

## Plasma Transfusion

A transfusion is the passive transfer of plasma containing antibodies harvested from a hyper immunized alpaca or llama. The adult donor has been vaccinated with everything thinkable and is a healthy specimen. More important than the antibodies from vaccinations, are the innate antibodies an animal forms to various elements in its environment. There are innumerable viruses, bacteria, fungi, parasites and insects which, if an animal did not develop a degree of immunity to, a failure to thrive syndrome could ensue. Crias which have failed to receive colostrum at birth or have gotten colostrum but have become systemically ill at a very early age, are at risk of not having the protection needed to exist in their environment.

There are several methods of administering a plasma transfer, or transfusion. Some methods are riskier than others and have resulted in death of the cria. This tip describes the intraperitoneal method we have used on scores of crias over the years with virtually no side effects and with minimal stress to the cria.

Frozen plasma must be thawed to room temperature naturally or in a warm water bath. No microwaves! Immediately before transfer, the plasma is warmed to body temperature, again, by a warm water bath. This alleviates discomfort and chilling to the cria after the transfer is complete. The cria is held on its back with the legs in an extended position. The abdomen is prepped, as if for surgery, using Betadyne scrub, cleansing in between with chlorhexidine solution. The warmed plasma bag is suspended over the work area about 3 to 4 feet so as to get a good flow via gravity. A primary 72 inch IV set is attached to the bag of plasma. With the cria tilted approximately 10 degrees toward the operator, an 18ga x 2 inch indwelling catheter is inserted into the abdomen at a location directly across from the umbilicus on the upslope of the tilt, approximately to 1 inch. Be aware of the veins in this area and go between them. Once the catheter has penetrated no more than 1 inch, the stylet in the catheter is removed to avoid damage to the internal organs in case the catheter needs to be adjusted later for optimum flow. The IV tip is now connected to the catheter and opened for maximum flow. When a good flow is achieved, it takes approximately 5 to 7 minutes to deliver all the plasma within the abdominal cavity. It is imperative to restrain the cria and for the operator to have a steady hold of the catheter throughout the entire procedure or the flow of plasma will be interrupted. After the transfer is complete, the catheter is gently removed and the cria is allowed to stand so that the plasma shifts to all parts of the abdomen. The advantage of the intraperitoneal method over the IV method is the cria will absorb the plasma at its own physiological rate thereby eliminating the possibility of overloading the circulatory system. There have been techniques used by some that include sedation of the cria. This is truly inappropriate considering the age of the cria and the fact that it may be compromised by an infection. Some have

used sutures at the site of delivery, which is also unnecessary using our technique.

Hopefully, this tip will serve as a guideline for veterinarians called upon to administer a plasma transfer but may be unsure of a methodology.