevent these relapses often seen in the treatment of infectious skin disease.

Skin may appear healed but still have high bacterial levels



week 1



week 2



week 3



week 4



Treatment compliance



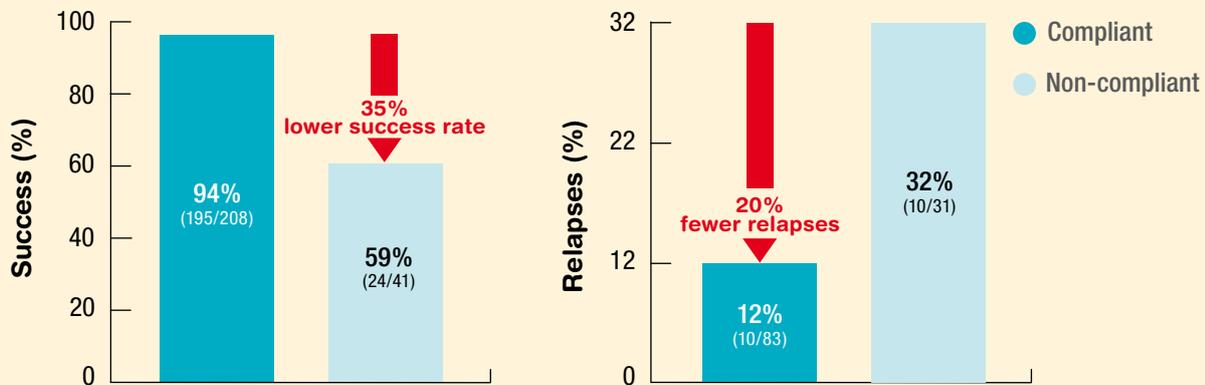
Another important factor for treatment success is compliance. This has been demonstrated in human medicine - the trial results below show the differences in treatment success with compliant and non-compliant patients.

Efficacy is lost with poor compliance

Compliance is crucial for treatment success

Data from studies in humans show that the success rate of an antibiotic treatment is directly linked to treatment compliance.

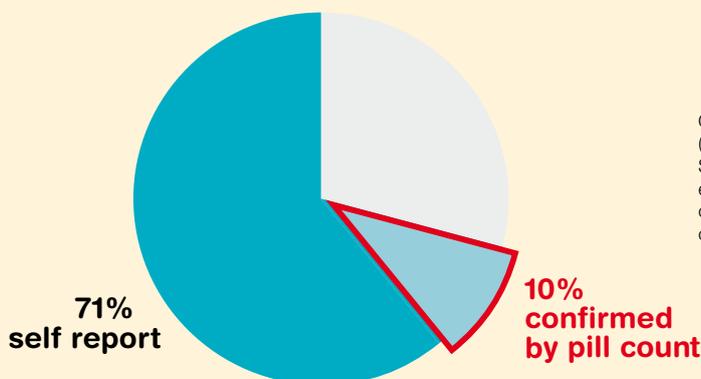
Success rates in compliant and non-compliant human patients^{3,4}



Poor compliance in dogs substantially raises the risk of treatment failure

Compliance problems in dogs are more common than many veterinary surgeons might think.⁵

Difference between self report and pill count



Owner compliance was estimated on a scale from one (likely highly compliant) to five (likely highly non-compliant). Spearman rank correlation between this measure and electronic monitoring gave $r = -0.358$ showing the lack of significant correlation between the veterinarian's estimate of the owner's likely compliance and electronic monitor data.

Optimal efficacy can only be achieved when antibiotic tablets are taken for the full course of treatment.

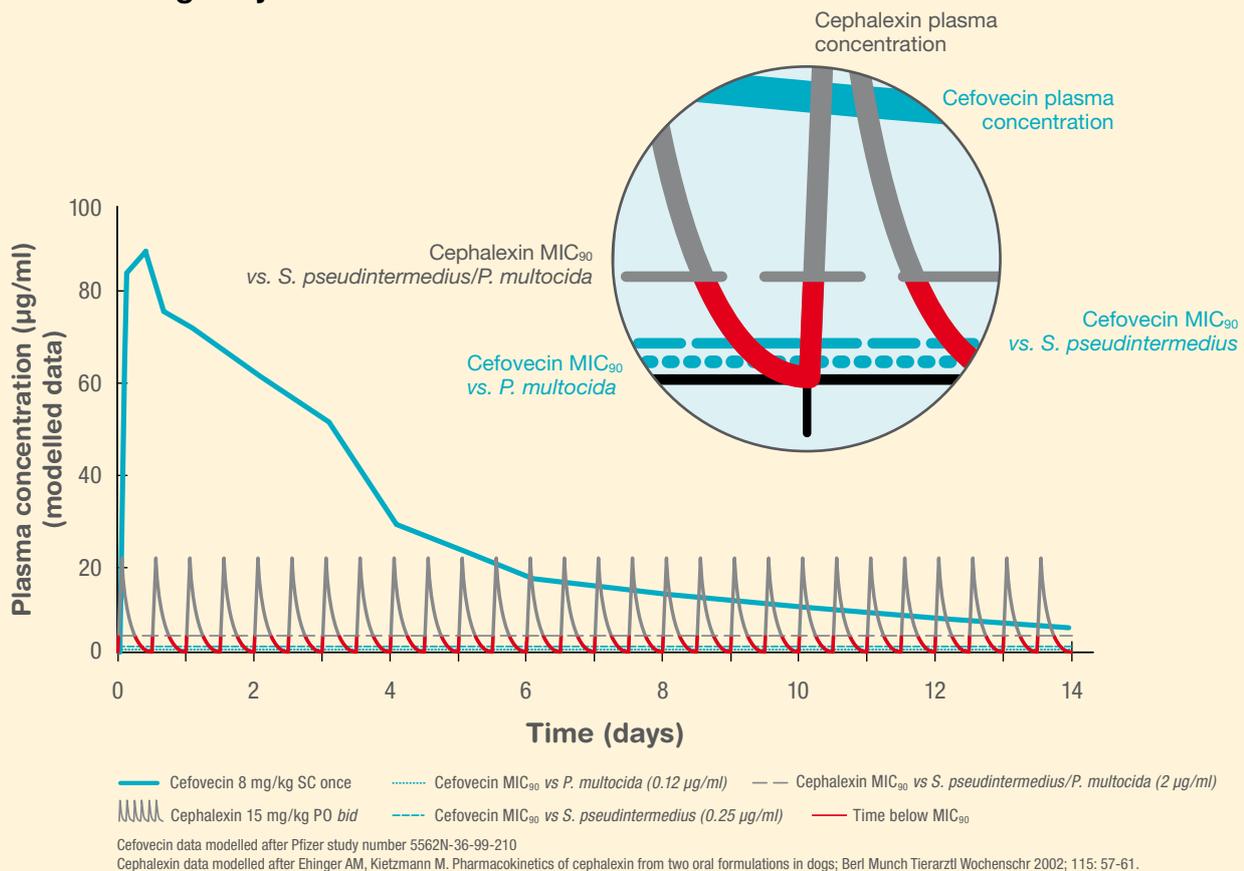


Treatment efficacy is optimised with Convenia



CONVENIA's pharmacokinetics represent an advance in antibiotic treatment

Continuous levels of cefovecin above MIC*₉₀ for up to two weeks with a single injection



- **CONVENIA** is rapidly and completely absorbed.†
- **CONVENIA** exhibits a high degree of binding to plasma proteins ≥ 96% thus creating a plasma reservoir.
- Bound **CONVENIA** molecules are in equilibrium with active, free drug maintaining effective levels of free drug concentrated at the site of infection.
- Only free drug is eliminated via the kidneys, thus contributing to the uniquely long elimination half-life of **CONVENIA** (5.5 days for dogs).

**S. pseudintermedius*, *P. multocida* †Bioavailability approximately 99%

Highly efficacious against a wide range of bacteria⁶

Active against Gram+ and Gram- aerobes and anaerobes

	Dog SSTI**	Cat SSTI**	Dog UTI**	Cat UTI**
<i>Staphylococcus pseudintermedius</i>	✓	✓		
<i>β-hemolytic Streptococcus spp.</i>	✓	✓		
<i>Pasteurella multocida</i>	✓	✓		
<i>Escherichia coli</i>	✓		✓	✓
<i>Proteus spp.</i>			✓	
<i>Prevotella spp.</i>		✓		
<i>Fusobacterium spp.</i>		✓		
<i>Bacteroides spp.</i>		✓		

** SSTI = soft-tissue infections, UTI = urinary tract infections

Key pathogens are more susceptible to Convenia

MIC₉₀ results for key pathogens

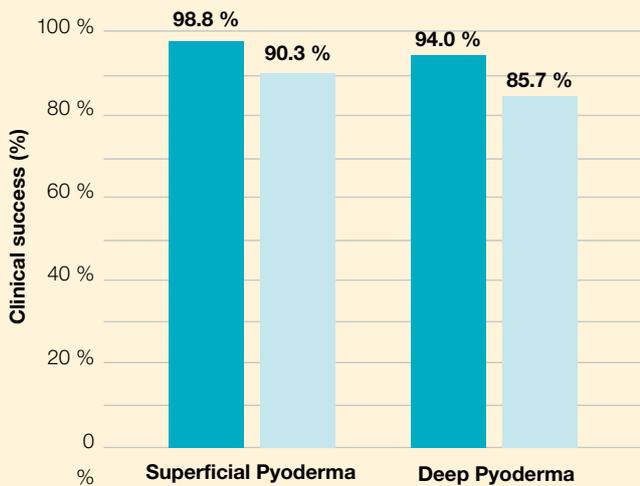
Bacterial isolate ⁵ (n)	MIC90 (µg/ml)*		More susceptible to Convenia
	Cefovecin	Cephalexin	Convenia
<i>Staphylococcus pseudintermedius</i> (270)	0.25	2	✓
<i>β-haemolytic Streptococcus spp.</i> (86)	0.12	2	✓
<i>Pasteurella multocida</i> (193)	0.12	2	✓
<i>Escherichia coli</i> (260)	1	16	✓
<i>Proteus spp.</i> (71)	0.25	16	✓
<i>Prevotella spp.</i> (75)	1	8	✓
<i>Fusobacterium spp.</i> (26)	1	1	=
<i>Bacteroides spp.</i> (32)	2	16	✓

*SPC levels may vary slightly

Optimising efficacy for canine SSTIs

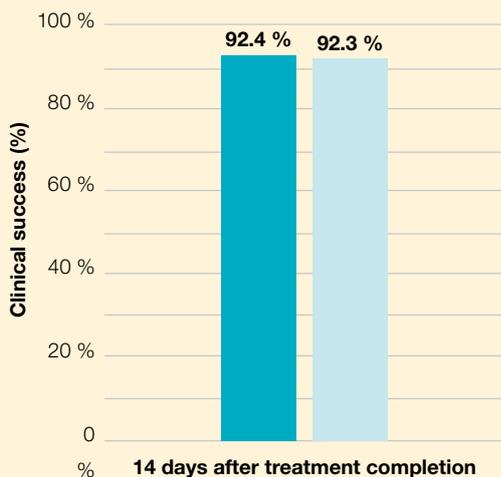
When compared to other antibiotics used in canine medicine the treatment results are excellent.

Cefovecin vs. oral amoxicillin clavulanate⁷



Under controlled study conditions which assure a higher level of compliance for dogs on oral drugs compared to real-life

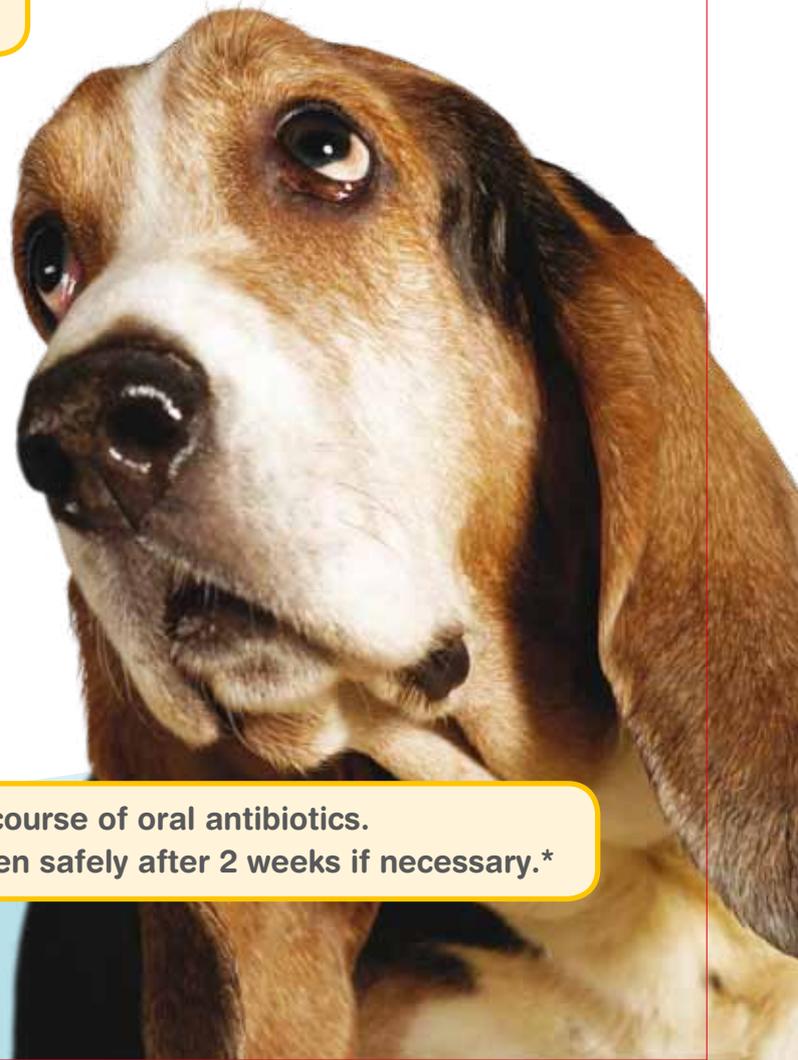
Cefovecin vs. oral cefadroxil^B



Under controlled study conditions which assure a higher level of compliance for dogs on oral drugs compared to real-life

Efficacy equal to a multi-day course of oral antibiotics.
Additional **CONVENIA** injection can be given safely after 2 weeks if necessary.*

*Dogs with pyoderma can be given up to a total of 4 injections



Cephalosporin Classification System

Group	Generation	Route of Administration	Resistance to -lactamases	Potency	Spectrum
1	First	Parenteral	Staphylococcal, not enterobacterial	Moderate	Limited Gram(-), primarily Gram(+)
2	First	Oral	Staphylococcal, primarily Gram(+)	Moderate	Limited Gram(-), primarily Gram(+)
3	Second	Parenteral	Many	Moderate	Some Gram(-), Gram(+)
4	Third	Parenteral	Many	High	Increased Gram(-), Gram(+)
5	Third	Oral	Many	High	Increased Gram(-), Gram(+)
6	Third	Parenteral	Many	High	Increased Gram(-), Pseudomonas, Gram(+)
7	Fourth	Parenteral	Many	High	Increased Gram(-), Pseudomonas, Increased Gram(+)

Cefovecin is not effective against MRSA, *Pseudomonas* spp., *Bordetella* spp. and *Enterococci* spp.

Take one step to excellent tolerability

Abnormal observations ⁹	Dogs	
	Convenia (n=236)	Oral cephalosporin* (n=228)
Lethargy	3.4%	6.1%
Inappetence / Decreased Appetite	3.4%	6.6%
Vomiting	2.5%	9.6%
Diarrhoea / Soft Faeces	3.0%	6.1%

* Cefadroxil 22mg/kg

In all studies, CONVENIA demonstrated an excellent safety profile



Convenia[®] – A single injection ...

... and no missed doses

For you

- Provides an assured treatment course

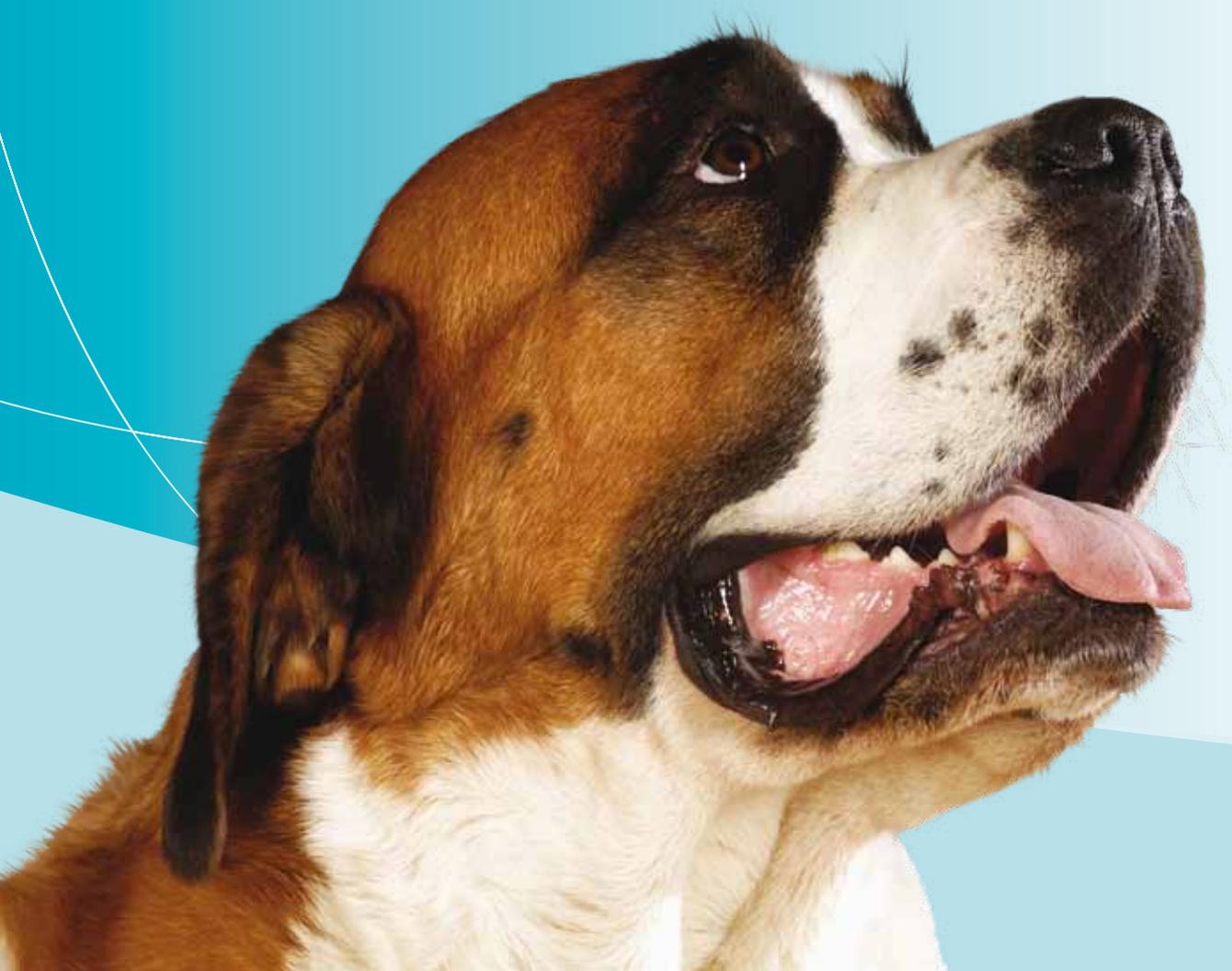
For your clients

- Eradicates the need for oral daily administration of tablets to their pets

For your patients

- A better chance of treatment success in real life





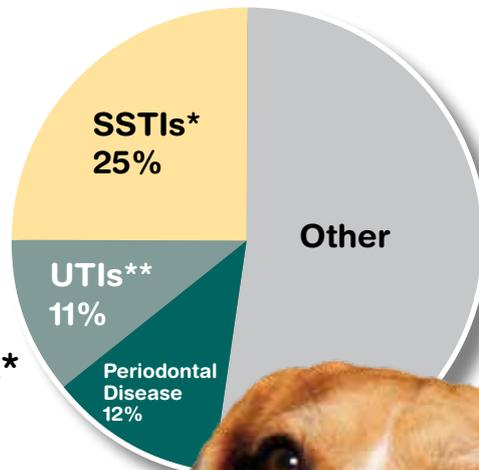
Convenia – the treatment of choice...



...for all the right reasons:

- ✓ Excellent efficacy in SSTIs*
- ✓ Good safety profile
- ✓ Convenient for the pet owner and for the dog
- ✓ New claim in canine periodontal disease***

The European dog antimicrobial market¹



The only antibiotic to provide an assured treatment course with **a single injection lasting 14 days** across a broad range of skin and soft tissue infections in dogs.

The Pfizer Academy has developed an on-line learning programme on skin disease. To complete the modules and achieve CPD Accreditation visit:

www.undertheskin.com

* Skin and Soft Tissue Infections

** Urinary Tract Infections

*** As adjunctive treatment to mechanical or surgical periodontal therapy of severe infections of the gingival and periodontal tissues associated with *Porphyromonas* spp. and *Prevotella* spp.



Convenia® 80mg/ml powder and solvent for solution for injection for dogs and cats, contains 852 mg cefovecin. For the treatment of skin and soft tissue infections including pyoderma, wounds and abscesses and for the treatment of urinary tract infections in dogs and for the treatment of skin and soft tissue abscesses and wounds and the treatment of urinary tract infections in cats. Do not use in dogs and cats less than 8 weeks old or in small herbivores (including guinea pigs and rabbits). Use of the product should be based on susceptibility testing and take account of official/local antimicrobial policies. Safety of Convenia in dogs and cats has not been established during pregnancy and lactation or in animals suffering from severe renal dysfunction. Treated animals should not be used for breeding for 12 weeks after the last administration. Do not use in case of hypersensitivity to cephalosporin or penicillin antibiotics. Concurrent use of other substances with a high degree of protein binding may compete with cefovecin binding and thus may cause adverse effects. Penicillins and cephalosporins may cause hypersensitivity and cross reactivity which may occasionally be serious. Do not handle this product if you know you are sensitised or if you have been advised not to work with such preparations. Handle this product with care to avoid exposure, taking all recommended precautions. If you develop symptoms following exposure seek medical advice; show the doctor this warning. Swelling of the face, lips or eyes or difficulty in breathing are more serious and require urgent medical attention. If you know you are allergic to penicillins or cephalosporins, avoid contact with contaminated litter. In the event of contact, wash skin with soap and water. As with other cephalosporins, the colour of the reconstituted solution may darken but potency is unaffected if stored as recommended. Store in original packaging and protected from light between 2°C to 8°C before and after reconstitution. Do not freeze. Keep out of the reach and sight of children. UK [\[POM-V\]](#) | IE [\[POM\]](#)

1. PAH GMR FB/ annual survey about antimicrobials for pets/Bio'Sat/July 2009.
2. Petersen *et al.* (2002) Frequency of isolation and antimicrobial susceptibility patterns of *Staphylococcus pseudintermedius* and *Pseudomonas aeruginosa* isolates from canine skin and ear samples over a 6-year period (1992-1997). *J Am Anim Hosp Assoc* 38(5): 407-13.
3. Anastasio *et al.* (1994) Impact of compliance and side effects on the clinical outcome of patients treated with oral erythromycin. *Pharmacotherapy* 14 (2): 229-234.
4. Green *et al.* (1969) Recurrence rate of streptococcal pharyngitis related to oral penicillin. *J Pediatr* 75 (2): 292-4.
5. Barter *et al.* (1996) Comparison of methods to assess dog owners' therapeutic compliance. *Aust Vet J* 74: 443-6.
6. Stegemann MR *et al.* Antimicrobial activity and spectrum of cefovecin, a new extended- spectrum cephalosporin, against pathogens collected from dogs and cats in Europe and North America. *Antimicrob Agents Chemother.* 2006 Jul;50(7):2286-92.
7. Stegemann MR *et al.* Clinical efficacy and safety of cefovecin in the treatment of canine pyoderma and wound infections. *J Small Anim. Pract* 2007; 48(7): 378-86. Combined results from Pfizer study number 5163E-10-01-237 and Pfizer study number 5163C-85-00-232.
8. Six R *et al.* Efficacy and safety of cefovecin in treating bacterial folliculitis, abscesses, or infected wounds in dogs. *J Am Vet Med Assoc* 2008 ; 233 : 433-39. Pfizer study number 1163C-60-00-468.
9. Number (%) of animals with abnormal health observations reported during clinical field studies with Convenia. Pfizer study number 1163C-60-00-469.