

UNITED STATES DEPARTMENT OF AGRICULTURE
ANIMAL AND PLANT HEALTH INSPECTION SERVICE

1. REGISTRATION NO.

93-R-0043

FORM APPROVED
OMB NO. 0579-0036

ANNUAL REPORT OF RESEARCH FACILITY
(TYPE OR PRINT)

2. HEADQUARTERS RESEARCH FACILITY (Name and Address, as registered with USDA, include Zip Code)

Long Beach Memorial Med. Ctr.
Memorial Health Services
Research Administration
2625 Pasadena Ave.
Long Beach, CA 90806

3. REPORTING FACILITY (List all locations where animals were housed or used in actual research, testing, teaching, or experimentation, or held for these purposes. Attach additional sheets if necessary.)

FACILITY LOCATIONS (Sites)

Nebeker Ranch, Lancaster California

REPORT OF ANIMALS USED BY OR UNDER CONTROL OF RESEARCH FACILITY (Attach additional sheets if necessary or use APHIS FORM 7023A)

A. Animals Covered By The Animal Welfare Regulations	B. Number of animals being bred, conditioned, or held for use in teaching, testing, experiments, research, or surgery but not yet used for such purposes.	C. Number of animals upon which teaching, research, experiments, or tests were conducted involving no pain, distress, or use of pain-relieving drugs.	D. Number of animals upon which experiments, teaching, research, surgery, or tests were conducted involving accompanying pain or distress to the animals and for which appropriate anesthetic, analgesic, or tranquilizing drugs were used.	E. Number of animals upon which teaching, experiments, research, surgery or tests were conducted involving accompanying pain or distress to the animals and for which the use of appropriate anesthetic, analgesic, or tranquilizing drugs would have adversely affected the procedures, results, or interpretation of the teaching, research, experiments, surgery, or tests. (An explanation of the procedures producing pain or distress in these animals and the reasons such drugs were not used must be attached to this report).	F. TOTAL NO. OF ANIMALS (Cols. C + D + E)
4. Dogs					
5. Cats					
6. Guinea Pigs					
7. Hamsters		144			144
8. Rabbits		17			17
9. Non-human Primates					
10. Sheep					
11. Pigs					
12. Other Farm Animals			9	100	109
13. Other Animals					
Rats		258			258
Mice		63			63

ASSURANCE STATEMENTS

- 1) Professionally acceptable standards governing the care, treatment, and use of animals, including appropriate use of anesthetic, analgesic, and tranquilizing drugs, prior to, during, and following actual research, teaching, testing, surgery, or experimentation were followed by this research facility.
- 2) Each principal investigator has considered alternatives to painful procedures.
- 3) This facility is adhering to the standards and regulations under the Act, and it has required that exceptions to the standards and regulations be specified and explained by the principal investigator and approved by the Institutional Animal Care and Use Committee (IACUC). A summary of all such exceptions shall be included in this annual report. In addition to identifying the IACUC-approved exceptions, this summary includes a brief explanation of the exceptions, as well as the species and number of animals affected.
- 4) The attending veterinarian for this research facility has appropriate authority to ensure the provision of adequate veterinary care and to oversee the adequacy of other aspects of animal care and use.

CERTIFICATION BY HEADQUARTERS RESEARCH FACILITY OFFICIAL
(Chief Executive Officer or Legally Responsible Institutional Official)

I certify that the above is true, correct, and complete (7 U.S.C. Section 2143)

SIGNATURE OF C.E.O. OR INSTITUTIONAL OFFICIAL

NAME & TITLE OF C.E.O. OR INSTITUTIONAL OFFICIAL

DATE SIGNED

11/17/99

93R0043

RD	
SACS1	
SACS2	
A	B C D E

ATTACHMENT #1

Date: November 12, 1999

Re: Information requested by USDA -

Requested information: an explanation of the procedures producing pain or distress in these animals and the reasons such drugs were not used.

The procedures performed involve extremity surgery of the goat's stifle joint. The surgeries are part of investigational studies focusing on three main areas: ligament repair, reconstruction or regeneration; meniscus repair or reconstruction; and articular cartilage repair or regeneration.

Pain relief is a primary concern when doing surgical procedures in experimental animals. During the surgical procedure pain relief was provided through the use of appropriate anesthetic agents. All animals were premedicated with xylazine hydrochloride, one mg/Kg IM. After 3-5 minutes, ketamine hydrochloride, 4.5 mg/Kg IM, was administered for induction and surgical prep of the animals. Each animal received preoperative penicillin (Bicillin LA with Procaine - 2.4 million units, deep IM) for prophylaxis. Each animal was intubated with an endotracheal tube for gas anesthesia and a gastric tube was passed into the stomach to reduce bloating and regurgitation. Maintenance of a surgical plane of anesthesia was achieved by inhalation anesthesia using isoflurane (range 0.5-2.0% depending on animal) (Marsam Pharmaceuticals, Inc., Cherry Hill, NJ) and oxygen (1.5 L/min). While under anesthesia the heart rate, respiratory rate and mucus membranes were monitored a minimum of every 15 minutes.

Post-operatively, pain relief may be accomplished by providing analgesic medications. However, for certain procedures no postoperative pain medications are administered so that information can be gained about how well a surgical procedure is tolerated. The goat model appears to be a good indicator of how certain orthopaedic surgical procedures are tolerated. Goats tend to not get up and stand if the surgical procedure is not well tolerated. If the surgical procedure is tolerated, the goat usually gets up but will not fully weight bear on the operated limb for a period of 2-3 days. The used of postoperative analgesics can mask this information and allow the animal to possibly weight bear before it normally would. Premature weight bearing on delicately repaired structures can possibly adversely affect the results and outcome of our studies. Generally, we do not want the goats up and weight bearing until the animal is able to tolerate this activity. In some cases a splint and/or resin cast is applied to the leg for immobilization. While pain relief medications can be provided to animals in splint/cast immobilization, care must be taken with animals in splints so that they are alert enough to learn how to used the applied splint.

As of September 1999 all experimental subjects in which articular cartilage repair surgical procedures are conducted routinely receive postoperative analgesics. Accordingly, these animals would be classified under column D in the future. The following is the administration protocol: Drug name: **Buprenex Injectable (buprenorphine hydrochloride)**; Dosage: 0.007 - 0.01 mg/kg, subcutaneous injection, initial dose 30 minutes post surgery. Every 24 hrs (use judgment), duration: 1 day (use judgment).

