preparation and draping, the grooved director was placed through the streak canal into the teat sinus. A three centimeter incision was made through the skin, muscle layer connective tissue and mucosa into the teat sinus. Hemmorrhage control was a problem until we started using the elastrator bands. By the use of the bands, hemmorrhage can be controlled and most of the blood can be forced out of the teat and a dry field achieved which is necessary for the adhesives to form a good bond. A drop of adhesive is placed on the spatula and applied very thinly to the edge of the laceration. The two edges should be placed in tight opposition immediately and held for 30 seconds. A light application of the adhesive is then applied to the skin over the edges of the wound. The elastrator band is allowed to remain in place for 3 to 5 minutes after gluing, at which time it is cut and taken off.

Complete healing usually took place in two weeks. Some of the skin edges separated more than others but healed dry.

The next case will show the use of super glue in the repair of a teat that has been injured and healed so that the teat orifice was against the wall of the milker inflation and did not milk out.

Following the usual preparation, the fibrotic scar was removed and the skin edges freshened. With an elastrator band in place a light application of the adhesive was applied and the wound surfaces held in opposition for thirty seconds. A light coating of glue was applied to the edges. Interrupted sutures of prolene 2-00 were placed in the skin to hold the flap and the teat orifice in place. A larson test tube was placed in the teat to support the repair. Tape was applied as a dressing and further support. Healing was by first intention and was complete at freshening time.

Adhesive with tape was used to repair a teat fistula in a dry cow. Many of the udders are infected and it is good practice to culture and test for antibiotic sensitivity before electing to do surgery. After thorough preparation including the instillation of a larson teat tube, the fistulous tract was excised and hemmorrhage controlled. Adhesive was thinly applied and the edges held in opposition for thirty seconds. With the elastrator band in place adhesive tape was spirally applied. A larson teat tube was left in place and the cap removed. The elastrator band was cut and removed.

Antibiotic solution was instilled into the quarter once a day for 10 days. The larson tube was removed. The tape was removed in two weeks.

Don't Under-rate T.B. Testing

Steve Smalley, *D.V.M.*
Chandler, Arizona 85224

We have a three man practice just outside Phoenix. The average herd size is about 500 cows and it is exclusively dairy practice. Why I asked to present this talk is that we had a couple of herds that had T.B. about 3 years ago and because of my experience in school and some of the experiences I had before I went to Arizona I thought it was worthwhile to talk about TB testing. The experience I had in school was there was no such thing as TB and you would never see a TB reactor! In first practice in New Hampshire I found a couple of reactors to the caudal fold test. I called the state veterinarian and he said, "don't worry about it." No problem. So I didn't do anything about it.

In researching the articles that were published about these two herds I found that there has been some TB in the United States. So it is a disease that is around. I thought we were unique, but there have been some herds depopulated in the last couple of years because of TB.

The first herd that we encountered was in April, 1979. Unfortunately, I was the one to do the previous test on this herd in 1976 and all the cows at that time were negative to the caudal fold test. On this test in April, 1979 there were 28 reactors out of 326 animals tested. In this particular herd these reactions were so gross that you could probably diagnose them from a pickup truck driving down the highway a half a mile from the dairy! The reactors can have small reactions. I called the state veterinarian and said I had 28 reactors. This was more than normal. I was running less than 1% reactors at this time and I said this is a pretty high percentage of reactors. He said, "probably due to some strange thing." The federal veterinarian came out and did the comparative cervical test and they were all positive and he also said, that it was probably just some strange deal and nothing significant. We contacted the person that developed the comparative cervical test and he said the test was fairly accurate. So they slaughtered these 28 animals. Nineteen had lesions and 9 were condemned at slaughter. About 60 days later, they came out and did the .22 cervical test which is a test they do on the entire herd to determine which animals they are going to pay an indemnity on and they did it on all the animals, all the way down to baby calves—409 of the 618 animals that they tested reacted and 104 of those animals had lesions. Three non-reactors also had lesions so the test is not 100 percent either way for sure. Another interesting factor is that they found that 46 people had been exposed to this herd in the recent history by virtue of drinking raw milk. One of the 21 they were able to find was positive for TB test. About 2 years later I had a phone call from a fellow that had been a herdsman on this dairy about 6 months previous to the time of the test. He was a herdsman on a dairy in Michigan and he said he had TB. "Is it true that the dairy I

worked at had TB?" That wasn't a very rewarding experience to me realizing that I had tested this herd previously and not found any TB and this fellow had TB because he had been exposed to this herd. There were new additions to this herd during that 3 year period. It is possible that TB could have grown in that period. It is hard to say, but as a result of that herd I am certainly more alert when I TB test.

The second herd was a much larger herd. They were milking 1400 Guernseys and 500 Jerseys. On the initial caudal fold test that we did in February, 1980 there were five reactors in the Guernsey herd of 1400 cows and all had lesions. They waited until May to come out and do the cervical test because there was some movement in Congress to raise the indemnity by a significant amount, about a 2-fold margin, and when they came out and tested them in May, they tested 3800 animals on the whole dairy. Of those 3800 animals, 1302 reacted to the cervical test. Of those 1302 animals, 35 of them had extensive lesions, 31 were home raised and 4 were from other sources. The Guernsey herd was primarily a registered herd and had brought in animals over the years from several different states. This herd has been tested 3 or 4 years previously and had had two reactors which were negative to the comparative cervical test. In tracing these 4 from other states, it involved 18 different states. They never did trace the source of the TB. Just to give you a rough idea, it cost taxpayers 1.7 million dollars in federal indemnity and 168,000 in state indemnity. It cost them 21,000 dollars just in disinfectant alone to clean up the dairy and they really cleaned up that dairy unbelievably. They dug all the dirt out around all the posts and took all the wood out of the dairy and replaced it with new wood and had to leave it empty for 90 days. They are now milking about 1400 Holsteins on that facility and have been for about 3 years without any problems.

The reactions on these cows in this Guernsey dairy were very small. Just a P1 or P2. They were not like the previous herd. We have been taught to call these reactors to the caudal fold test deviators. The deviators can be a little bit larger, but the only way you can really pick these up is to look at every cow, pick up the tail and palpate them.

Shortly after that, the federal veterinarians went down through to see what kind of percentage different veterinarians were getting for deviators on their tests. The regulatory veterinarians had an incidence of deviators of 5%. The practitioners ranged in Arizona from a high of 2% to a low of 0%. I went back for the veterinarians in our practice and looked at the TB tests for this year and our average was 2½% with a range from 0-8%, so there can be quite a bit of variation from herd to herd. We have two herds that are tested every year and have never had a reaction to a TB test...small herds. The beauty of this system is that you can report these deviators and they take the monkey off your back by having a federal veterinarian or an approved state veterinarian do the comparative cervical test. The comparative cervical test is done by shaving two spots on the neck and injecting one site with mammalian TB and one site with avian TB. They measure with calipers the size of the skin thickness when they give the injection, come back 72 hours later and measure the size of the lesion at that time and then plot it out on a graph which has three areas. There is a negative area, a suspect area, and reactor area. It's not a 100% test but it is relatively close to 100%. If you get into the reactor area, a majority of the time you are going to find lesions. We have had some cows in the suspect and reactor area that did not have lesions and retested those herds on a yearly basis and not found any TB.

In this second herd of Guernseys and Jerseys, the reactors in that herd were right off the graph. They were really large. The point, I think, we should learn from this is that when we TB test cows it is important to do a good job, because if we miss it there is a danger to humans in contracting TB and there is a danger financially to anybody who receives that animal or to that particular dairy that we are testing for TB.

Use of a Letter Opener for Uterine Incision During Caesarean Section

Walter Guterbock, *D.V.M.*
Ontario, California 91761

I think I practice in an area that is about as different from eastern Kentucky as it could possibly be! I practice in Southern California; We are about 40 miles east of Los Angeles and we practice in a very interesting area that is kind of a dairy enclave on the edge of a metropolitan area. It's about 80 square miles. We are about half an hour from Disneyland so we get a lot of visitors, and we are actually on the edge of an urbanized area between the urban sprawl of Los Angeles and the cities of Riverside and San Bernadino...an area that is rapidly filling in with houses and shopping centers.

We have about 400 dairies. There are about 20 dairy veterinarians in the area with about a quarter of a million cows with an average production in the neighborhood of 16,000 pounds. There is an average of 600 cows per dairy in an area of 80 square miles, so it is one dairy right next to another.

These are large dry-lot dairies. They are dry when it is dry and in the winter time they are muddy. When their corrals are well sloped there is not too much problem with the cows.