UPDATES IN PYODERMA

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OUTLINE

- PYODERMA AND CAUSATIVE ORGANISMS
- DIAGNOSTICS
- TOPICAL TREATMENT
- SYSTEMIC TREATMENT
- CURRENT GUIDELINES

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RUXPIN, 9 YO M(N) MIXED BREED DOG

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AXILLAE

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WHAT DIAGNOSTICS WOULD YOU LIKE TO PERFORM ON RUXPIN?

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DIAGNOSTICS - CYTOLOGY

- IMPRESSION SMEAR
- TAPE CYTOLOGY
- COTTON-TIPPED APPLICATOR

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CYTOLOGY ON RUXPIN

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PYODERMA

- BACTERIAL INFECTION OF THE SKIN
- DIVIDED BASED ON DEPTH OF SKIN
  - SURFACE VS SUPERFICIAL VS DEEP

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WHAT TREATMENT WOULD YOU LIKE TO START WITH RUXPIN?

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Veterinary Dermatology

GUIDELINES

Antimicrobial use guidelines for canine pyoderma by the International Society for Companion Animal Infectious Diseases (ISCAID)

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Veterinary Dermatology

Vet Dermatol 2014; **25**: 163–e43 DOI: 10.1111/vde.12118

Guidelines for the diagnosis and antimicrobial therapy of canine superficial bacterial folliculitis (Antimicrobial Guidelines Working Group of the International Society for Companion Animal Infectious Diseases)

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Guidelines for the diagnosis and antimicrobial therapy of canine superficial bacterial folliculitis (Antimicrobial Guidelines Working Group of the International Society for Companion Animal Infectious Diseases)

- "Topical therapy of SBF is probably underused because of the perception that clients will find it more difficult to apply and that compliance may be poor."

- "These advantages include more rapid lesion resolution and a decrease in the duration of antimicrobial administration when combined with systemic AMD therapy, removal of organisms and debris from the skin surface, minimal adverse effects and greatly reduced exposure to AMDs of bystander organisms in other organ systems (reducing risk of inadvertent emergence of resistant strains)."

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CURRENT GUIDELINES

- TOPICAL THERAPY IS THE TREATMENT OF CHOICE FOR SUPERFICIAL BACTERIAL FOLLICULITIS (PYODERMA)

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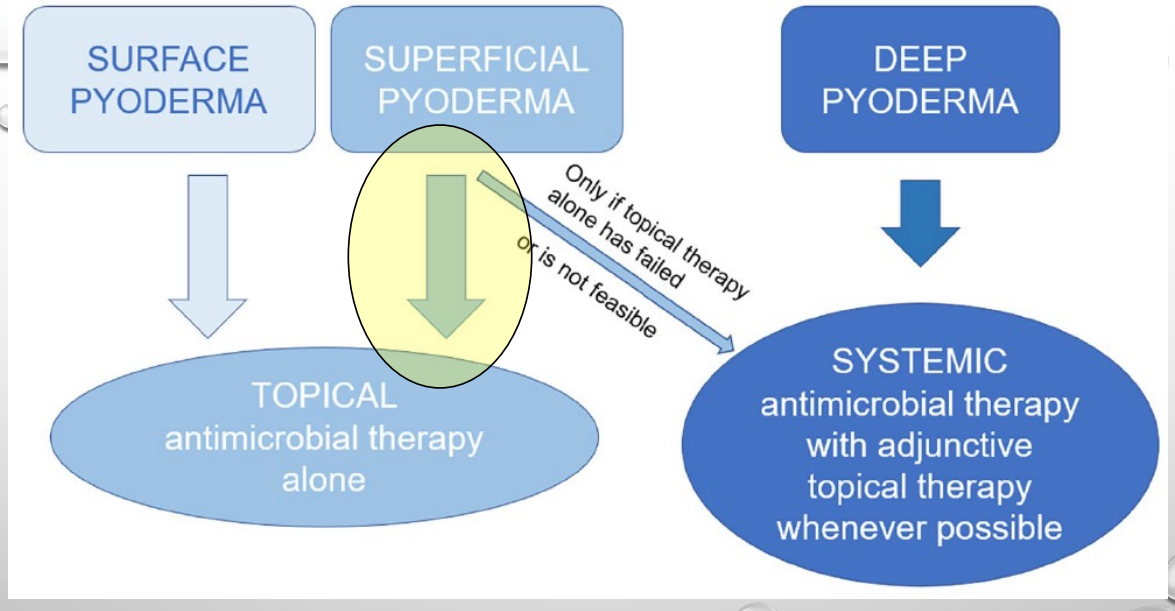

Loeffler A et al. Antimicrobial use guidelines for canine pyoderma by International Society of Companion Animal Infectious Diseases. *Vet Dermatol* 2025.

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Veterinary Dermatology

Vet Dermatol 2015; **26**: 339–e72 DOI: 10.1111/vde.12233

Effectiveness of a combined (4% chlorhexidine digluconate shampoo and solution) protocol in MRS and non-MRS canine superficial pyoderma: a randomized, blinded, antibiotic-controlled study

Stefano Borio*, Silvia Colombo†, Giuseppe La Rosa‡, Michela De Lucia§, Peter Damborg¶ and Luca

Animals – A randomized controlled trial was conducted in dogs with superficial pyoderma. Group T (n = 31) was treated topically with 4% chlorhexidine digluconate shampoo (twice weekly) and solution (once daily) for 4 weeks. Group S (n = 20) was treated orally with amoxicillin–clavulanic acid (25 mg/kg) twice daily for 4 weeks.

Results – *Staphylococcus pseudintermedius* was isolated from 48 dogs, including eight meticillin-resistant strains (MRSP). Although the number of dogs was small, no significant differences in pyoderma and pruritus scores were observed between groups throughout the study except for day 1, when group S had a significantly higher total score than group T (P = 0.03). Treatment with chlorhexidine products resulted in resolution of clinical signs in all dogs including those infected with MRSP.

Conclusion and clinical importance – Topical therapy with chlorhexidine digluconate products may be as effective as systemic therapy with amoxicillin–clavulanic acid. This finding supports the current recommendations to use topical antiseptics alone for the management of superficial pyoderma.

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TOPICAL THERAPY

- SYSTEMIC ANTIBIOTICS ARE NOT ALWAYS REASONABLE
- NEWER TOPICAL FORMULATIONS AVAILABLE TO MAKE IT LESS LABOR INTENSIVE
- RESIDUAL ACTIVITY VARIABLE BASED ON FORMULATION

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TOPICAL THERAPY DECISIONS

- ACTIVE INGREDIENT
- BEST FORMULATION FOR THE SITUATION
- FREQUENCY
- LABOR INTENSIVE
- COMPLIANCE

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ACTIVE INGREDIENTS

- CHLORHEXIDINE
  - COMBINATION WITH AZOLES
  - 2% VS 4% CHLORHEXIDINE
- BENZOYL PEROXIDE
- SODIUM HYPOCHLORITE
- ETHYL LACTATE
- ACCELERATED HYDROGEN PEROXIDE

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Veterinary Dermatology

Vet Dermatol 2013; **24**: 250–e54 DOI: 10.1111/vde.12012

Residual antibacterial activity of dog hairs after therapy with antimicrobial shampoos

Isabell Kloos*, Reinhard K. Straubinger†, Christiane Werckenthin†‡ and Ralf S. Mueller*

Methods – Dogs were treated with six different shampoos and the combination of one shampoo and conditioner containing benzoyl peroxide, chlorhexidine in different concentrations (0.8, 2, 3 and 4%), ethyl lactate and miconazole twice weekly for 2 weeks. A shampoo vehicle without antimicrobial ingredients was used as the control. Hairs were collected immediately after and 2, 4 and 7 days after the last shampoo therapy and placed onto an agar plate streaked with *Staphylococcus pseudintermedius*. After incubation, the growth inhibition zone around the hair shafts was measured.

Results – The largest zone of inhibition of bacterial growth was seen after shampoos containing 2 and 3% chlorhexidine and the combination of chlorhexidine shampoo and conditioner. The zone of inhibition was smaller with the shampoos containing 0.8 and 4% chlorhexidine. There was no difference between the inhibition zones post-treatment with benzoyl peroxide, ethyl lactate and control.

Conclusion and clinical importance – The efficacy of a shampoo is dependent not only on the concentration of the active ingredients but also on the shampoo formulation. Hair shafts treated with shampoos containing 2 and 3% chlorhexidine and the combination of shampoo and conditioner inhibited bacterial growth significantly and seem suitable to treat canine bacterial pyoderma.

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Presence of *Qac* genes in clinical isolates of methicillin-resistant and methicillin-susceptible *Staphylococcus pseudintermedius* and their impact on chlorhexidine digluconate susceptibility

Meagan A. Walker DVM[1] | Ameet Singh DVM, DVSc, DACVS-SA[1] | Tom W. Gibson DVM, DVSc, DACVS[1] | Joyce Rousseau BSc[2] | J. Scott Weese DVM, DVSc, DACVIM (Large Animal)[2]

Abstract

Objective: To evaluate the presence of quaternary ammonium compound (QAC) (resistance genes, *qac A/B*, *smr*, *qacG*, and *qacJ*, in clinical isolates of methicillin-susceptible *Staphylococcus pseudintermedius* (MSSP) and methicillin-resistant *S pseudintermedius* (MRSP) from dogs and the impact on in vitro chlorhexidine susceptibility.

Study design: Experimental in vitro study.

Sample population: Seventy isolates from dogs colonized or infected with MRSP (n = 50) or MSSP (n = 20).

Methods: Agar dilution was used to determine the minimum inhibitory concentration (MIC) of chlorhexidine digluconate. Real-time polymerase chain reaction was used to detect the presence of *QAC* resistance genes, *qacA/B*, *smr*, *qacG*, *and qacJ* genes.

Results: One or more *qac* genes were identified in 52 of 70 (74%) isolates. Overall, there was no association between chlorhexidine MIC and the presence of one or more *qac* genes ($P = .85$) or the presence of *qacA/B* ($P = .31$), *smr* ($P = .72$) or *qacJ* ($P = .93$) individually. There was an association between *qacG* and MIC ($P = .012$), with a median MIC of 1.5 μg/mL for isolates possessing this gene and 1 μg/mL for those not possessing it.

Conclusion: Quaternary ammonium compound resistance genes were present in MRSP and MSSP isolates. With the exception of *qacG*, the presence of these genes was not associated with increased MIC. All isolates exhibited MIC 5000 to 80 000 times lower than the concentration recommended for use.

Clinical significance: Despite the presence of QAC genes, chlorhexidine digluconate should be effective against MRSP and MSSP if used correctly.

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FORMULATIONS

- SHAMPOO
- SPRAY
- OINTMENT
- WIPES
- MOUSSE

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Veterinary Dermatology

Vet Dermatol 2013; **24**: 250–e54 DOI: 10.1111/vde.12012

Residual antibacterial activity of dog hairs after therapy with antimicrobial shampoos

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Results – The largest zone of inhibition of bacterial growth was seen after shampoos containing 2 and 3% chlorhexidine and the combination of chlorhexidine shampoo and conditioner. The zone of inhibition was smaller with the shampoos containing 0.8 and 4% chlorhexidine. There was no difference between the inhibition zones post-treatment with benzoyl peroxide, ethyl lactate and control.

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Veterinary Dermatology

Vet Dermatol 2019; **30**: 183–e57 DOI: 10.1111/vde.12737

Residual antibacterial activity of canine hair treated with five mousse products against *Staphylococcus pseudintermedius in vitro*

Sara J. Ramos*, Michelle Woodward*, Sarrah M. Hoppers†, Chin-Chi Liu*, Cherie M. Pucheu-Haston* and Maria S. Mitchell‡

Methods and materials – Dogs were treated once with five mousse products [(i) 2% chlorhexidine and 1% ketoconazole, (ii) 2% chlorhexidine and 2% miconazole, (iii) 3% chlorhexidine and 0.5% climbazole, (iv) 2% salicylic acid 10% ethyl lactate and (v) phytosphingosine HCl 0.05%; control]. Hair samples were collected from each treatment area before application, one hour after application and on days 2, 4, 7, 10 and 14 post-treatment. Collected hairs were weighed and plated on Mueller–Hinton agar plates streaked with a *Staphylococcus pseudintermedius* isolate showing no antimicrobial resistance. Plates were incubated for 24 h and bacterial growth inhibition zones around the hairs were measured.

Results – Mousses 1, 2 and 3 created significant inhibition zones up to Day 10 when compared to pre-treatment samples. On Day 14, only mousse 3 produced a significant zone of inhibition when compared to the pre-treatment sample. Mousses 4 and 5 showed no statistical difference between any of the samples.

Conclusions and clinical importance – These results suggest that three of the mousse products had residual activity in inhibiting *S. pseudintermedius* growth *in vitro* for at least 10 days.

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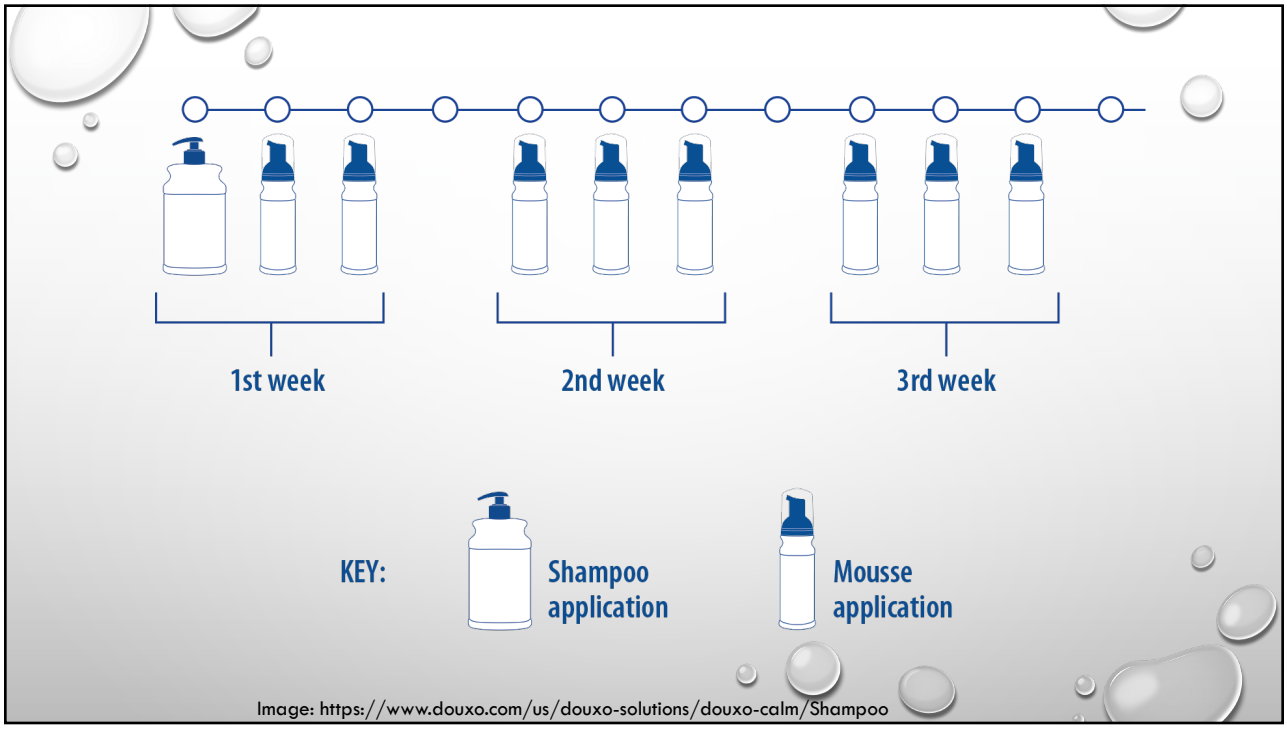

Image: https://www.douxo.com/us/douxo-solutions/douxo-calm/Shampoo

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MUPIROCIN

- GOOD EFFICACY AGAINST GRAM + *STAPHYLOCOCCUS* SPP.
- INCREASED USE IS SHOWING INCREASED RESISTANCE
- USED IN HUMAN MEDICINE TO DECOLONIZE PATIENTS WITH MRSA
- EUROPEAN MEDICINES AGENCY STATES AVOID THIS DRUG IN VETERINARY MEDICINE, LIKE VANCOMYCIN
- CURRENT GUIDELINES – PRIORITIZE TOPICAL ANTISEPTICS OVER TOPICAL ANTIBIOTICS

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PHOViA®

FLUORESCENT LIGHT THERAPY

- LED DEVICE + TOPICAL PHOTOCONVERTER GEL (CONTAINING SPECIFIC CHROMOPHORES)
- TARGETS A BROAD RANGE OF SKIN LAYERS WITH POLYCHROMIC LIGHT THERAPY
- GREAT FOR ADDRESSING DEEP SKIN LESIONS

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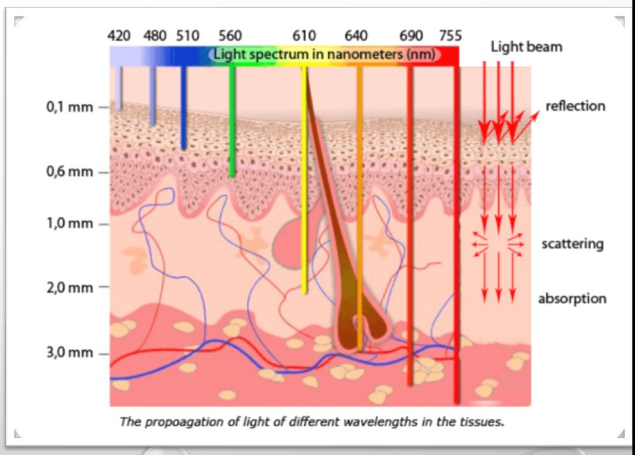
PHOTOBIOMODULATION

- USES THE INTERACTION OF LIGHT WITH CHROMOPHORES TO INTERACT WITH SPECIFIC LAYERS OF SKIN



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Veteri

Vet Dermatol 2019; **30**: 371–e109

l: 10.1111/vde.12785

Fluorescence
canine interdi
single-blindec

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cal study

Andrea Marchegiani*
Alessandro Fruganti* an

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Results – A statistically sig
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Group A.

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Conclusion and clinical im
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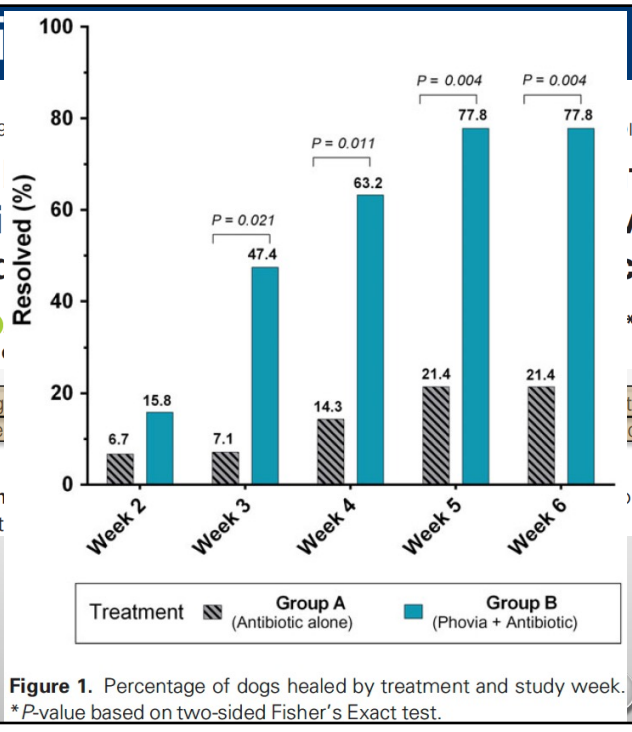

Figure 1. Percentage of dogs healed by treatment and study week.
**P*-value based on two-sided Fisher's Exact test.

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RUXPIN 6 YO M(N) MIXED BREED DOG

- MICONAHEX + TRIZ SHAMPOO WEEKLY
- MICONAHEX + TRIZ MOUSSE 2 TIMES WEEKLY IN BETWEEN BATHS
- RECHECK IN 2 WEEKS

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RECHECK IN 2 WEEKS

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2 WEEK RECHECK

- CYTOLOGY – SIMILAR FINDINGS WITH MODERATE COCCI
- TOPICALS HAVE FAILED
- NEXT PROGRESSION IN TREATMENT?

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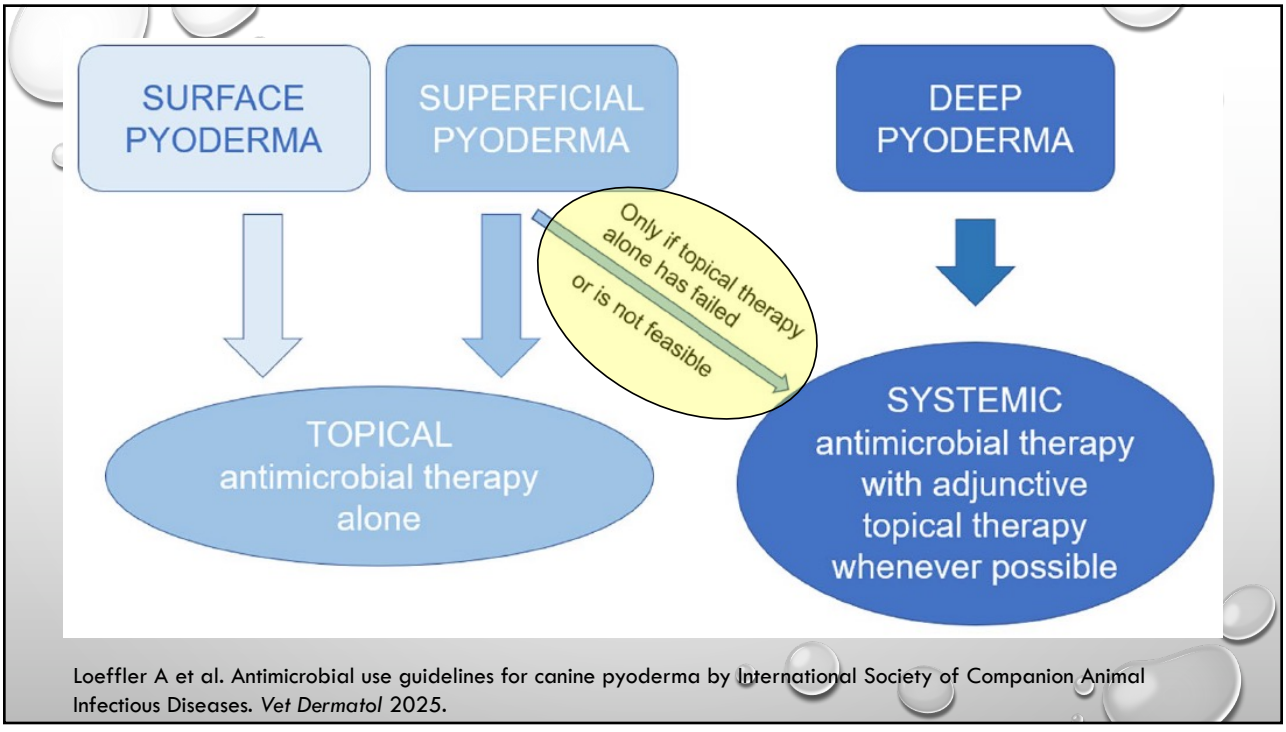

Loeffler A et al. Antimicrobial use guidelines for canine pyoderma by International Society of Companion Animal Infectious Diseases. *Vet Dermatol* 2025.

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ORGANISMS

- *STAPHYLOCOCCUS* SPP.
  - COAGULASE POSITIVE
  - COAGULASE NEGATIVE
- *STREPTOCOCCUS CANIS*
- *CORYNEBACTERIUM AURISCANIS*
- *PSEUDOMONAS AERUGINOSA*
- *PROTEUS* SPP.
- *E. COLI*

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SYSTEMIC THERAPY

- FIRST CHOICE (EMPIRICAL THERAPY)
- SECOND CHOICE
- RESERVED
- STRONGLY DISCOURAGED
- TREAT FOR 2 WEEKS, THEN RECHECK WHILE ON SYSTEMIC THERAPY

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FIRST CHOICE (EMPIRICAL THERAPY)

- CEPHALEXIN
- CLAVAMOX
- CLINDAMYCIN
- EXPECTED GOOD EFFICACY IN DOGS WITH METHICILLIN-SUSCEPTIBLE *STAPHYLOCOCCI*

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RUXPIN TREATMENT

- CEPHALEXIN 27 MG/KG BY MOUTH EVERY 12 HOURS
- RECHECK IN 2 WEEKS

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RECHECK IN 2 WEEKS

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RUXPIN FOLLOW UP

- NOT RESPONSIVE TO CEPHALEXIN
- CYTOLOGY – MILD-MODERATE COCCI
- WHAT NEXT?

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WHEN TO CULTURE FOR SUPERFICIAL PYODERMA?

1. HISTORY OF RECURRENT PYODERMA
2. MORE THAN ONE COURSE OF SYSTEMIC ANTIMICROBIALS WITHIN PAST 6 MONTHS (FOR ANY CONDITION)
3. HISTORY OF MULTI-DRUG RESISTANT INFECTION IN THE DOG OR HOUSEHOLD DOG
4. NO IMPROVEMENT OF LESIONS AFTER 5-7 DAYS OF SYSTEMIC ANTIMICROBIAL THERAPY AT APPROPRIATE DOSE AND GOOD COMPLIANCE
5. EMERGENCE OF NEW LESIONS DURING THERAPY
6. HIGH REGIONAL PREVALENCE OF MRSP
7. ROD-SHAPED BACTERIA OR POLYMICROBIAL FINDINGS ON CYTOLOGY

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SAMPLE COLLECTION

- AREAS OF HIGHEST BACTERIA BASED ON CYTOLOGY
- AVOID AREAS WITH HIGH CONTAMINATION RATE IF POSSIBLE (I.E. PAWS, PERIORAL, PERIANAL)
- OCCASIONALLY NEED TO BIOPSY IF DEEP

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INTERPRETATION OF CULTURE

1. CONSISTENT WITH CYTOLOGY
2. ORGANISM DETECTED
   - INFECTIOUS VS CONTAMINANT
3. QUANTITY OF BACTERIA
4. INTERPRET FOR COMMON *STAPHYLOCOCCUS* RESISTANCE
5. LOOK AT SUSCEPTIBLE, INTERMEDIATE AND RESISTANCE INTERPRETATION

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INTERPRETATION OF CULTURES

Aerobic Culture

Specimen	Specimen Id	Iso#	Isolate	Result	Level
# 1 Swab Skin			Staph pseudintermedius	FINAL	heavy
**Result Comment:*					
Gray morphology					
# 1 Swab Skin			Staph pseudintermedius	FINAL	heavy
**Result Comment:*					
White morphology					

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GENETIC RESISTANCE

- *BLAZ* – BETA-LACTAMASE
- *MECA* – METHICILLIN RESISTANCE
- CLINDAMYCIN INDUCIBLE RESISTANCE

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SECOND CHOICE

- SHOULD ONLY BE CONSIDERED WHEN:
  - CAUSATIVE BACTERIA IS SUSCEPTIBLE ON CULTURE AND SUSCEPTIBILITY RESULTS
  - FIRST CHOICE AGENTS ARE NOT APPROPRIATE
- INCREASED RELATIVE RISK FOR SELECTION OF IMPORTANT MULTIDRUG-RESISTANT PATHOGENS IN PETS AND HUMANS OR INCREASE RISK OF ADVERSE EVENTS

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SECOND CHOICE

- THIRD GENERATION CEPHALOSPORINS (CEFOVECIN AND CEFPODOXIME)
- FLUOROQUINOLONES (ENROFLOXACIN, MARBOFLOXACIN, ORBIFLOXACIN, PRADOFLOXACIN)
- TETRACYCLINES (DOXYCYCLINE, MINOCYCLINE)
- POTENTIATED SULFONAMIDES (TRIMETHOPRIM-SULFADIAZINE, TRIMETHOPRIM-SULFAMETHOXAZOLE, ORMETOPRIM-SULFADIMETHOXINE)

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RESERVED

- USE WHEN NO FIRST OR SECOND CHOICE OPTIONS ARE APPROPRIATE
- NOT AUTHORIZED OR IN SOME COUNTRIES BANNED FOR USE IN DOGS
- CRITICALLY IMPORTANT FOR TREATMENT OF SERIOUS INFECTIONS IN HUMAN MEDICINE
- RIFAMPIN, CHLORAMPHENICOL, AMINOGLYCOSIDES

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RESERVED

- EVALUATED FOR RISK OF ADVERSE EVENTS IN SPECIFIC DOG
- PROGNOSIS FOR RESOLVING PYODERMA IS GOOD
- UNDERLYING PRIMARY CAUSE IS IDENTIFIED AND TREATMENT INITIATED TO PREVENT RECURRENT INFECTION
- OWNERS ARE AWARE OF RISKS ASSOCIATED WITH TREATMENT AND NEED FOR COMPLIANCE

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STRONGLY DISCOURAGED

- NOT LICENSED FOR USE IN ANIMALS AND CRITICALLY IMPORTANT FOR HUMAN MEDICINE WITH SERIOUS INFECTIONS
- USE IN ALL ANIMALS HAS BEEN BANNED IN EUROPEAN UNION SINCE 2023
- LINEZOLID
- VANCOMYCIN

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ANTIBIOTIC DECISION MAKING

- FREQUENCY OF ANTIMICROBIAL
- ROUTE OF ADMINISTRATION
- KNOWN DRUG INTERACTIONS WITH CONCURRENT MEDICATIONS
- SIDE EFFECTS
- UNDERLYING DISEASE
- COST

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M. R.
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‡Depart
§Centre

Objectives: To quantify the individual influences of antimicrobial cost, method of administration and drug importance in human medicine on dog-owner antimicrobial preference, and determine knowledge, attitudes and influencers of dog-owners surrounding antimicrobials and antimicrobial stewardship.
Materials and Methods: Data were collected through an online survey targeting three dog-owner participant groups. These consisted of individuals residing in: (1) Canada, (2) USA and (3) any country recruited through an educational social media site. USA and Canadian participants were financially compensated. Conjoint analysis was used to quantify the influence of antimicrobial cost, method of administration and drug importance in human medicine. Descriptive and analytical statistics were used for data evaluation.
Results: A total of 809 surveys were completed. Antimicrobial cost accounted for 47% of dog-owner preferences, followed by method of administration (31%) and drug importance in human medicine (22%). All groups preferred lower cost drugs that were administered once by injection. Participants were more likely to prefer drugs considered "very important" in human medicine, except for the social media participants, who preferred drugs that were "not at all important." Most respondents (86%) reported antimicrobial resistance as important in human medicine and 29% believed antimicrobial use in pets posed a risk for antimicrobial resistance in humans. Participants recruited through social media, and those in the highest education category, were significantly more likely to report antimicrobial use in pets as a risk to people.
Clinical Significance: Cost was the most important factor in dog-owner antimicrobial preferences. There is a need for dog-owner antimicrobial stewardship education.

Journal of Small Animal Practice (2021) **62**, 442–449
DOI: 10.1111/jsap.13297

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Knowledge, attitudes and influencers of cat owners in North America around antimicrobials and antimicrobial stewardship

Journal of Feline Medicine and Surgery
2022, Vol. 24(6) e90–e97

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Abstract

Objectives The primary aims of this study were to determine preferences of North American cat owners when they are prescribed an antimicrobial for their cat with regard to cost, method of administration and the importance of antibiotics for treating infections in people, and to establish baseline knowledge, attitudes and influencers of cat owners on antimicrobial resistance and stewardship.

Methods An online questionnaire was used for data collection from two cat-owner groups: US cat owners and Canadian cat owners. Participants were queried on antimicrobial resistance and stewardship, and their preferences for their own cat when prescribed an antimicrobial, with respect to cost, method of drug administration and the importance of a drug for treating infections in people. Responses were evaluated through conjoint analysis and Likert-type questions. Data were analyzed using descriptive and analytic statistics.

Results A total of 630 complete responses were included in the final analysis. Cost (37%) and method of administration (38%) were of similar participant preference when assessed using conjoint analysis. The importance of a drug for treating infections in people was lower priority (21%). The majority of cat owners preferred an antimicrobial that was 'very important' in treating human infections. A low proportion (21%) of participants responded that antimicrobial use in pets posed a risk to humans. Participants with a university education were more likely to respond that antimicrobial use in pets was a concern for people (31%; $P < 0.001$).

Conclusions and relevance Cat owners prioritize antimicrobial cost and method of administration equally. Few cat owners recognized the human antimicrobial resistance risks associated with antimicrobial use in pets.

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BACTERIAL NGS/PCR

- NEW DIAGNOSTIC METHOD IN VETERINARY MEDICINE
- COMMONLY USED FOR MICROBIOME STUDIES TO DATE IN VETERINARY MEDICINE
- ROUTINELY USED IN HUMAN MEDICINE
- ABLE TO DETECT ORGANISMS THAT MAY NOT GROW ON CULTURE OR SMALL NUMBERS OF ORGANISMS
- DETECT KNOWN GENETIC MUTATIONS IN THE WHOLE SAMPLE OF ORGANISMS

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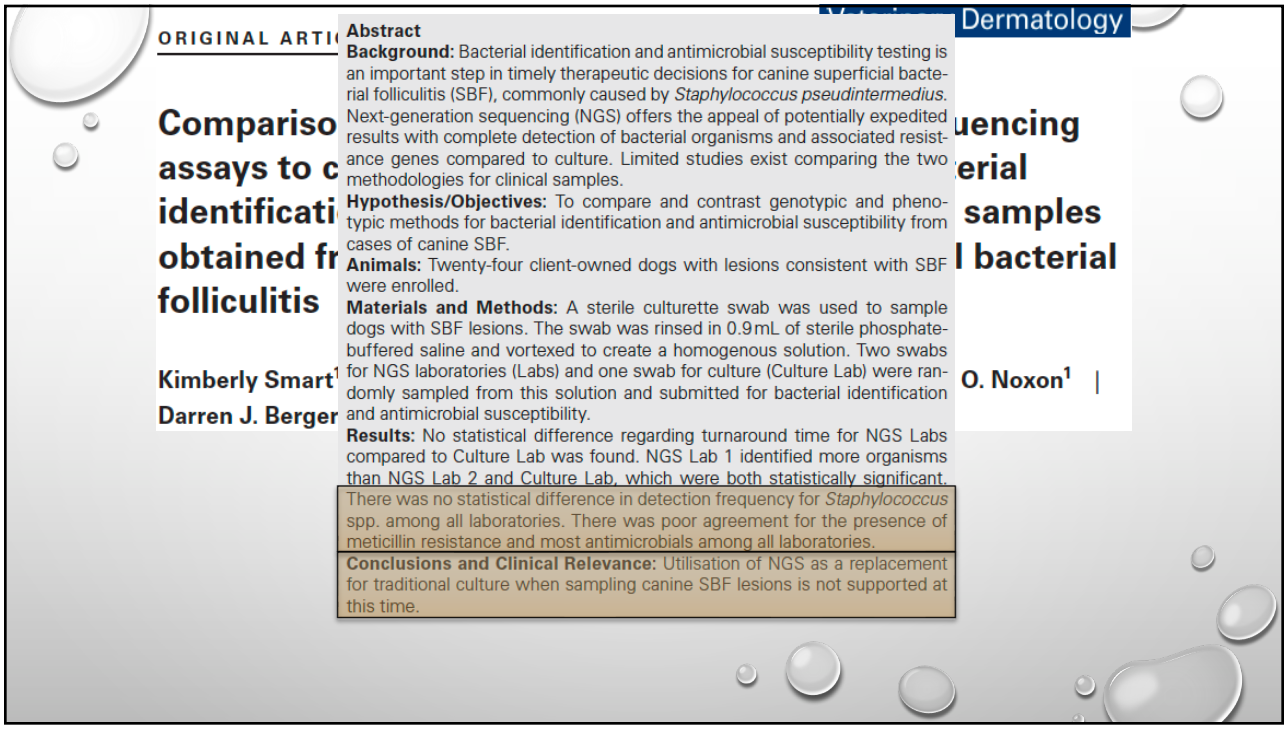

ORIGINAL ARTI

Dermatology

Compariso … uencing assays to c … erial identificati … samples obtained fr … l bacterial folliculitis

Kimberly Smart[1] … O. Noxon[1] |
Darren J. Berger

Abstract

Background: Bacterial identification and antimicrobial susceptibility testing is an important step in timely therapeutic decisions for canine superficial bacterial folliculitis (SBF), commonly caused by *Staphylococcus pseudintermedius*. Next-generation sequencing (NGS) offers the appeal of potentially expedited results with complete detection of bacterial organisms and associated resistance genes compared to culture. Limited studies exist comparing the two methodologies for clinical samples.

Hypothesis/Objectives: To compare and contrast genotypic and phenotypic methods for bacterial identification and antimicrobial susceptibility from cases of canine SBF.

Animals: Twenty-four client-owned dogs with lesions consistent with SBF were enrolled.

Materials and Methods: A sterile culturette swab was used to sample dogs with SBF lesions. The swab was rinsed in 0.9 mL of sterile phosphate-buffered saline and vortexed to create a homogenous solution. Two swabs for NGS laboratories (Labs) and one swab for culture (Culture Lab) were randomly sampled from this solution and submitted for bacterial identification and antimicrobial susceptibility.

Results: No statistical difference regarding turnaround time for NGS Labs compared to Culture Lab was found. NGS Lab 1 identified more organisms than NGS Lab 2 and Culture Lab, which were both statistically significant. There was no statistical difference in detection frequency for *Staphylococcus* spp. among all laboratories. There was poor agreement for the presence of meticillin resistance and most antimicrobials among all laboratories.

Conclusions and Clinical Relevance: Utilisation of NGS as a replacement for traditional culture when sampling canine SBF lesions is not supported at this time.

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RUXPIN FOLLOW UP

- RESPONDED TO 3 WEEKS OF RIFAMPIN
- MORE HISTORY REVEALS THIS HAS BEEN HAPPENING EVERY 2-3 MONTHS FOR YEARS
- STARTED TREATMENT FOR ATOPIC DERMATITIS

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PYODERMA IS A SECONDARY PROBLEM

TABLE 3 Typical underlying causes and commonly associated types of canine pyoderma.

Disease group	Disease	Most common type of pyoderma
Allergic skin disease	Atopic dermatitis	SBF, ExP
	Adverse food reaction	Pyotraumatic dermatitis particularly frequent with flea bite hypersensitivity
	Flea bite hypersensitivity	
Ectoparasitic diseases	Sarcoptic mange	SBF, rarely localised DP
	Demodicosis	DP, SBF
	Cheyletiellosis	SBF, ExP
Infectious diseases	Dermatophytosis	SBF, DP
	Leishmaniosis	DP, SBF
Endocrine disorders	Hypothyroidism	SBF, ExP, rarely DP
	Hyperadrenocorticism	
	Sex hormone imbalances	SBF, ExP
Autoimmune diseases	Pemphigus foliaceus	SBF, ExP
Follicular dysplasias	Colour dilution alopecia	SBF, ExP
Keratinisation/ cornification disorders	Ichthyoses	SBF, ExP
Others	Sebaceous adenitis	SBF, ExP
	Acne	DP

Abbreviations: DP, deep pyoderma; ExP, exfoliative superficial pyoderma; SBF, superficial bacterial folliculitis.

Loeffler A et al. Antimicrobial use guidelines for canine pyoderma by International Society of Companion Animal Infectious Diseases. *Vet Dermatol* 2025.

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The effects of oclacitinib treatment

Abstract

Background: Canine allergic dermatitis is a common diagnosis in veterinary practices which can lead to secondary infections requiring treatment with antimicrobials. A previous study suggested that dogs treated with oclacitinib in an Australian referral hospital required fewer courses of antimicrobial therapy compared to dogs receiving other anti-pruritic treatments. This study aimed to quantify the effect of oclacitinib treatment on the use of antimicrobials and other therapies in general practice veterinary clinics across Australia. A retrospective case-controlled review of patient records was designed to investigate the number of courses of antimicrobials and other therapies in dogs that received oclacitinib (Apoquel®), compared with those who received an anti-pruritic treatment that was not oclacitinib.

Results: The target population included canine patients with a presumptive diagnosis of allergic dermatitis presenting between 2008 and 2018 to general practices contributing to the VetCompass Australia database. Patient records of interest were identified using search terms relating to allergic dermatitis, resulting in over 700,000 observations. Multivariable logistic regression models were developed to determine whether cases were prescribed fewer antimicrobial courses than controls, after adjusting for the presence of concurrent skin infections or infectious agents in ears. Our results indicate that fewer antimicrobial courses were prescribed in the cases compared to the controls. After adjusting for the concurrent skin infections, there was a significant reduction in the use of cefovecin [OR:0.62(0.39–0.98), $P = 0.043$], chlorhexidine [OR:0.57(0.42–0.77), $P < 0.001$], neomycin [OR:0.4(0.28–0.56), $P < 0.001$] and amoxycillin clavulanic acid (AMC) [OR: 0.55(0.39–0.78), $P = 0.001$] in cases compared to controls.

Conclusion: This study demonstrates a potential sparing effect of oclacitinib on the prescription of antimicrobials for the treatment of allergic skin diseases in dogs. This information may assist in the planning of treatment for canine allergic dermatitis, with consideration for antimicrobial stewardship.

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ZOONOTIC RISKS

- CAN BE A CONCERN, BUT LOW
- OTHER ANIMALS IN HOUSE
- DECONTAMINATION OF ENVIRONMENT

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SUMMARY

- *STAPHYLOCOCCUS* SP. ARE THE MOST PREVALENT
  - METHICILLIN RESISTANCE IS A HUGE CONCERN
- CYTOLOGY NECESSARY
- TOPICAL THERAPY IS TREATMENT OF CHOICE
  - COST IS LOWER, DON'T HAVE TO MEDICATE DAILY
- IF SYSTEMIC THERAPY, FOLLOW TIER GUIDELINES
- ADDRESS UNDERLYING PROBLEM!

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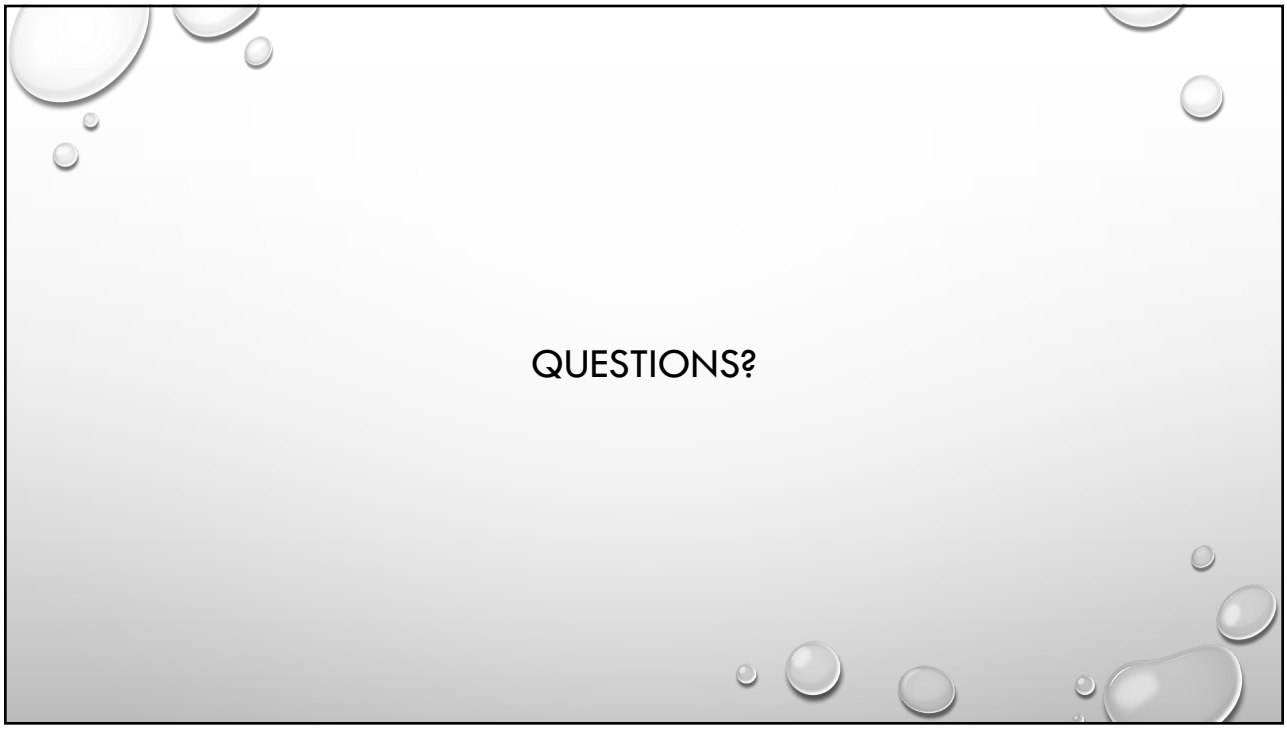

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