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H. D. Simpson
Iowa State College

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Plastic Prosthesis for the Canine Eye

H. D. Simpson, D.V.M.

THE DECISION on the part of an owner to have a pet dog permanently put to sleep when enucleation of the eye is necessary is not uncommon to the small animal practitioner. Many people feel that such an animal, by its disfigurement, would provoke more pity than pleasure by its company. To aid in overcoming this situation, and provide a better cosmetic effect where enucleation is necessary, the development of a practical prosthesis, or artificial eye, was undertaken.

Figure 1 illustrates some of the various types of prosthetics for the canine eye which are at present under investigation in the Department of Veterinary Medicine and Surgery at Iowa State College. Figure 2, taken October 27, 1954, shows a dog in which the left globe was replaced by a plastic prosthesis on July 13, 1954.

The prosthetics are made of a liquid plastic which is poured, after mixing with a catalyst, into a test tube of 1-inch diameter, and hardened by the use of heat. After removal from this mold, the solid piece of plastic is ground to the desired shape, and the anterior segment buffed.
to simulate the cornea. Tantalum gauze is fixed around the neck of the prosthesis to provide attachment for the ocular muscles.

The one-piece construction was designed to eliminate the necessity of removal for cleansing and to prevent dislodgment by the animal. The muscles, being sutured to the gauze around the neck of the prosthesis, aid in prevention of expulsion of the prosthesis, and also provide motility, which enhances the cosmetic effect.

The tissue reaction to the plastic, so far, is insignificant clinically. The conjunctival secretions appear somewhat more mucoid in nature, but drain readily in a normal manner, and except for a slightly increased susceptibility to conjunctivitis, the tissues involved show very little apparent change.

As these experiments are still in the early stages, no definite conclusions can be drawn. However, results have been encouraging in four cases, and it is hoped that continued research will provide a practical prosthesis to replace the canine eye when enucleation becomes necessary.

ILLINOIS
(Continued from page 17)

herds showing positive reaction to the ring test. Illinois herds are not given a Plan A status on results of the ring test. However, the ring test will be given recognition in conjunction with the blood agglutination test when the Grade A milk law becomes effective July 1, 1955.

Swine Brucellosis Law

Illinois has enacted a Swine Brucellosis Law which became effective in 1953. No female swine, 4 months of age and over, nor any male swine can be sold for breeding purposes unless they are found to be negative to the brucellosis test. This test must be conducted by an approved veterinarian within 60 days of sale. This test is good for one change of ownership or change of premises only.

All swine 4 months of age or over entering Illinois for showing or breeding must be tested within 30 days prior to date of entry by an official laboratory in the state of origin. Illinois swine for exhibition must be negative to a test conducted within 90 days prior to date of showing.

Any swine reacting in a dilution of 1:25, or higher, is considered a reactor. These must be tagged in the left ear. They cannot be sold for breeding purposes.

We have given a rather lengthy detailed explanation in regard to our Bovine Brucellosis Program wishing to emphasize the importance attached to the restriction of the movement of cattle and swine for breeding purposes of unknown brucellosis status. We have a problem of large importation of cattle for grazing and feeding purposes which dairy states such as Wisconsin are not confronted with.

Since the inauguration of our brucellosis program, the incidence of brucellosis in Illinois cattle has been reduced from approximately 7 percent to 3 percent, or less. We feel we now have a very good program which we hope to improve from time to time.

X-RAY
(Continued from page 21)

cessive exposure has been received. In utilizing dental films in this manner, the film should be worn at a point which you suspect is receiving the greatest exposure.

(10) The foregoing remarks have applied primarily to diagnostic uses of x-rays. However, most of the protection principles involved also apply to therapeutic equipment and the necessity for adhering to protection principles when one is using therapeutic equipment is extremely important. No veterinarian should ever utilize therapeutic equipment unless he is thoroughly familiar with its operation, and the associated hazards, and means of protecting against these hazards.

References