

PORK

# SAFETY

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*Pork producers must properly handle and administer antimicrobials if they are to maintain public trust and the availability and effectiveness of these products. The industry's Pork Quality Assurance Program is an example of the proactive approach the pork industry has taken to enable the production of a safe, quality product.*

*Consumers have become increasingly concerned about how the use of antimicrobials by producers affects the safety of their food supply. The use of these products is beneficial both for the health of the animal and for human health. But antimicrobials and other animal health products should be used to assist good management, not to cover up poor management.*

*The American Association of Swine Practitioners (AASP) and its Pharmaceutical Issues Committee developed the following guidelines. They expand on the Judicious Use of Therapeutic Antimicrobial Principles written by the American Veterinary Medicine Association. Inserted in the text of the AASP's Judicious Use Guidelines are comments to help pork producers understand how these guidelines apply to them. Putting all the guidelines into practice in all pork production operations is essential to maintaining public trust, the timely, cost-efficient availability of effective products, and the growth of the industry.*

## Basic Guidelines of Judicious Therapeutic Use of Antimicrobials In Pork Production For Pork Producers

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*Veterinarians agree to protect animal and public health when they pledge the Veterinarian's Oath. This oath is as applicable today as it was when it was written many years ago. Swine practitioners are committed to "the use of scientific knowledge and skills for the benefit of society". This commitment remains the core of veterinarians' efforts to achieve "the protection of animal health, the relief of animal suffering, the conservation of livestock resources, the promotion of public health, and the advancement of medical knowledge."*

**Position Statement:** When a condition exists that threatens or impairs animal health and well being, it is essential that an accurate clinical diagnosis be obtained. Appropriate diagnostic techniques and clinical experience should substantiate a presumptive diagnosis. Once the decision is reached to use antimicrobials for therapy, veterinarians strive to optimize therapeutic efficacy, minimize resistance to antimicrobials, and protect public and animal health.

The American Association of Swine Practitioners supports and is committed to the following objectives as developed by the American Veterinary Medical Association's Steering Committee on Judicious Therapeutic Antimicrobial Use:

### Judicious Therapeutic Use of Antimicrobials Principles for Swine Practitioners:

- Support development of a scientific knowledge base that provides the basis for judicious therapeutic antimicrobial use.
- Support educational efforts that promote judicious therapeutic antimicrobial use.
- Preserve therapeutic efficacy of antimicrobials.
- Ensure current and future availability of veterinary antimicrobials.

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Preventive strategies, such as appropriate husbandry and hygiene, routine health monitoring, and immunization, should be emphasized.

#### **Implementation of PQA GPP #7: Establish an Efficient and Effective Herd Health Management Plan**

*Maintaining a healthy herd will minimize the need for antimicrobial use. A comprehensive herd health plan is the key to maintaining animal health and productivity. This includes talking with your veterinarian about the health status of your herd – how it can be improved and how it can be protected.*

- Establish the definitive diagnosis.
- Recognize the roles played by the following factors in the course of the disease(s):
  - Genetics
    - Genetic sources
    - Genetic predisposition
  - Nutrition
    - Water
    - Protein
    - Energy
    - Micronutrients
  - Housing
    - Air space per pig
    - Temperature extremes beyond the thermal neutral zone of swine
    - Meteorological conditions (eg., seasonal patterns)
    - Ventilation
  - Management
    - Stocking density
    - Isolation and acclimatization of incoming breeding swine.
    - Appropriate and timely use of washing and disinfection of premises
    - Depopulation/repopulation to eliminate a disease organism.
  - Health
    - Immune status of the animals
    - Herd dynamics and health status of the sow herd
    - Presence and importance of concurrent infections
    - Source of pigs (eg., single source or multiple sources)

#### **Consult with your veterinarian to establish a herd health plan that includes**

1. Periodic herd health monitoring
2. Establishment of genetic, nutritional, and environmental monitoring and review programs
  - Resources include breeding stock supply companies, NPPC Genetic Evaluation Terminal Line and Genetic Maternal Line Programs, university Extension services, NPPC On-Farm Odor/Environmental Assistance Program, and others

**Other therapeutic options should be considered prior to antimicrobial therapy.**

- Examples include acidification of feed or water, electrolyte therapy, supportive care (e.g., antipyretic therapy).

*Antimicrobial treatment may not be an effective or cost-beneficial strategy. Question whether there are other non-antimicrobial options that could be as or more effective than antimicrobials. Even if antimicrobials are needed, remember that other supportive therapies may increase the effectiveness of the treatment plan.*

**Judicious use of antimicrobials, when under the direction of a veterinarian, should meet all requirements of a valid veterinarian-client-patient relationship.**

- Antimicrobials represent a powerful therapeutic option. Specific guidelines on the use of prescription antimicrobials and the extralabel use of any antimicrobial must involve a valid VCPR. We believe that judicious use requires the oversight of a veterinarian at some point in the decision making process.

(See glossary for definition of VCPR as it appears in AMDUCA)

#### **Implementation of PQA GPP #4: Obtain and Use Only Veterinarian Prescription Drugs Based on a Valid Veterinarian/Client/Patient Relationship (VCPR)**

*Refer to the glossary for the definition of a VCPR but remember:*

1. Medical decisions about your animals should be made by you and your practicing or consulting veterinarian;
2. The veterinarian must visit your facilities regularly enough to have sufficient knowledge of your animals and their keeping and care; and
3. The veterinarian must be readily available for follow-up treatment/consultation

**Prescription, Veterinary Feed Directive, and extralabel use of antimicrobials must meet all the requirements of a valid veterinarian-client-patient relationship.**

- The law prohibits extra label use of antimicrobials in the feed.

*For your understanding as well as your protection, make sure to keep written records of all treatments. This includes identification of the animals, the drug and its route and dosage, the withdrawal time, and the name of the veterinarian prescribing the drug, whether it is on-label, extra-label or VFD.*

**Extralabel antimicrobial therapy must be prescribed only in accordance with the Animal Medicinal Drug Use Clarification Act amendments to the Food, Drug, and Cosmetic Act and its regulations.**

- The following drugs are expressly prohibited for extralabel use in food animals: chloramphenicol, clenbuteral, diethyl stibestrol, dimetridazole, ipronidazole, other nitroimidazoles, furazolidone (except for approved topical use), nitrofurazone (except for approved topical use), sulfonamide drugs in dairy cows (except approved use of sulfadimethoxine, sulfabromomethazine, and sulfaethoxypyridazine), fluoroquinolones, and glycopeptides (e.g., vancomycin).
- For more information on extralabel drug use, see the AMDUCA guidance brochure entitled *Extralabel Drug Use (ELDU)*, published by the AVMA in January 1998.

*Any time a drug is used in a manner not in accordance with the approved drug labeling (change in dosage, frequency or route of administration, duration of treatment, disease or condition treated and animal species) a veterinarian MUST direct its use.*

**Veterinarians should work with those responsible for the care of animals to use antimicrobials judiciously regardless of the distribution system through which the antimicrobial was obtained.**

- Judicious use requires the oversight of a veterinarian at some point in the decision making process.
- Veterinarians are the primary source of information on the use of swine antimicrobials.
- Veterinarians must accurately communicate written, adequate directions to the client for antimicrobial use.
- The *Pork Quality Assurance* (PQA) program of the National Pork Producers Council provides a basis for the judicious use of antimicrobials.
- The AASP recognizes the legal availability of antimicrobials obtained through over-the-counter (OTC) distribution channels.
- The extra label uses of OTC antimicrobials fall within the regulatory constraints of the Animal Medicinal Drug Use Clarification Act and thus requires veterinarian oversight.

*Even though it is legal to obtain and use some veterinary antimicrobials "over-the-counter" (OTC), pork producers must protect consumer confidence and public health. Getting the advice of the veterinarian before purchasing and using OTC products will meet this obligation and in the long run save you money because treatment and time won't be wasted.*

**Regimens for therapeutic antimicrobial use should be optimized using current pharmacological information and principles.**

- Package inserts should be considered as sources of information for the practitioner.
- Continuing education is an important component of maintaining and enhancing the veterinarian's pharmacological knowledge.
- AASP supports the development of a veterinary antimicrobial decision system for swine to improve accuracy in the selection of therapeutics.
- The compounding of antimicrobials should be avoided in those instances where there is a lack of supporting scientific pharmacological data.
- Unapproved combinations that include therapeutic antimicrobials should not be used in the absence of supporting scientific pharmacological data.
- Cost is not a factor when considering the use of a compounded therapeutic antimicrobial.
- For more information on compounding, see the FDA Compliance Policy Guide (CPG 7125.40) entitled *Compounding of Drugs for Use in Animals*.

**Antimicrobials considered important in treating refractory infections in human or veterinary medicine should be used in animals only after careful review and reasonable justification. Consider using other antimicrobials for initial therapy.<sup>1</sup>**

<sup>1</sup>In this context, this principle takes into account development of resistance or cross-resistance to important antimicrobials.

*Ask your veterinarian which antimicrobials are recommended for any disease condition on your farm and how they could impact antimicrobial resistance and human health. Have a written action plan that includes which product and at what dosage to administer in the face of a bacterial infection. Reserve those antimicrobials important in treating refractory human infections for use only when absolutely needed.*

**Utilize culture and susceptibility results to aid in the selection of antimicrobials when clinically relevant.**

- Clinical outcomes, history, and experience should also be used in the selection of antimicrobials.
- Veterinarians should utilize appropriate references for proper procedures and accurate interpretation of susceptibility results, such as the NCCLS publication M31-A, *Performance Standards for Antimicrobial Disk and Dilution Susceptibility Tests for Bacteria Isolated from Animals: Approved Standard*.

*Insist on an accurate diagnosis, including culture and sensitivity results. This will save you money by saving time in treatment and by establishing a pattern of bacterial susceptibility on your farm.*

**Therapeutic antimicrobial use should be confined to appropriate clinical indications.**

- An accurate diagnosis includes characterization of the etiology.
- Practitioners should strive to rule out parasitism, mycotoxicoses, nutritional imbalances, and viral infections.
- Secondary bacterial pathogens may require antimicrobial therapy.

**Therapeutic exposure to antimicrobials should be minimized by treating only for as long as needed for the desired clinical response.**

- Therapeutic exposure involves both dose and duration.
- Continued use of antimicrobials in chronic, non-responsive clinical cases should be discouraged.
- Withdrawal times must always be considered during the selection of antimicrobials.

*Make sure there is a valid reason for any use of antimicrobials. Is the condition that was initially diagnosed and that required antimicrobial treatment still present? Don't let antimicrobial therapy become so routine that it is used when it is no longer needed.*

**Limit therapeutic antimicrobial treatment to ill or at risk animals, treating the fewest animals indicated.**

- Consider group morbidity and mortality rates when deciding whether or not to initiate herd, group, or individual therapy.
- Consider the herd health history for the therapeutic use of antimicrobials in the control and prevention of disease.
- When these factors are appropriately considered, preventative therapy is a judicious use of antimicrobials.

*There are times when using antimicrobials to prevent disease will ultimately mean less antimicrobials will need to be used. Judicious use of antimicrobials during treatment includes using antimicrobials only when necessary.*

**Minimize environmental contamination with antimicrobials whenever possible.**

- Water medicators and feeders need to be properly adjusted to deliver the desired dose and avoid spillage and waste.

**Accurate records of treatment and outcome should be used to evaluate therapeutic regimens.**

- AASP recommends the use of treatment records such as those proposed by the *Pork Quality Assurance (PQA)* program of the National Pork Producers Council.
- Compliance to treatment regimens can be monitored by the review of pertinent records.
- Accurate animal or group identification must be employed within a production system for effective residue avoidance.

**Implementation of PQA GPP #2: Maintain Medication and Treatment Records**

*Written records are essential for verifying that you are using antimicrobials wisely. In this instance, the job isn't done until it is written down. Protect yourself, your profession and the confidence consumers and government agencies have in your ability by completing the job by keeping a written record of every antimicrobial use on your farm.*

