

begin to move about and lift its body from the towel. Still, movement should be limited to a small area. Feeding time may be decreased to every 4 hr, while the amount is increased (fed in 4-oz standard baby bottles and nipples). From the beginning of the fourth week, solid and semisolid foods may be added. Baby cereals, strained fruits and vegetables, water and ground monkey chow are offered (approximately 50 cal/lb/24 hr). Supplementary multiple vitamin drops (Vi-Tyke, 0.6 cm<sup>3</sup>) are given daily. The fuzzy towel should still be the infant's constant companion. By the sixtieth day, infant, towel and basket must be moved into a cage. A healthy, 2-month-old monkey will be bouncing about, grasping anything within its reach. Feeding times can be reduced to three times daily.

#### CLINICAL PROBLEMS

Clinical problems fall into three categories—feeding, respiratory distress and infection prevention. If the sucking reflex is weak, the infant should be maintained on 10 per cent glucose solution for 24–48 hr, rather than to take the chance that the milk formula might be aspirated into the lungs. Premature-infant feeding tubes (5F, 15 in. long) may be used if one is careful to administer liquid slowly. Supportive fluid therapy may be indicated, administering two parts of physiological saline solution to one part of 5 per cent dextrose, in quantities of 10–15 cm<sup>3</sup>, three to four times a day, parenterally.

In respiratory distress due to asphyxia, the infant can be oxygenated, using a human baby incubator with attached oxygen regulator with an oxygen flow rate of 15 l/min; then it is adjusted to the infant's needs, depending on skin color, lips and so on.

*Shigella* dysentery is not uncommon in infant monkeys. Fortunately, they respond well to Chloramphenicol Palmitate (25 mg/lb), Paregoric elixir and supportive fluids.

The same general procedures are used in raising orphan Baboons, Gibbons, Chimpanzees and Gorillas, with adjustments in amounts of formula. The large apes are slower to be on their own and more demanding at feeding time, but tender loving care, good sanitation and good nutrition are basic ingredients for success.

## Report on the Death of a Rhinoceros

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On 22nd December 1965 a 2500 lb male Black Rhinoceros was reported by a zoo keeper to have a slightly unusual gait. The animal would walk with a pacing type gait, causing him to weave slightly from side to side when walking. The animal was alert, moved about the pen and consumed his normal amount of food. There were a few drops of blood on the floor of the Rhino House which, after considerable observation, was determined to have originated from the mouth. Penicillin-streptomycin combination was given by syringe projectile and 3,000 units of tetanus antitoxin.

The animal continued to eat, no blood was observed. Penicillin-streptomycin was again administered. On the 24th the condition remained the same. The animal was observed to shift his weight from one side to the other when standing. No other symptom was observed. On the 25th he remained the same but was not eating as well as normal. He still moved about, no bleeding was observed.

On the morning of the 26th, the rhino was found lying down in the barn. He had been kept in at night in heated quarters for sometime due to cold weather. Patches of blood mixed with saliva were evident in three places on the floor. The animal was reluctant to get up and did so with considerable difficulty. When standing he seemed weak, weaving from side to side, breathing with his mouth open and coughing occasionally. Penicillin-streptomycin was administered but he laid down, unable to get up shortly afterward. One hour later he succumbed.

Necropsy was performed on the 27th. The results of the gross pathology are as follows:

1. Extensive gingivitis around the base of the upper molar teeth. Gums were reddened and had some small hemorrhages.
2. The tongue had several half inch lacerations along the margins.
3. The lung was slightly emphysematous, had a few areas of consolidation.
4. The subcutaneous tissue along the lower neck and shoulders was edematous and hemorrhagic. Some edema and hemorrhage was noted in the left side, (the down side) deep in the musculature of the shoulder.
5. The liver was swollen, friable, the cut surface had many gas bubbles.
6. No other pathology was observed.

Bacteriological cultures taken from liver and spleen developed *Clostridium sordellii*.

This organism may have gained entrance to the blood stream by way of the lesions around the teeth or from a puncture wound found on the bottom of the foot. The oral hemorrhage was undoubtedly from the lacerations on the tongue. Lung lesions were thought to be angonal and of little significance in the death of the animal. Tissue damage in the shoulder area was likely due to trauma sustained when the animal made unsuccessful attempts to get up.

*Clostridium sordellii* is known to be a potent exotoxin producer causing rapid fatalities in cattle and sheep. The organism was isolated from a Muntjac which died suddenly several months ago.

## Infection in a Newborn Camel

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ON February 28th, 1966 a 15-year-old female Dromedary Camel gave birth to her fourth calf, a male. Parturition was normal, although longer than is usual for this animal. However, the calf was thin and weak. Three hours after birth the infant was not able to raise its head, making only feeble attempts to move. He was having frequent chills by this time.

It was decided to take the calf away from the mother to place it in our baby animal nursery where it could be kept warm and receive medication. The floors in the stalls in this building are radiant heated.