AAVD Roundtable
Responsible Use of Antibiotics in Veterinary Dermatology
October 4, 2021 5:30-6:30 pm PDT

GUESTS

Thomas M. File Jr., MD is Chief of the Infectious Disease Service and Director of HIV Research at Summa Health System in Akron. Ohio, and Professor of Internal Medicine and Master Teacher at the Northeastern Ohio Universities College of Medicine in Rootstown, Ohio. After graduating from medical school at the University of Michigan, Ann Arbor, Dr. File received his Master of Science in medical microbiology from Ohio State University in Columbus, where he also completed his fellowship in infectious diseases.

Dr. File is a Fellow of the American College of Physicians, the Infectious Diseases Society of America, and the American College of Chest Physicians. He is on the Board of Directors of the National Foundation for Infectious Diseases and is a member of many other professional societies, including the American Society for Microbiology, the American Society of Hospital Epidemiologists, and the Association for Practitioners in Infection Control. He has also served as a member of the IDSA and ATS committees for guidelines on community-acquired pneumonia. He is a past-president of the Infectious Disease Society of Ohio, and is a past president of the Northeastern Ohio Task Force on AIDS.

Primary research interests that Dr. File has pursued include community-acquired respiratory tract infections, bacterial resistance in respiratory infections, infections in patients with diabetes, and evaluation of new antimicrobial agents. A frequent lecturer both nationally and internationally, Dr File has published more than 200 articles, abstracts, and textbook chapters, focusing on the diagnosis, etiology, and treatment of infectious diseases, especially on respiratory tract infections. He recently co-edited *Community-Acquired Respiratory Infections* (2003, published by Marcel Dekker, NY). In addition, he currently serves on the Editorial Board of *Journal of Respiratory Disease* and is Editor-in-Chief of *Infectious Diseases in Clinical Practice*.

Dr. E. Patchen Dellinger graduated from Swarthmore College and from Harvard Medical School. During surgical training at the Beth Israel Hospital, Boston, Massachusetts. Dr. Dellinger completed an Infectious disease Fellowship at Tufts. He is past president of the Surgical Infection Society (SIS), a fellow of the IDSA and of SHEA. He was first author of the IDSA "Quality standard for prophylactic antimicrobial use in surgical procedures" and an author of the IDSA "Practice guidelines for the diagnosis and management of skin and soft-tissue infections" and currently represents IDSA to Surgical Care Improvement Project (SCIP). He is a member of the American Surgical Association, the Society of University Surgeons, the American College of Surgeons, and the American Society for Metabolic and Bariatric Surgery. He was on the Hospital Infection Control Practices Advisory Committee (HICPAC) from 2004-07. He represents SIS in the current effort to produce a coordinated surgical antibiotic prophylaxis guideline jointly from ASHP, SIS, IDSA, and SHEA. He was recently appointed to the Working Group on preventing surgical site infection as part of the second Global Patient Safety Challenge "Safe Surgery Saves Lives" of WHO. He is chair of the Infectious Diseases TAP for the NQF and a member of the National Quality Forum (NQF) Patient Outcomes Steering Committee. He has been performing general and bariatric surgery at the University of Washington since 1977 where he is Professor, Vice-Chair, and Chief of the Division of General Surgery. He is an Associate Medical Director of the University of Washington Medical Center. He is on the management committee of the Surgical Care and Outcomes Assessment Program (SCOAP) and chairs the Surgical Checklist Initiative for Washington State sponsored

by SCOAP. He has authored and/or coauthored more than 170 papers and chapters and he serves on the editorial boards of Surgical Infections and Infection Control and Hospital Epidemiology.

Dr. Robert Sawyer graduated from the University of Michigan with a BS in Biomedical Sciences in 1984 and an MD in 1986. He finished a general surgery residency at the University of Virginia in 1994 and a transplant surgery fellowship at the University of Michigan in 1996. He finished a surgical critical care fellowship at the University of Virginia in 2003. He became professor of Surgery at the University of Virginia in 2008. He is now Professor and Chair of Surgery at Western Michigan University Homer Stryker School of Medicine. His research is in infectious diseases and nutrition. [Surgical infections and use of Abs.]

Dr. Jenifer Chatfield is the board-certified Staff Veterinarian at 4J Conservation Center. She is a graduate of Texas A&M University College of Veterinary Medicine and a diplomate of both the American College of Zoological Medicine (ACZM) and the American College of Veterinary Preventive Medicine (ACVPM). Dr. Chatfield is a national thought-leader in infectious disease and conservation medicine. She's been a practice owner, a relief vet, worked in public health, serves as a member of the National Veterinary Response Team, and is a Medical Reserve Corps member. She serves on the advisory boards for DVM360, PetVet Magazine, and VPNextGen and as an Associate Editor of the *Journal of Zoo and Wildlife Medicine*. Along with her twin brother, Dr. Jason Chatfield, she co-hosts the podcast, "Chats with the Chatfields." Lifelong learning is a passion of hers and led Dr. Chatfield to create a YouTube channel dedicated to helping animal lovers provide better care through improved communication with veterinary professionals. Through her popular show, "Is this a thing? Veterinary translations for pet owners," she teaches animal lovers all about preventive medicine, behavior challenges, infectious diseases, and more. Dr. Chatfield's peer-reviewed publications range from pharmacokinetics to wild animal behavior to infectious disease and assisted reproduction in endangered species. She is an instructor for FEMA/DHS courses and was a Regional Leader for the National Disaster Medicine System Team for several years. Dr. Chatfield developed the "Veterinary Support to Zoological Animals in a Disaster" for the National Veterinary Response Team's training curriculum. She has chaired the Florida Veterinary Medical Association's (FVMA) One Health Committee and co-chaired FVMA's Disaster Response Committee. Dr. Chatfield has a particular interest in infectious diseases and biosecurity and her work for the Dept. of Homeland Security's courses has been focused on topics such as foreign animal diseases, quarantine and isolation, and malicious introduction of pathogens. Dr. Chatfield completed a Congressional Fellowship working in the US House of Representatives from 2016-2018.She was selected as a Future Leader by the AVMA and has been awarded 2 Gold Stars for contributions to veterinary medicine by the FVMA.

Laurel E. Redding, BA, VMD, PhD (Epidemiology), DACVPM
Assistant Professor of Epidemiology, University of Pennsylvania School of Veterinary Medicine

SUGGESTED REFERENCES

Suggested guidelines for using systemic antimicrobials in bacterial skin infections (2): antimicrobial choice, treatment regimens and compliance L. Beco, E. Guaguère, C. Lorente Méndez, C. Noli, T. Nuttall, M. Vroom. *Veterinary Record* (2013) 172, 156-160
https://bvajournals.onlinelibrary.wiley.com/doi/pdf/10.1136/vr.101070

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)

Andrew Hillier, David H. Lloyd, J. Scott Weese, Joseph M. Blondeau, Dawn Boothe, Edward Breitschwerdt, Luca Guardabassi, Mark G. Papich, Shelley Rankin, John D. Turnidge, Jane E. Sykes. *Veterinary Dermatology* (2014) 25, 163-e43
https://onlinelibrary.wiley.com/doi/full/10.1111/vde.12118

Hostage to History The Duration of Antimicrobial Treatment for Acute Streptococcal Pharyngitis
Radetsky, Michael MD, CM. *The Pediatric Infectious Disease Journal* (2017) 36, 507-512.
doi: 10.1097/INF.0000000000001480
https://journals.lww.com/pidj/Abstract/2017/05000/Hostage_to_History__The_Duration_of_Antimicrobial.20.aspx [Not available on open Access]

DISCUSSION POINTS

Poll Question 1

1. I am a

General practice veterinarian	5
Dermatology specialist	27
Other	6

- Should we use the term BOGS (Bacterial Overgrowth Syndrome), vs pyoderma, more often, especially when there is an increase in bacteria on cytology without neutrophils in dogs with superficial skin infections (SSI)?
  - Diane Lewis: No.
  - Dr. Jen the vet: I vote BOGs!
  - Diane Lewis: Use folliculitis
  - Mitzi Clark: We like bacterial folliculitis
  - Paul Bloom: If there are papules it is a folliculitis
  - Valerie Fadok: To me, BOGS is very specific to surface overgrowth
  - Stefano Borio: I commonly use bacterial overgrowth
  - Laurel Redding: makes me think of SIBO (small intestinal bacterial overgrowth)
  - Alicia Webb Milum: I agree with Valerie above
  - Paul Bloom: If there are no papules - then bog is fine
  - Ann Mattise: I use bacterial overgrowth. Do we need the word "syndrome?"
  - Paul Bloom: need to say cutaneous bacterial overgrowth
  - Mitzi Clark: I think it depends on the lesions - when able, we are specific. Sometimes overgrowth, sometimes folliculitis, sometimes mucocutaneous pyoderma, etc.
  - Paul Bloom: vs intestinal bacterial overgrowth
  - Stephen Waisglass: I agree with Valerie; To me, BOGS is very specific to surface overgrowth
  - Tiffany Sheldon: what about bacterial vs Malassezia dermatitis?
  - Diane Lewis: Is it a syndrome? Or an infection with an underlying cause
  - Valerie Fadok: In my view, cytology is not sensitive enough to use for this purpose
  - Diane Lewis: I agree, Valerie
  - Valerie Fadok: Maybe cutaneous bacterial infections as an overarching term?
  - Jacquelyn Campbell: Does the change in terminology change our treatment?
  - Leigh Stevens: It is under Reactions.
  - Lindsay McKay: I use terminology like Val suggests
- Roundtable/Panel discussion: Bacterial Overgrowth (BOG) versus Malassezia Overgrowth (MOG) and differentiation from infection/pyoderma.

- Neutrophils should be present with infection/pyoderma and will not be present with BOG/MOG.
- Dr. File mentioned that he would worry that the term BOG could easily be confused with intestinal bacterial overgrowth.
- The definition of BOG was discussed including what clinic signs would be present. A greasy coat and lichenification are present with BOG/MOG.

- When should we use systemic antibiotics to treat SSI (this will include discussion around their use in treating otitis)?
  Valerie Fadok: I use them when the disease is generalized and pruritic.
  Mitzi Clark: Deep infections. Superficial infections if owners can't/won't adequately use topical therapy (often these are more generalized).
  Joseph Bernstein: Systemics should be used when topical therapeutic resolution is not possible either by distribution or owner compliance
  Alicia Webb Milum: I use them if diligent topical therapy fails to significantly improve the condition after 7-10 days (usually when waiting for c/s- often I don't need them because dogs are improving)
  Laurel Redding: I've done the same thing Jen. Anecdotally, I've also heard among other general practitioners that the subjective "severity" of the infection determines when they grab for systemics
  Stacey Holz: If topical therapy is not practical or possible, if deep, if patient is severely affected but ideally culture based
  Diane Lewis: It's difficult to convince the owner to clip their Golden retriever's hair
  John Angus: in larger clinics with higher incidence of MRSP, etc, only after failure of topical therapy and then only based on culture. 1-2 doctor practices, probably continue as is.
  Leigh Stevens: I always wonder if we can effectively treat topically if there is something going on under the hair coat elsewhere that we cannot see. Someone might spot treat their dogs one place ie the abdomen but might miss it in the axilla.
  Dana Liska: I think a great open-ended question is "tell me about your experience bathing your pet" because topical therapy is not for all clients!
  Alicia Webb Milum: Yes!
  Astrid Morillo Alfaro: I only prescribe systemics if topical doesn't work after 2 weeks
  Laurel Redding: Almost all of the derm CE events I've been to for general practitioners have recommended starting with topical therapy first before going to systemics
  Paul Bloom: Studies show 1 minute chx will work if used every other day
  Valerie Fadok: Yes, I ask for 5 minutes daily or every other day
  Valerie Fadok: My favorite study is the Borio study where they washed dogs twice a week and put a spray on in between
  Alicia Webb Milum: I think that's true, but to be fair, we get compliance as specialists because our clients have buy in already, and we have more time to communicate the WHY of topical therapy. Communication and buy in are key.
  Joseph Bernstein: If we weren't booked out 5 months we might be able to provide medicated baths. That is not happening now in current environment.
  Daryl Leu: Should dogs have an opportunity to be antibiotic responsive prior to trying other remedies or making other diagnoses? Compliance is difficult with topical therapy.
  Stephen Waisglass: I do 5 minutes BTC = By the clock. Twice a week and if i want more CHX i spray in between
  Mitzi Clark: I find more are willing to try topicals when they see the cost of the culture :)

- Roundtable/Panel discussion: Discussion occurred on oral antibiotics versus topicals antimicrobials.
    - The general thought was that antimicrobial topical therapy should play a large role in treating allergic patients to prevent and treat infection.
    - Topicals should be recommended at the beginning of treatment for patients with allergic disease.
    - Oral antibiotics can be needed, and this decision is often based on the response to antimicrobial topical therapy.

- How important is it to perform bacterial C&S (to the GP vs. the dermatologists) and when? Cost benefit?
  John Angus: Sweden - require culture prior to systemic antibiotics. I would support this in specialty clinics
  Daryl Leu: C/S should be minimum data base before using antibiotic.
  Robert Sawyer: We culture humans less commonly than you think.
  Brian Scott: YES!!!!
  Valerie Fadok: Thank you Dr. Sawyer!
  Daryl Leu: Empirical systemic therapy, while C/S.

- Roundtable/Panel Discussion: When should a culture be performed?
    - The beginning of therapy.
    - Dr. Sawyer mentioned in human medicine if a patient is seen at the emergency department antibiotics that are commonly used are doxycycline, clindamycin, Bactrim and other sulfas. Cultures are not always performed, although this can depend on the severity of the patient's cutaneous disease.
    - Dr. File mentioned that when picking an antibiotic, it is important to evaluate the communities' antibiotic sensitivity. He also felt prescribers need to be careful when using antibiotics, so they do not lead to further resistance. The dose, frequency and length of therapy can play a role in future resistance.
    - Dr. Sousa discussed that sulfa drugs were used frequently in the past but are now used infrequently due to the concern for resistance and drug reactions.
    - In human medicine 7 to 10 days of antibiotics are often used and if there is a limited response a culture is recommended. Sometimes a culture will be performed sooner depending on the response to therapy and the severity of the disease.

- What are empirical first choices for an AIF in treating skin disease?
  Valerie Fadok: I use a cephalosporin
  Cheryl Lee: cephalexin
  Alicia Webb Milum: Unless severe deep pyoderma, it is rare for me to use empirical tx without c/s. I will say if you don't want to c/s, let's try topical therapy first.
  Paul Bloom: 1st generation ceph
  Klaus Loft: cephalosporine
  Kalie Marshall: cephalexin
  Astrid Morillo Alfaro: In Perú we have a serious problem with antibiótics. Even in human medicine. Ppl can buy antibiotics over the counter

Amy Meyer (Shumaker): Cephalosporin
Stephen Waisglass: cephalosporin or clindamycin
Leigh Stevens: Cephalexin
Astrid Morillo Alfaro: So owner thinks we should prescribe antibiotics to their dogs bc is normal to them
Tomeshia Hubbard: Cephalexin, Clindamycin
Laurel Redding: I was taught cephalexin first time around, then cefpodoxime
Millie Rosales: Cephalosporin
Robert Sawyer: Humans: Doxy, tmp/sx, or maybe clinda so community acquired MRSA is covered. At least in the ED.
Andrea Cannon: Clindamycin or cephalexin
John Angus: Depends on size of clinic and MRSP incidence in prior 12 months. I'd say no Beta-lactam or Fluoroquinolone without culture.
Alice Jeromin: Cephalosporin. I rarely use sulfas--too much of a chance of a drug reaction.
Valerie Fadok: My worry about cephalexin is we probably need to use it at least 3 times a day. Tissue 1/2 life is 3 hrs.
Valerie Fadok: Physicians prescribe it 4X a day (at least mine did :))
Tiffany Sheldon: My doctor prescribed me clindamycin 3 times daily for my skin...I like cefpodoxime because once daily for compliance.
Kalie Marshall: I sometimes get lucky with MRSP still being susceptible to clinda or doxy so I like to save those if at all possible and not use as first choice
Lindsay McKay: I agree with Katie
Andrea Cannon: Agree with John Angus
Valerie Fadok: We lack local antibiograms
Lindsay McKay: Some micro labs are offering them now
Kalie Marshall: coag pos pseudintermedius
Kalie Marshall: but horses aureus
Valerie Fadok: Lindsay McKay, thank you! That is good to know!
Kristin Holm: Antibiograms are somewhat limited in usefulness unless very specific to your hospital. Regional info is not practical.
Rose Miller: Dr. File - what about cytology?
Kalie Marshall: I think the wrong frequency and duration and dose is the number 1 reason I see resistance/pets not clearing their infections prior to coming to me
Joseph Bernstein: With respect, MDs dermatologists don't do as much cytology in house as we do.
Valerie Fadok: Katie Marshall, I agree. All pyoderma get a recheck!
Dr. Jen the vet: All 3 docs in our practice use sulfas pretty routinely as first line choice….
Laurel Redding: Katie, do you mean too long or too short durations?
Amy Meyer (Shumaker): I use Primor (ormetroprim sulfa) with some frequency based on culture with minimal side effects
Kalie Marshall: too short
Robert Sawyer: You are correct. Cytology is rarely done in humans, and biopsies are really only done for necrotizing infections.
Kalie Marshall: usually
John Angus: Several Japanese studies presented at WCVD showed restricted use protocols were effective at reducing %MRSP cultures in following 12-months.
Sam Sadeghi: Have you seen any side effect of KCS after using sulfa?
Dr. Jen the vet: We have not
Alicia Webb Milum: I definitely have seen KCS with sulfa.

Amy Meyer (Shumaker): Haven't yet with Primor
Mitzi Clark: Watch out for it, but haven't had much issues with sulfas when needed
Thomas M. File Jr.: what's the evidence for 20-30 days
Jacquelyn Campbell: I have only seen KCS side effect when human sulfas not the veterinary brand Primor were prescribed
Valerie Fadok: The recheck is key!
Laurel Redding: I agree with you Jen. If coupled with good topical therapy, I can usually get good resolution with 7-10 days.

- Discussion around current ISCAID recommendations for duration of systemic Ab therapy and the possible role that long duration of administration has been a significant factor in the increase in resistant bacteria, particularly *S. pseudintermedius.*
- Roundtable/Panel discussion: The length of antibiotics therapy.
    - It was stated that the length of therapy is often longer in veterinary medicine (especially if the patient is being seen by a dermatologist).
    - Longer therapy could be needed in veterinary medicine because unlike humans, are veterinary patients do not shower daily.
    - Human patients have a simple hair follicle structure and veterinary patients have a compounded hair follicle structure. The structure difference could be why there is a need for longer antibiotic therapy in the veterinary patient.
    - It was suggested that more studies are needed to allow for evidence-based recommendations on the appropriate length of therapy for antibiotics in the veterinary patient.
    - Controlling the underlying disease was also recommended for therapy success.

- Literature to date on treatment of skin infections in dogs to date focuses on diagnosis, diagnostic tests (cytology, biopsy C&S) and treatment. Treatment recommendations discuss the need and importance for topical therapy, with EBM, and systemic treatment. When discussing systemic therapy there are good recommendations for when to use it, which antibiotics to use, and which dose and frequency. **What's missing is a good discussion about duration of therapy.**
  Robert Sawyer: I think the recheck is VERY important.
  Diane Lewis: How long does it take the staph to recur?
  Cheryl Lee: usually ask for repeat cytology for extension of course... but usually they don't come back
  Jacquelyn Campbell: Recheck is key….and the hidden spots where bacteria hide….bulldog paws!!!!!!! 14 day duration will create a super bug there….
  Alice Jeromin: Not to mention changes in the gut microbiome!
  Dr. Jen the vet: From Dr. Scott: MUST RECHECK WHILE STILL ON BOTH TOPICAL AND SYSTEMIIC THERAPY!!!!!
  John Angus:we should stop teaching 30d courses of antibiotic for superficial bacterial infection
  Tiffany Sheldon: I think the difference with human medicine is in theory they are showering daily….and hygiene is better as mentioned before….dogs and cats have so much hair and folds that like to trap the infections.
  Mitzi Clark: We see too many incompletely resolved infections and immediate relapse when used for too short a time….
  Alice Jeromin: Totally agree with Tiffany!
  Joseph Bernstein: Yes, Tiffany! Huge difference!

Jacquelyn Campbell: Simple patients short course works….the subset we see have the tougher clinical picture at times necessitating the longer duration
Kalie Marshall: Agreed with Tiffany. I think we are likely to have more resistance when we stop early and get the superbugs forming because we killed the easy part and the rest is still there
Kalie Marshall: we often still have lots of bacteria at 7d
Sam Sadeghi: Do you use Staphage Lysate vaccination as prevention of recurrence of staph?
Lindsay McKay: I agree with Tiffany and Mitzi
Kalie Marshall: staph phage lysate isn't avail to us anymore
Mitzi Clark: I don't think staph lysate avail anymore
Valerie Fadok: This discussion is awesome and is making the point about how important it is to use topical therapy
Kalie Marshall: staphhage*
Alicia Webb Milum: Yeah, we are looking cytologically. Often bacteria still present. But we really need objective data.
Laurel Redding: our patients also don't understand "don't scratch" - even with anti-pruritics!
Mitzi Clark: Also, more hair so if bacterial folliculitis present (not just superficial overgrowth), I think if using a systemic it takes a while to clear those follicles.
Thomas M. File Jr.: I wish my patients would bath or shower daily
Robert Sawyer: On the other hand, if canine pyoderma is more like human acne or hidradenitis (I. e., an infection with a chronic component), a longer duration of treatment is required.
Daryl Leu: Clinical lesions resolve early in treatment. Bacterial overgrowth does not. Bacterial growth is exponential. Agree with Tiffany... dog's are not humans... different hair follicles, oil glands, epidermal turnover rate and recolonization.
Valerie Fadok: Haha! Good one Dr. File!
Mitzi Clark: Fair, Klaus
Andrea Cannon: Agree with Klaus
Kalie Marshall: also agree
Alice Jeromin: Agree with Klaus-we rarely see "virginal" bacterial infections but more often dogs that have been on steroids, etc. i.e. improper treatment for a pyoderma.
Kalie Marshall: repeat cytology still has a decent amt of intracellular bacteria at 7-10d
Kalie Marshall: generally for us at least
Alicia Webb Milum: I also wonder if some of the dogs getting better in general practice are just not following up or going elsewhere because it didn't work.
Paul Bloom:simple hair follicle vs compounded follicle may make the difference
Klaus Loft: if any of the cardinal signs of inflammation still in play rubor dolor, tumor...etc... then still not resolved
Christine Graham: cases that I have successful shorter term treatment (10-14 days) is after I have controlled their atopy with SLIT or SCIT and I am just treating a flare-up
John Angus:we need better understanding of bacterial dysbiosis, microbiome diversity to understand impact of antibiotics on relapsing Staph dermatitis in atopic dog
Valerie Fadok: How about treat until no papules, pustules, collarettes, crusts. Stop antibiotics then monitor. Would that protocol work?
Dr. Jen the vet: And, they can save the rest of the script for later…😂
Tiffany Sheldon: I am a GP vet and make sure the clients understand the importance of continuing it even if it looks better and making sure to repeat cytology prior to stopping the AB. I discuss resistance almost every time.
Dr. Jen the vet: Agree with Tiffany!

Kalie Marshall: education about the underlying cause and needing them to come back for that more so than just clearing the infection keeps them coming back more often

Dr. Jen the vet: Clients are much more aware (and afraid) of AMR these days!

Valerie Fadok: Yes, Dr Jen! I would be a rich woman if I got a dollar for every time that happened!

Leigh Stevens: I agree with Tiffany. I also found that if I explained that we needed wait for skin cell turnover they were more willing to go the distance (ie of 21 days).

Kristin Holm: I ask the owner at the time of recheck when the dog looked better to them. If within past weeks then I fill more antibiotics or make sure bathing is going well.

Tiffany Sheldon: I just had a client where I sent home 21 days of AB and told them to recheck in 21 days….they scheduled for 28 days and I had my receptionist tell them they needed to come before the 21 days or they needed to pick up an extra week of AB if they couldn't come in until 28 day mark

Kalie Marshall: agreed Kristin

Roundtable/Panel discussion: A question was asked to the human doctors on if tetracycline antibiotics use, for immunomodulator effects, could be contributing to resistance. Dr. Sawyer and Dr. File were unable to answer if this occurs.

Poll Question 2

2. When treating canine superficial staphylococcal pyoderma, I usually prescribe systemic antibiotics to be used for

7-10 days	4
14 days	6
21 days	12
30 days	11
More than 30 days	1

Poll Question 3

3. When treating canine superficial pyoderma, I schedule a recheck examination for the end of the treatment period

Yes, most of the time	25
No, only occasionally	1

Poll Question 4

4. What percent of your clients follow up with the recheck at the end of the antibiotic treatment?

~10% or less	
~25%	
~50%	
~75% or more	23

Poll Question 5

5. IF you think that the pyoderma is "cured", do you dispense an additional week of antibiotic therapy?

Yes	17
No	11

- Do we really need to treat for 21 days to effect a cure?
- What does a "clinical cure" look like? How / when can we determine clinical success after treating dogs for SSI / bacterial folliculitis / BOGS?

  Mitzi Clark: Need the $$
  Diane Lewis: with 10,000 patients
  Kalie Marshall: we need to choose whether that would be with GP population or specialty population because again these stats will be different
  Laurel Redding: RCTs are absolutely necessary, but the big question is how do we define clinical cure?
  Kalie Marshall: and agreed need the $$
  Dr. Jen the vet: Precisely - what is CURE? Like in an atopy dog???
  Mitzi Clark: Agree, Kalie - really different pops
  Rose Miller: Agree with Jackie!
  Alicia Webb Milum: I agree with this Jacquelyn.
  Tiffany Sheldon: Agreed….a lot of band aid therapy in GP instead of addressing underlying cause
  Tomeshia Hubbard: I agree Jackie!
  Kalie Marshall: people are way more willing to do topicals if they hear their systemic options are rifampin or chloramphenicol and they don't like the potential side effects/are afraid of them
  Jacquelyn Campbell: funny how that works Katie! So true
  Kalie Marshall: and we can clear most infections this way just takes 2x as long but possible and we see it
  Kristin Holm: So true, Kallie.
  Alicia Webb Milum: I tell people that even with sensitive Staph, to think long-term. In a dog with a chronic disease, this is not going to be the last infection. We need to save the abx for when we need them
  Kristin Holm: I actually think the overgrowth/infection resolves quickly with daily bathing. Often by the time the culture results come back!
  Valerie Fadok: I agree Kristin
  Alicia Webb Milum: It totally does Kristin. If people do it, it absolutely works.
  Alicia Webb Milum: It's convincing them to do it.
  Mitzi Clark: Agree Kristin
  Sam Sadeghi: Do you use topicals like PYO spot -on as a prevention of recurrence of staph in addition to the other Tx?
  Mitzi Clark: yes
  Kalie Marshall: we have great compliance with mousses and sprays daily but the bathing daily convincing is much harder so normally we meet in the middle with 2-3x per wk bathing and at least the topical mousse/spray daily
  Mitzi Clark: Yes to the breed differences
  Kristin Holm: But I also think success completely depends on the product (shampoo) used, and I've tried them all. Absolutely need cutaneous barrier protection!
  Valerie Fadok: I use a lot of barrier repair. Dermoscent Essential 6 and pyospot
  Klaus Loft: stratification in this study will kill the statistician
  E. Patchen Dellinger: There are several prospective trials in humans demonstrating equal efficacy for short courses of antibiotics, usually less than 7 days.
  Kristin Holm: How about bacteriostatic vs bactericidal?
  John Angus:in clinic medical bathing
  Daryl Leu: Does long-term tetracycline in human acne select for MRSA?
  Alicia Webb Milum: Identify the barriers, and help

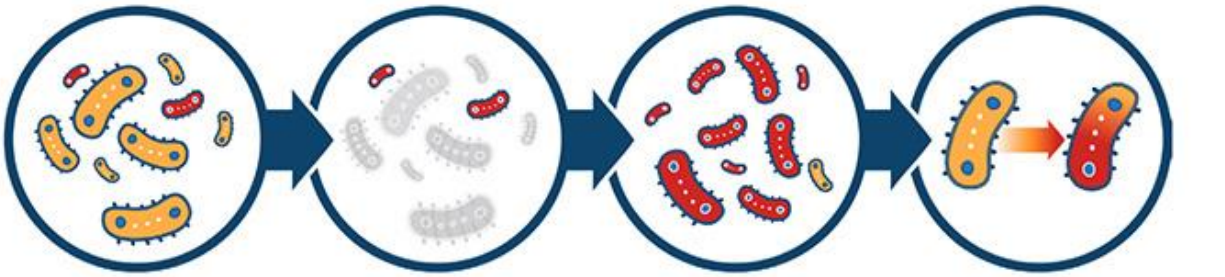
Tiffany Sheldon: I really feel like the addition of medicated mousse has exponentially increased my compliance with topical therapy
Alicia Webb Milum: I ask people how often they bathe, could they bathe more if medically necessary, and if not, what are the barriers (cost, time, physical, etc.)
Dr. Jen the vet: That's interesting, Klaus
Tiffany Sheldon: Honestly, a lot of people still think it's not healthy to bathe a dog bc it will dry out their skin and they're shocked when I tell them they can totally bathe weekly without issues…or even daily…
Kristin Holm: Good question Daryl
Kalie Marshall: I've had topical clinda prescribed to myself for months but this is topical not systemic but still it is used a lot
Joseph Bernstein: Human teenagers stay on minocycline or doxy for over a decade routinely!
Kalie Marshall: ^^yes
Astrid Morillo Alfaro: Exactly, my clients usually thinks that bathing so often is bad for dogs and don't want to do it, so I have to sit w them and explain that is a myth
Rose Miller: Rarely!
Mitzi Clark: Rarely
Kristin Holm: No
Leigh Stevens: Never
Lindsay McKay: Very Rarely
Klaus Loft: rarely dan morris did that study about MRS
Andrea Cannon: Rarely
Alicia Webb Milum: extremely rare
Joseph Bernstein: Rare
Tomeshia Hubbard: Rarely
Kristin Holm: The MD sends us the pets to check for zoonosis - doesn't seem to happen but increases caseload for dermatologists.
Daryl Leu: Dogs can carry MRSA, and transfer to human
Kalie Marshall: I do think that humans that work in healthcare (human or vet) are likely to have pets that have more resistant infections
John Angus: I want phage therapy! Seems like the most promising alternative to systemic antibiotic
Kalie Marshall: i usually culture first time infection if the owner is in healthcare
Valerie Fadok: Me too, me too!
Alice Jeromin: I totally agree with John!
Kalie Marshall: I'm working on a clinical trial of phages with horses and s. aureus ☺

Poll Question 6

6. Do you THINK that the duration of antibiotic therapy plays a role in the selection / emergence of resistant bacteria?

Yes	27
No	5

- How to increase the owner use of bathing and topical therapy?

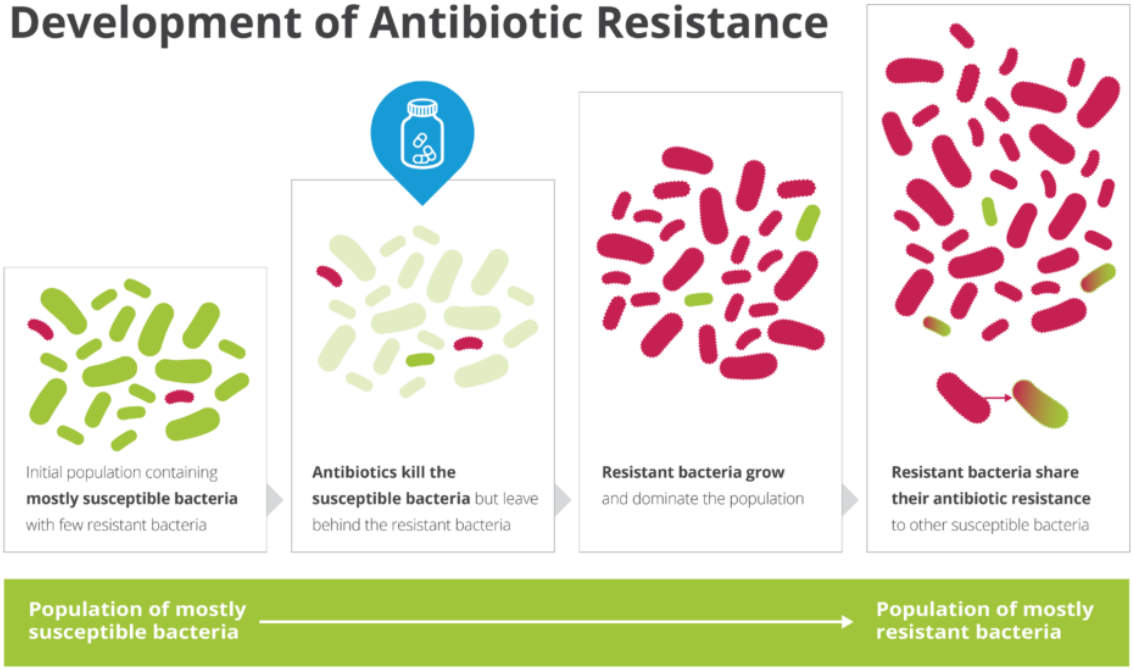


Whenever there is a high number of bacteria, few of them are resistant to antibiotics

Antibiotics kill the bacteria that cause the illness, as well as good bacteria that protect the body from infection

The resistant bacteria can now grow and multiply without competition

Some bacteria can even transfer their resistance to antibiotics to other bacteria, which causes more problems

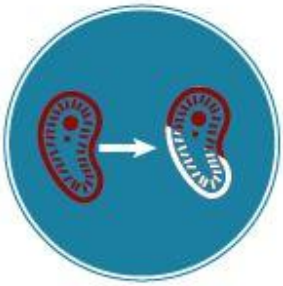


How does antibiotic resistance occur?

1 Some bacteria in the human body are drug resistant.

2 Antibiotics kill bacteria, but not those resistant to drugs.

3 Resistant bacteria then have space to multiply.



4 Bacteria can even transfer their drug resistance to other bacteria.

Source: Public Health England

BBC

Citations:

1. Corey GR, Good S, Jiang H, Moeck G, Wikler M, Green S, et al. Single-dose oritavancin versus 7-10 days of vancomycin in the treatment of gram-positive acute bacterial skin and skin structure infections: the SOLO II noninferiority study. Clinical infectious diseases: an official publication of the Infectious Diseases Society of America. 2015;60(2):254-62.

2. Daniel R. Azithromycin, erythromycin and cloxacillin in the treatment of infections of skin and associated soft tissues. European Azithromycin Study Group. J Int Med Res. 1991;19(6):433-45.

3. Moran GJ, Fang E, Corey GR, Das AF, De Anda C, Prokocimer P. Tedizolid for 6 days versus linezolid for 10 days for acute bacterial skin and skin-structure infections (ESTABLISH-2): a randomised, double-blind, phase 3, non-inferiority trial. The Lancet Infectious diseases. 2014;14(8):696-705.

4. Hepburn MJ, Dooley DP, Skidmore PJ, Ellis MW, Starnes WF, Hasewinkle WC. Comparison of short-course (5 days) and standard (10 days) treatment for uncomplicated cellulitis. Arch Intern Med. 2004;164(15):1669-74.

5. Brindle R, Williams OM, Barton E, Featherstone P. Assessment of Antibiotic Treatment of Cellulitis and Erysipelas: A Systematic Review and Meta-analysis. JAMA dermatology. 2019;155(9):1033-40