

## Animal Well-Being



# Pain Management and the Animal Medicinal Drug Use Clarification Act (AMDUCA)

## Animal Welfare and Pain

Pain sensitivity and diagnosis is difficult to define due to differences in pain tolerance and reaction between species, breeds, gender, pain duration and stimulus severity. Pain management during piglet processing has been discussed as one way to address animal welfare on the farm, but mitigating pain in the piglet through drugs can happen legally only under very specific circumstances.

## FDA Approved Drugs

An FDA-approved animal drug is one that has gone through the New Animal Drug Application (NADA) process and has received FDA Center for Veterinary Medicine's (CVM) approval for use. Pharmaceutical companies (drug sponsors) conduct the necessary research to support drug safety and effectiveness. Data are submitted to FDA-CVM and reviewed from a scientific and regulatory perspective and FDA-CVM determines if data demonstrates the drug is safe and effective when used as directed on the label.

CVM's approval of the NADA means the animal drug is "safe" and "effective" if it is used according to the label. The development and FDA approval of a new animal drug takes 7-10 years at a cost millions of dollars in some cases (<http://www.ahi.org/about-animal-medicines/industry-statistics/>).

## Drugs Not Approved by the FDA

Veterinarians and producers cannot assume that all marketed drugs have been found by the FDA to be safe and effective. For a variety of historical reasons, some drugs, mostly older products, continue to be marketed illegally in the U.S. without required FDA approval. According to the FDA, the lack of evidence demonstrating that these unapproved drugs are safe and effective is a significant public health concern.

All FDA-approved products are assigned an NADA number as they go through the approval process. FDA-approved animal drug products can be identified by the six-digit New Animal Drug Application (NADA) number for brand-name drug products or the six-digit Abbreviated NADA (ANADA) number for generic drug products. The NADA or ANADA number and the statement "Approved by FDA" can usually be found on the drug product's label including the package insert. It may also be helpful to cross-check with a drug reference, such as the FDA's online

databases, Animal Drugs @ FDA and FDA Orange Book, which list approved animal and human drug products, respectively. If a product is not in this database then it is not approved for use and cannot legally be used in food animals, even under the prescription umbrella of AMDUCA. The presence of a National Drug Code (NDC) number on a product label does not confer FDA approval.

## Animal Medicinal Drug Use Clarification Act (AMDUCA)

With the implementation of the Animal Medicinal Drug Use Clarification Act (AMDUCA) in 1994, very specific provisions were established by which FDA-approved drugs could be legally used in food-producing animals in a way other than expressly directed on the label. The presence of a valid veterinarian-client-patient relationship is one of these provisions.

"Extra-label" drug use refers to the use of an FDA approved drug in a manner that is not in accordance with the FDA approved label directions. AMDUCA extends the privilege of extra-label use of drugs only to veterinarians and only when the health of the animal is threatened or when suffering and death may result from failure to treat the animal.

AMDUCA does not give the veterinarian the ability to prescribe use of products that have not been FDA approved. Detailed information about the application of AMDUCA can be found on <https://www.avma.org>.

## Examples of Drugs for Pain Management

### *Non-Steroidal Anti-Inflammatory Drugs (NSAID)*

Certain NSAIDs are FDA-approved for use in animals. The use of FDA-approved NSAIDs not specifically approved for use in swine is subject to the provisions of AMDUCA.

NSAIDs are designed to mitigate pain 1–24 hours after the procedure. The potential for overdose is minimal for published dose regimens. Research indicates that vocalization results suggest that NSAIDs do not mitigate the acute pain associated with castration however validated pain assessment measures are needed to more fully assess the benefits of NSAID administration to alleviate the pain associated with castration. Benefits are likely limited to the reduction of inflammatory pain after castration.

*Local anesthetics (such as Lidocaine)*

Lidocaine and other local anesthetics are FDA-approved for use in humans. The use of FDA-approved local anesthetics in swine is subject to the provisions of AMDUCA.

A local anesthetic is designed to mitigate pain in the short term, that is, 1–2 hours after castration with only incisional pain associated with the procedure expected to be mitigated. Extra application steps prior to the incision are needed for alleviating incisional pain. Based on the mechanism of action, inflammatory pain associated with castration would not be expected to be alleviated.

**Combining Drugs for Pain Management (Compounding)**

Compounding is the manipulation of drugs to obtain products that differ from the starting materials in an approved dosage form to fit the unique needs of a patient. Animal drug compounding is legal only in very specific circumstances described in FDA regulation.

The FDA Regulations and Compliance Policy Guide 608.400, “Compounding of Drugs for Use in Animals,” describe specific circumstances under which compounding is permitted.

For swine, compounding is permitted when:

- A valid veterinarian-client-patient relationship exists.
- The health of an animal is threatened, or suffering or death may result from failure to treat.
- Compounding is performed by a licensed veterinarian or a licensed pharmacist upon the order of a veterinarian within the scope of professional practice.
- There is no approved animal or human drug that, when used as labeled or in conformity with the extra-label drug use regulations, will, in the available dosage form and concentration, appropriately treat the diagnosed condition.
- Preparations are compounded from FDA-approved animal or human drugs. The regulations do not permit compounding from bulk (raw pharmaceutical ingredient) drugs.

*Compounding from bulk (raw pharmaceutical ingredient) drugs*

The FDA considers products compounded from bulk active ingredients to be unapproved new animal drugs therefore they are not permitted to be prescribed under AMDUCA. Mixing bulk drugs includes the use of commercial scale equipment and preparation of large quantities of compounded products in anticipation of receiving orders and sold to third parties (including veterinarians and companies) to resell to individual clients.

**Until Over-the-Counter (OTC) products for pain mitigation become available, the only legal route for a pork producer is to work with their veterinarian to prescribe an extra-label product or compound under AMDUCA.**

