BURNET PARK ZOO

INDIVIDUAL ANIMAL MEDICAL RECORD

sex m page 1

name

common name ASIAN ELEPHANT MEDICAL RECORDS ID no.

scientific name NINI AND CALF tag/band

7-9-91	After a very restless night Nini finally laid down to rest, and when she stood up the keeper found a large mucous plug on the ground around 6:45 am. She continued to show signs of discomfort throughout the day. She would lean up against the walls, lift her legs, and continued to have a mucousy discharge from the vulva. At 8:45 pm she went into hard labor. Visible contractions were accompanied by a lot of straining, squatting, swaying, tail swatting, and leg crossing. At 10:31 pm the first sign of a small bulge appeared beneath the tail. This bulge appeared and disappeared with her contractions for a short period then began to enlarge and remain enlarged at 11:00 pm. The contractions occurred approximately every five minutes and were often accompanied by small amounts of mucous and bloody discharge. The labor process continued throughout the night and she would exhibit heavy labor signs, then would stop to rest, sway, or lie down for short intervals. Romani's contractions varied from being incredibly intense and tried to help re-position the calf, but this too was not successful. At this point Nini was given a bath and left off the chains. She continued to have contractions which appeared to be very intense. A 14 gauge IV catheter was put in the right ear vein and was sutured in place and flushed with heparinized saline. Preparations were made to proceed with an episiotomy once Cornell's theriogenology team arrived and had evaluated the calf's position. At this point, Nini had been in labor for over 12 hours and the bulge had been present for 10-11 hours without delivery of a calf. At 9:42 am Nini had a long hard contraction that lasted for 7 minutes and it appeared that the bulge suddenly moved ventrally and became more pendulous. At 10:00 am the Cornell team, headed by Dr. Barry Ball and Dr. Robert Hillman, arrived and started their exam. Dr. Ball performed a rectal palpation and he confirmed the calf's position and presentation. He was unable to palpate a head beyond the feet but during his brief exam the calf's front feet could be seen bulging beneath the tail. Dr. Hillman then performed a rectal and during the exam Nini continued to push and

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7-9-91 7-10-91 (cont.)	strain until approximately 1/3 of the amniotic sac emerged from the vulva (10:10 am). At this point Dr. Hillman could feel the calf's head coming through the birth canal and announced that the calf was on it's way out. Nini began to kneel and push with great force until the sac emerged approximately half way. Nini began kicking at the sac with her fore and rear legs until the sac ruptured. She pushed hard a few more times and the calf fell to the floor between her front feet (10:13 am). The amniotic sac was removed from the calf and the calf was pulled into the safety area for examination by the veterinarians. Romani investigated the sac and displayed curiosity towards the calf, but was held in place by Chuck Doyle. The calf was delivered front feet, head first after 12 hours of hard labor. On examination, the calf's heart rate was 100 beats per minute and very strong. He was breathing well but had a large amount of amnionic fluid in the trunk. The fluid was suctioned out of the trunk with a shop vac vacuum cleaner and then the trunk was kept clear of fluid by drying the tip with towels. Oxygen was delivered at the tip of the trunk for 10 minutes to improve the calf's color and aid respirations. The calf's only obvious abnormality was a very edematous and swollen, purple colored tongue. The condition of the tongue was attributed to the extended period of time the calf spent in the birth canal. The circulation to the distal half of the tongue appeared to have been cut off by it's position during the birthing process (presumably the tongue was out of the mouth and was compressed between the jaws). The calf was rubbed down with towels to stimulate respirations and to help clear the lungs. The umbilicus was dipped in iodine and it was determined that the calf was a male. Due to the prolonged birthing process the calf appeared to be very tired and did not attempt to stand on his own. He was allowed to rest for approximately 30 minutes, then he was assisted to his feet for the first time. After countless attempts, the calf was ambulating with keeper assistance by 12:20 pm and standing unassisted by 12:50 pm. At 1:10 pm the umbilical stalk was shortened and retreated with iodine. At 1:50

7-10-91 (cont.)	pm the calf passed a large amount of well-formed meconium stool. Ice cubes and cold water rinses were applied to the tongue hourly to help relieve the severe swelling and edema. Once the calf was able to walk on his own he began approaching and investigating Romani in search of her teats. Nini was also interested in the calf and appeared to be bonding well with him. As the day progressed the calf attempted to suckle repeatedly, but it was obvious that the condition of his tongue was interfering with his ability to nurse. Several times the keepers attempted to assist the calf in nursing by either holding his head up to the teat or holding the teat in his mouth, but unfortunately none of the attempts were successful. In an effort to get colostrum into the calf, Nini was milked and the colostrum was offered orally via a syringe. This technique was not entirely successful because the calf would not hold still long enough to administer the colostrum. By 8:50 pm the calf was frantic and very hungry; therefore, the colostrum was administered via a rubber feeding tube placed in the mouth mid-way between the base and the tip of the tongue. The colostrum was then delivered to the calf using 60 cc syringes as he sucked hungrily on the tube. In this way 7 oz and then later 18 oz of colostrum were given effectively. These supplementations were continued throughout the night using colostrum from Nini and what had been previously frozen from Babe. A total of 25 oz of Nini's and 21 oz of Babe's colostrum was given in the first 24 hours.
7-11-91	HR- 70, RR- 12, Temp- 97.7^{0}F, Weight- 274 lbs Blood was collected from the calf and submitted for a CBC and in house analysis. PCV- 47%, TP- 7.6 g/dl, WBC- 18,370, Neutrophils- 48%, Bands- 1%, Lymphocytes-10%, Monocytes- 41%. Community General results were slightly different, WBC- 18,600, RBC- 4.00 x 10^6, Hemo- 17 gm/dl, HCT- 50.3%, MCV- 125.8 fl, MCH- 42.5 pg, MCHC- 33.8 gm/dl, and platelets appeared increased. The calf made repeated nursing attempts throughout

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7-11-91 (cont.)	the night but it was obvious that the condition of his tongue was still interfering with his ability to nurse successfully. The surface of the distal half of the tongue was covered with a dark red to black necrotic tissue and the overall flexibility of the tongue was limited. The 21 oz of Babe's colostrum that was thawed was fed to the calf through the night and into the day. The umbilicus was re-treated with iodine and the excessive tissue to the left side of the umbilical opening was trimmed. The opening was then treated with furacin ointment. Due to the opening at the umbilicus, it will be treated twice daily with 1:30 Nolvasan solution followed by furacin ointment until it has granulated in satisfactorily. The calf was given 6 cc of tetanus antitoxin (2250 IU) IM in the am. At 10:00 am the calf passed a large amount of urine and meconium stool. The temperature of the stool was 97.7 degrees F. After 1:00 pm supplemental feedings were discontinued because the calf appeared to be more successful at nursing and we were reluctant to interfere with the calf's nursing attempts for fear that he would begin to associate us with the formula and would stop nursing naturally. At 8:45 pm the decision was made to discontinue icing of the tongue because it was not reducing the edema or swelling. Instead, table sugar was applied once an hour through the night directly to the tongue to draw off the edema. After the sugar was saturated with fluid, it was removed and the tongue was rinsed with warm water. Within 2-3 hours the swelling and edema of the tongue had been reduced dramatically.
7-12-91	HR-82, RR- 14, Temp-98.3^{o}F, Weight- 272 lbs. By 7:00 am the treatment of the tongue with sugar was discontinued because the edema and swelling was greatly reduced. The treatment was changed to topical washes with a 1:1 solution of hydrogen peroxide and distilled water followed by warm water rinses. This treatment will be done at least four imes daily and more often if necessary to keep the tongue clean

7-12-91 (cont.)

and to facilitate the removal of any necrotic sloughing tissue from the tongue.. Three cultures of the tongue, two from the left side and one from the right side, were submitted for culture and sensitivity. The umbilicus was cleaned and treated and appears to be granulating in nicely.

At 1:45 pm he was offered 6.5 oz of Nini's milk via syringe and tube. He was very hungry and drank it readily. By afternoon, he appeared to be getting clinically dehydrated based on his skin turgor and poor skin perfusion. Blood was drawn at 3:00 pm at the results confirmed that he was dehydrated. PCV- 48 %, TP- 8.3 g/dl, Community General results:

WBC- 17.7 x 10^3	Glu-123	Uric A- 1.2
RBC- 4.05 x 10^6	Bun-24	Ca- 9.2
Hemo- 16.6	Creat-4.2	Phos- 7.9
HCT- 50.4 %	Tp- 7.6	SGOT- 224
MCV- 124.5	Alb- 4.0	SGPT- 45
MCH- 41.1	Glob- 3.6	LDH- 3090
MCHC- 33	Na- 133	CPK- 6529
Platelets- clumped	K- 4.1	Alk Phos- 218
	Cl- 93	T. Bil- 1.6
	Trig- 487	I. Bil- 0.4
	Choles- 6.9	

The elevated PCV, TP, BUN, and Creatinine all indicate mild dehydration. Therefore, supplementation was started with 5% dextrose water. After two feedings, we switched the supplement to Pedialyte solution to provide the calf with necessary oral electrolytes, dextrose and fluid replacement. The supplements were given PO via a feeding tube placed in the mouth and a 60 cc catheter tip dose syringe. As the calf sucked on the feeding tube, the syringes were changed rapidly to give him a

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7-12-91 (cont.)

continuous flow of fluid. He was very thirsty and would have taken much more if offered at the 6:00 pm feeding. The calf was fed according to the schedule listed below based on how hungry he was and how much he would take.

6:00 pm	32 oz 5 % dextrose solution
7:00 pm	56 oz 5 % dextrose solution
8:00 pm	12 oz Pedialyte solution
10:00 pm	60 oz pedialyte solution
1:00 am	6 oz of Nini's milk
5:00 am	4 oz milk, 19 oz Pedialyte
8:00 am	6 oz milk-not real hungry

7-13-91

HR- 70, RR- 24, Temp- 97.8°F, Weight- 276 lbs (am), 279 lbs (pm)
The calf is active and healthy and he continues to attempt to nurse from Nini. At times he appears to be more successful in his nursing attempts but he still cannot latch onto the teat properly.

The calf was treated as follows: The tongue was treated with dilute hydrogen peroxide and warm water 3-4 times daily. The umbilicus was washed with dilute Nolvasan and treated with furacin ointment twice daily. Therapy was started with Amoxicillin at a rate of
5 mg/lb SQ once daily for 5-7 days. Dosage: 5.5 cc of the 250 mg/ml solution of Amoxicillin. Because the tongue surface began to slough at this time, it was important to cover the calf with antibiotics to prevent secondary infection. Another blood sample was collected to check the calf's hydration status. Results are as follows:

WBC- 18.5 x 10^3	Glu- 124	Uric A.- 0.5
RBC- 3.81 x 10^6	Bun- 24	Ca- 9.5
Hemo- 15.8	Creat- 3.5	Phos- 7.1
HCT- 47.9 %	TP- 7.8	SGOT- 181

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7-13-91 (cont.)	MCV- 125.9 MCH- 41.5 MCHC- 33 Platelets- 212	ALB- 3.9 Glob- 3.9 Na- 132 K- 4.3 Cl- 90 Trig- 200 Choles- 63	SGPT- 4 LDH- 2932 CPK- 5580 Alk Phos- 208 T. Bil- 1.6

These blood results indicated that the calf's hydration was improving but was not back to normal. The BUN and Creatinine were still elevated but the CPK and LDH have decreased slightly since yesterday. The elevated muscle enzymes were secondary to the trauma of birthing and to the tongue injury. The calf began to urinate more frequently for a total of 10 times today. The first urination was thick and mucousy. It was very concentrated with a high protein level ranging between 100-2000 mg/dl and a urine specific gravity between 1.025-1.038. By the end of the day, the urine was less concentrated and the protein level stayed around 100 mg/dl. The calf was continued on oral supplementation as follows:

12:30 pm	8 oz of milk and 8 oz pedialyte
4:00 pm	8 oz of milk and 20 oz pedialyte
8:00 pm	14 oz of milk and 27 oz pedialyte
12:00 am	12 oz of milk and 17 oz pedialyte
4:45 am	9.5 oz of milk and 32 oz pedialyte

7-14-91

HR- 72, RR- 14, Temp- 98.1°F, weight-276 lbs (am), 282.5 lbs (pm)

The calf was treated as follows: The tongue and umbilicus were treated as prescribed. The surface of the tongue continued to slough small pieces of necrotic tissue but the skin underneath was healthy and pink. At this point he was able to move the tip of the tongue better and therefore his nursing attempts were more successful. He was given 5.5 cc Amoxicillin SQ and blood was

7-14-91 (cont.)

drawn from the ear vein to check his hydration status (PCV- 46 %, TP- 8.1 g/dl). Based on the calf's blood work, clinical assessment of skin turgor, and over all skin perfusion, it was determined that he was adequately hydrated. The urination frequency was improving and the quality of the urine was less concentrated (Urine specific gravity- 1.025). The calf was continued on oral supplementation to maintain his hydration and to supply him with energy and calories throughout the day. Because the calf had been sufficiently rehydrated, the supplementation was switched from pedialyte to Enfamil formula mixed 1:1 with distilled water in addition to Nini's milk.

8:30 am	17.5 oz of milk, 32 oz enfamil/D.W.
12:00 pm	6 oz of milk, 32 oz enfamil/D.W.
3:00 pm	14 oz of milk, 33.5 oz enfamil/D.W.
6:00 pm	9.75 oz of milk, 32 oz enfamil/D.W.
9:30 pm	12 oz of milk, 32 oz enfamil/D.W.
3:30 am	40 oz pedialyte

Because the calf had gained over 6.5 lbs throughout the day, the supplements were stopped after 12 hours and he was only offered the pedialyte once during the subsequent 12 hours.

7-15-91

HR- 72, RR- 16, Temp- 98.0°F, weight- 280 lbs (am), 283 lbs (pm)
The calf's tongue and umbilicus were treated as previously described. Amoxicillin was administered and blood was collected from an ear vein (PCV- 43.5 % ,TP- 7.9 g/dl). The calf passed a normal milk stool during the night, therefore the supplementation with enfamil was increased to a 2:1 ratio of formula to distilled water at the 8:30 am feeding. Shortly before the next scheduled feeding he passed a very loose diarrhea; therefore, the supplementation was switched back to Nini's milk and pedialyte solution. At this point, the keepers were able to milk a sufficient

7-15-91 (cont.)

amount of milk from Nini to satisfy the calf. The feeding schedule and volumes were as follows:

8:30 am	35 oz of milk, 22 oz of Enfamil/D.W.(2:1)
12:00 pm	15.5 oz of milk, 6 oz of pedialyte
3:30 pm	16 oz of milk, 11 oz of pedialyte
6:30 pm	15.25 oz of milk, 18.5 oz of pedialyte
10:00 pm	17.5 oz of milk, 10.5 oz of pedialyte
4:00 am	14 oz of pedialyte

Through the night the calf suddenly began to latch onto the teat and he became very successful at nursing. When he was offered the 4:00 am pedialyte supplement, he was not interested and he did not take it readily.

7-16-91

HR- 70, RR- 14, Temp- 98.3°F, weight- 280 lbs (pm)
The calf is alert, active and very healthy acting. He was not interested in the supplemental feedings which were offered twice today. He took a total of 13.5 oz of milk and 14 oz of pedialyte for the day. Treatments of the tongue and umbilicus were given as prescribed. The calf is now nursing on his own and the swelling in the tongue has resolved.

7-17-91

HR- 72, RR- 16, Temp- 98.0°F, weight- 281 lbs (am)
The calf was treated as prescribed. The tongue is healing well and the umbilicus is granulating in beautifully. The Amoxicillin was discontinued today because the calf is doing very well and the tongue is healing nicely. Blood was drawn from the ear vein for a PCV- 46 %, and a TP- 8.1 g/dl. The calf is well hydrated, strong, active and is nursing successfully. Results from an IgG test run through the human lab came back very low at 191 mg/dl. After researching how the test was run, it was determined that the lab did not have anti-elephant IgG; therefore, the result was totally invalid. Dr. Blue, an immunology specialist at Cornell, feels that the calf definitely received enough colostrum because

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7-19-91 (cont.)	appear to be straining to defecate we elected to wait a few more days for him to pass stools on his own. The calf is BAR and appears to be well hydrated.
7-20-91	HR- 76, RR- 14, Temp- 99.6°F (am), 97.8°F (pm), weight- 296.5 lbs. The calf's tongue and umbilicus were treated as described previously. Due to the present heat wave of 90-100°F , the calf was monitored closely for signs of overheating. On several occasions, the calf attempted to cool himself down by flapping his ears vigorously. The keepers sprayed the calf's ears and body with cool water to keep him comfortable. The calf was extremely active today. He showed great interest in a variety of inanimate objects (hay, orange peels, and metal objects in the enclosure).
7-21-91	Temp- 98.8°F, weight- 297.5 lbs. The calf's tongue and umbilicus were again treated as previously described. The calf continued to be affected by the heat and was cooled down as necessary by the keepers. The calf remained active and alert throughout the day and night but he gained only one lb from yesterday to today. The low weight gain was attributed to the high environmental temperatures. The calf continued to interact with Romani today and also made several attempts to touch Targa and Siri. He was also observed attempting to put everything into his mouth.
7-22-91	HR- 76, RR- 16, Temp- 99.3°F, weight- 301.5 lbs. Tongue and umbilicus treatments continued. All of the dark necrotic tissue on the calf's tongue has sloughed. The surface of the distal 1/3 of the tongue is covered with a smooth, yellowish-grey granulation tissue. The tongue appears to be healing at a satisfactory rate. The calf was observed to be continuously flapping his ears in the early evening and the keepers were called

7-22-91 (cont.)	in to cool him down and to open up the barn for better circulation. The environmental temperatures continued to be between 90-100°F all week.
7-23-91	weight- 303.5 lbs. Treatment of the calf's tongue and umbilicus continued. Calf is BAR and UAs are remaining normal.
7-24-91	HR- 94, RR- 15, weight- 305.5 Tongue and umbilicus treatments continued. Calf continues to appear strong. All vitals are remaining within normal values. USG was 1.016 today. The calf may have been straining to defecate during the evening so the keepers will continue to monitor him closely.
7-25-91	RR- 14, weight- not recorded today Treatment of tongue and umbilicus will be discontinued after today. Calf is BAR.
7-26-91	weight- 315 lbs.
7-27-91	weight- 317 lbs.
7-28-91	weight- 320 lbs.
7-29-91	weight- 324 lbs.
7-30-91	weight- 328.5 lbs.
7-31-91	At 4:20 a.m. the calf passed a large amount of very thick, white urine. The white substance that was present in the urine dried on the floor and we were able to get a large sample. The observer reported that the white substance may have been eliminated at the end of the prolonged urination but she was not positive. An in-house examination of the sample revealed what appeared to be

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7-31-91 (cont.)	calcium oxalate, calcium carbonate, and amorphous phosphate crystals. There were few cells and no bacteria visible in the sample. The sample also contained a large amount of unidentifiable sediment. Elephant urine normally contains a significant amount of the above mentioned crystals; however, it was considered unusual for such a large quantity to pass at one time. Since the calf had not urinated for over 12 hours, the crystals and sediment may have settled out in the bladder and were then eliminated all at once. The urine specific gravity was much too high to measure probably because of the extreme thickness of the sample. The remainder of the UA on a multistix was negative, but these results may not have been accurate due to the character of the urine. At 11:00 a.m. the calf again passed a large amount of urine. The sample was much clearer than the previous sample and devoid of crystals. The UA was normal and the USG was 1.010. Both samples were sent to Community General Hospital for evaluation. The calf is alert, active, and healthy. He is gaining 3-4 lbs per day and is drinking water regularly. Vitamin E levels taken on the calf's serum on day 2 were found to be extremely low (0.06 ug/ml alpha-tocopherol). According to Dr. Ellen Dierenfeld, the serum levels should be much higher, somewhere around 1.0 ug/dl. She recommended supplementing the calf with oral Vitamin E and suggested using Emcelle Tocopherol which is a natural Vitamin E supplement produced by Stuart Products. It can be administered easily PO and is currently being used to increase circulating Vitamin E levels in elephants and rhinos at the Phoenix and Denver Zoo. Preliminary results from the Phoenix Zoo indicate that the serum blood levels increased from 0.1-0.3 ug/ml to 0.6-0.7 ug/ml within two weeks and then increased up to 1.2-1.3 ug/ml after a month of supplementation. Due to the rapid response with the oral supplementation, Romani's calf will be started on the Emcelle Tocopherol at a rate of 2 IU/lb/day. The product comes in a 500 IU/cc concentration and

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common name

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7-31-91 (cont.)	weight of 330 lbs. The actual dose should be 1.32cc or 660 IU/day but it will be increased to 1.5 cc to account for loss of medication during administration. This dose will be given once a day PO for seven days. A maintenance dose of 1 IU/lb/day will be given PO for another seven days. Because the Emcelle is very bitter it will be mixed with 15 cc of Karo syrup and 4 cc of water. The first dose was mixed according to this formula and delivered with a syringe. The calf did not object to taste of this mixture. A blood sample was taken from the calf's ear using a 21G x 3/4" butterfly catheter and a 6 cc syringe. A majority of this blood will be sent to Dr. Ellen Dierenfeld to repeat the alpha-tocopherol levels of the calf after three weeks of nursing. An in-house test revealed: PCV- 37 % , T.P.- 7.9 g/dl. Differential: Neutrophils -34%, lymphocytes - 15% and monocytes - 51%. In-house fecal was negative for parasites.
8-1-91	Emcelle Tocopherol administered to calf as described on 7-31. Targa was introduced to the calf in the exhibit yard today. Targa was very gentle with the calf, constantly making sure that she did not step on him. He seemed to enjoy being with Targa and Romani but he did not understand why he could not nurse off of Targa. Romani, the calf, and Targa spent the rest of the day together in the maternity stall without incident. The volunteer watch was discontinued today because the keepers and medical staff are satisfied with the calf's progress.

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sex Male page 15

name Emmett

ID no. M91057

common name Asian elephant bull calf

scientific name Elephas maximus

tag/band

8/2/91	Elephant calf refused to swallow vitamin E mixture.
8/3/91	Elephant calf refused to swallow vitamin E mixture.
8/4/91	Elephant calf refused to swallow vitamin E mixture.
8/5/91	Administered 1.5cc of Emcelle in 15cc of Karo syrup and 4cc of H_2O. Calf spit out at least half of the dose.
8/6/91	Administered 1.5cc of Emcelle in 15cc of Karo syrup and 4cc of H_2O. Calf spit out at least half of the dose.
8/7/91	Calf clamped mouth shut and refused to take any of the Emcelle solution.
8/8/91	Tried to mix the Emcelle in orange juice concentrate but the calf still refused to take the treatment.
8/28/91	The calf was given two 5cc injections of Tocophenol - Natural Vit E for a total of 3000 IU IM. He reacted only slightly to the telinject darts and there were no complications from the injections. The oral Vit E supplement cannot be given to the calf and therefore the injectable form is being used. Romani was started on Oral Emcelle - Vit E, produced by Stuart Products on August 16, 1991 at a dose of 2.5 IU/kg/day and the keepers have not had any trouble getting it into her. The injectable Vit E will be given to the calf again in 4-6 weeks.
11/1/91	He is doing very well. He is now well over 600 lbs, probably close to 650 lbs, but we do not have a scale for him at the present time. He was darted with a second dose of Emcelle Vitamin E 10cc total, divided into two injection sites. He was darted in both hip/hind leg regions.

ELEPHANT	17/07/91	PLASMA	0.55	0.10	-	-
	1WK	M	EMMETT-OE (Tawdi)	BURNETPARK	MP	18/11/91
ELEPHANT	31/07/91	PLASMA	0.56	0.08	-	-
	3WK	M	(EMMETT-OE (Tawdi))	BURNETPARK	MP	18/11/91

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INDIVIDUAL ANIMAL MEDICAL RECORD

name Tundi

common name Asian elephant bull calf

ID no. M91057

scientific name Elephas maximus

tag/band

12/9/91	He got a hook from the end of a chain caught on the right side of his mouth. The keeper found him after 30 seconds of his pulling on the chain and hook trying to get it off and removed it. On examination, there was a small cut on the corner of the mouth and a golf ball size swelling to the right cheek. He was acting fine and there were no other signs of injury. He was given 1cc Tetanus toxoid IM via a blow dart in his left hind leg. The cut to the mouth will be hydrotherapied daily until the wound heals and the swelling in the cheek comes down. Continue to monitor.
12/10/91	The calf was outside and walking near the edge of the pool. He got his foot caught in the chains at the edge of the pool and when he tried to free himself he lost his balance and fell in the empty pool. He was scraped up and scared but otherwise okay. Monitor his behavior. He was active and alert for the rest of the day. No treatment necessary.
12/18/91	The puncture site on the right side of his mouth has gotten infected - 3-4cc of purulent exudate was expressed today. He was started on Amoxicillin at 5mg/lb divided into two doses daily. Wt: 754 lbs; dose 8cc of the 250mg/ml solution BID for 3-5 days or until infection resolves. The lesion will be cleansed twice daily to allow for proper drainage of the abcess. Continue to monitor.
12/20/91	The Amoxicillin injections were discontinued. The skin abcess and lesion are healing up nicely and appear to be well under control. He is swelling up at injection sites and the treatment appears to be more pain and secondary swelling than the original infection. Continue to observe.
2/14/92	First worming with Telmin at a rate of 8.8 mg/kg or 1 scoop/250 lbs. Based on a weight of 1000 lbs, he will receive 4 scoops of Telmin powder P.O.
2/23/92	He slipped on ice on 2/22/92 and was very lame in right rear leg in the p.m. The stiffness and lameness was much better today. Continue to observe.
3/24/92	Spring fecal check for parasites was negative.
5/12/92	He is now eating more solid foods and will eat grain supplemented with Vit. E The Emceele Vit E (500 IU/cc) will be added to his diet at a rate of 2.5 IU/kg/day. Dose: 2.3cc for a 1000lb of body weight. This dose will be increased by 0.2cc for every 100 lbs of weight he gains. His weight is presently around 1100lbs; dose will be started at 2.5 cc/once daily.
11/2/92	Fall fecal check for parasites was negative. Will be prophylactically dewormed with Telmin.
11/4/92	Dewormed with Telmin today at a dosage of 8.8mg/kg or 1 scoop/250 bls. and an estimated weight of 1600 lbs.

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INDIVIDUAL ANIMAL MEDICAL RECORD

name Tundi

common name Asian elephant bull calf

ID no. M91057

scientific name Elephas maximus

tag/band

12/8/92	Charlie Gray came into town to begin the training process on him. He an the keepers will teach him how to lay down on his side upon command.
7/27/93	Drew blood for a CBC, panel and Vitamin E analysis. He laid down on his left side for blood draw collection. No problem-used an 19 gauge butterfly catheter and a 12cc syringe. It worked beautifully.
7/28/93	Prophylactic once a year worming with Telmin Powder PO at a dose of 8.8 mg/kg or 1 scoop/250 lbs. of body weight. Tundi's weight:2,200 lbs dose:9 scoops.
7/30/93	Tundi was given a prophylactic deworming Tx of Telmin today. He was given 9 scoops based on a dose of 8.8mg/kg and a weight of 2,200 lbs (1 scoop/250 lbs.).
8/24/93	New weight taken on 8/21/93 Tundi: 2,280 lbs.
9/20/93	A serum sample submitted in August was run for Vit E assay. The blood value was as follows: Vit E 1.29 ug/mL alpha Tocophenol. Recalculated Emcelle & alpha Tocophanol doseage based on 2.5 IU/kg/ day. The serum levels were very good. doseage: 2,590 IU= 5 mL/daily.
9/27/93	Tundi was placed on chains overnite. The two keepers stayed with him in the elephant barn overnite. He did very well, no problems. He will continue to be on chains every nite. Keepers will come in to check on him for the next few nites.
12/7/93	The keepers noted that he is walking stiff legged on his left hind leg. When asked to lift this leg he would not bend his knee as well as normal. The keepers have been instructed to limit the amount of exercise to walks and occasional leg lifts. No hind leg stands or other power tricks that will stress the knee joint. The keepers are hydrotheraping the joint daily to see if it improves. Continue to monitor.
12/12/93	He is lame on his left hind leg. He is not lifting the leg well and does not bend the knee joint well. Keepers have been hydrotheraping the joint twice daily. Dispensed and recommended topical DMSO ointment to be placed on the skin around the knee joint. Will apply as necessary to help with the lameness.
12/22/93	He is walking better and using his leg better. The swelling is down in the joint. Condition improving continue hydrotherapy as necessary.
1/25/94	He is now using the hind leg normally and has been for about 1 and a half weeks. Hydrotherapy has been dicontinued.

2/2/94	Fecals were negative for parasites. Keepers have noted that he has open sores on the penis and sheath. Examined today during bath. He has multiple small red sores that resemble ulcers on the penis where it telescopes into the sheath. The area was washed with warm water and TX with Furacin ointment. Keepers believe the lesions are from dry mating attempts by Emmett. Will have keepers continue to Tx penis and sheath with Furacin ointment once daily.
2/7/94	The sores on the penis and sheath are slowly improving. They are light pink and healing. Continue Tx with furacin ointment once daily until lesions have healed.
2/8/94	TB tested with Bovine PPD ID in the right side of the caudal tail fold. Read skin thickness with calipers. Will check test at 24, 48 and 72 hours. All the elephants were negative on fecal parasite check. Will worm prophylactically with Telmin powder at a dose of 8.8mg/kg (1 scoop/250 lbs) Wt:3,000 lbs dose:12,000mg, 12 scoops.
2/11/94	The Biotin supplement will be cut back to 3x per week-Monday, Wednsday and Friday in an effort to cut costs in the foot budget: Biotin improves the quality of the elephant's hooves and since all their feet are in excellent condition we will see if a lower maintenance dose given three times per week will give us the same effect. The TB tests were negative at 24, 48 and 72 hours. All were given 2cc of Tetanus toxoid IM. Repeat yearly.
3/9/94	Vaccinated with Imrab Rabies - first dose: 2.5cc IM. Will repeat dose in one month, then once a year. Next year, give 5cc as the dose.
3/18/94	Fecal culture was negative for Salmonella, Shigella & Campylobacter. The Brucellosis card test was negative. The EIA test was Negative.
5/28/94	He was bit in the tail during lunch break and split the end in two. It was soaked in Nolvasan solution and carrington gel was put on it and it was wrapped up. The bandage will be changed BID or SID dependin on necessity. Betadine or nitrofurane ointment will be used instead of carrington gel for future wraps.
5/30/94	His tail was soaked in Nolvasan solution and rewrapped. The tip is becoming necrotic and will most likely need to be removed soon.
5/31/94	The distal tail is split such that the two ends appear to be forked & w/o blood supply. The tips are necrotic and require amputation. debrided the center and Tx W/ silvadine ointment & Bio dress. wrapped in a protective bandage. Will amputate later today or tomarrow.

BURNET PARK ZOO

INDIVIDUAL ANIMAL MEDICAL RECORD

sex Male page 19

name Tundi

common name Asian Elepant bull calf

ID no. m91057

scientific name Elephas maximus

tag/band

6/1/94	Removed the distal sections of his tail. The necrotic tissue was removed. Will surgical amputate the tail tomarrow and close the distal end under local anesthesia.
6/2/94	Cleaned tail with 1:30 Nolvasan solution. Injected 10cc of 2% lidocain into proximal tail. Amputated and debrided tail so that the necrotic tissue was removed. Sutured the tissue using 1-dexon and verticle mattress pattern. He was started on 50cc amoxicillin (5mg/lb) Im once a day for 5-7 days. The tail was bandaged to keep it clean and dry. Re-evaluate daily.
6/3/94	Removed the tail bandage. The tail looks good. The ends are sealed well. There was a small amount of purulent exudate on the lateral aspect of the tail. was able to squeeze a small amount of puss out of the center of the tail at the proximal suture sites on both sides. Cleaned the exludate and re bandaged tail. Tx with 50cc Amoxicillin (250 mg/ml) once today. re-evaluate daily.
6/5/94	There was more puss today coming from the tail than yesterday. It is very painfull to him when it is touched. There is a hole beginning to develop, due to sloughing of dead tissue, on one side of the tail. when it was flushed with Nolvasan solution it bleed a little bit. It was flushed twice and Baytril was injected directly into to it. It was wrapped with gauz, then a plastic bag, and sealed with elastikan. He recieved a total of 50mls of Amoxicillin Im. Re-evaluate tomarrow
6/6/94	Distal end of tail necrotic and not healing. Necrotic tip was amputated. 2% Lidocain (9cc) used as anesthetic (2110292, 11/94). Cauterizing machine used to stop bleeding, and thenpressure bandage applied. Bandages to be changed twice daily with use of cara-klenz spray used upon removal of old bandage. Night bandage shouldn't have plastic bag, (for ventilation). Amoxicillin (H2752H, 6/96) Tx dose of 25cc given at two locations IM (Last antibiotic dose). Also, afternoon bandage change-rinsed with nolvasan and sprayed with cara-klenz (dermal wound cleanser).
6/7/94	weight is 2650 lbs (1204 Kg). A new dosage of Emcelle (vitamin E supplementation) 500 Iu/ml was calculated with a dosage of 2.5 Iu/kg per day which equals 3011 IU or 6ml orally once a day. This is an increase of 1cc over the previous dosage and is effective starting today.
6/13/94	His tail looks fine. It is healing well w/ granulation tissue. His tail is being washed three times a day w/ dilute nolvasan solution & then sprayed w/ caraklenz after each washing. Tail is not being bandaged of wrapped anymore.

BURNET PARK ZOO

INDIVIDUAL ANIMAL MEDICAL RECORD

name Tundi

common name Asian Elephant bull calf

ID no. M91057

scientific name Elephas maximus

tag/band

7/25/94	Has been acting lethargic and depressed for a couple of days now. Is passing loose and mucosy stool w/ some blood noted. Has eaten less for about 5 days and has had no grain in the past 24 hrs. Keepers have changed the diet to hay that is less stemmy and course int he past 5 days. A salmonella culture was obtained and hematology results from Sunday 7/24/94 show an elevated white cell count (11,220) and a neutrophilia (54%0 a lymphopenia is also present. Emmet will be monitored closely to see if his condition changes. Chemistry results are w/in normal limits. He has an elevated temp of 99.9°F.
7/26/94	Condition has not improved. Has not eaten any grain or hay overnight or today so far. He passed a small amount of very liquidy diarrhea this morning. In house blood work shows PCV and TP increased from yesterday likely indicating dehydration. Total white cell count has decreased but the differential is similar. At 11:00 Am keepers noted Emmet looking more bright and alert. He began to eat and drank 15 trunk fulls of water. Continue to monitor At 3:00Pm, keepers noted well formed boli and temp of 98°F. A urine sample was submitted. Ph was 7.0 and specific gravity was 1.012 (normal) Blood work submitted this am showed no abnormalties and seemed to indicate normal hydration levels.
7/27/94	Bright and alert. Was seen sparing w/ Targa. Stool volume is reduced but boli are well formed. Appetite is increasing and good.
7/28/94	Am temp was 98.4°F. Eating both grain and hay fairly well. Stool output is fair and the boli are well formed but mucus covered. Some blood was also found on stools.
8/2/94	Fecal test results came back negative for Salmonella.
8/8/94	Fecal samples submitted on 7/ 23 and 7/24 for Bacteriology failed to isolate any Salmonella sp.
9/6/94	Ellie bit the end of his tail. The tip was nicked and he now has several cuts and scrapes on both sides of the distal tail. Keepers will clean tail daily and Tx areas topically with furacin spray.
9/7/94	The tail is till warm and sensitive where the bite marks are located Tx with Nitrofuracin spray and DMSO topically BID today. Will continue TX and monitor progress.
9/9/94	The tail bite wounds are healing well. The tail is now cool and less swollen. The skin is healing over nicely. Continue BID Tx with DMSO and furacin spray.
2/14/95	TB tested with Bovine PPD, 0.1cc in the caudial tail fold. Vaccinated with 5cc Imrab rabies IM and 2cc tetanus toxoid IM. All fecal checks were negative. Prophylactically wormed with Telmin - see computer records for dosage.
2/17/95	The TB test was negative at 24, 48, and 72 hours.

Clinical Notes - Individual Specimen Report
BURNET PARK ZOO

Scientific Name: *ELEPHAS MAXIMUS (no subsp)*
Common Name: INDIAN ELEPHANT
Name: EMMETT

Accession #: M91087
Male
Birth: 10.Jul.1991

.....1995...

31.Aug.1995
All elephants were weighed.

Girli: 8424 lbs.
Target: 8905 lbs.
Emmett: 9217 lbs.
Queenie: 6,962 lbs.
Ellie: 7,204 lbs.
Kirina: 854 lbs.
Indy: 10,500 lbs. (est.). (CW)

14.Sep.1995
As of September 13, 1995, the elephants will be supplemented with 5 IU/lb/day of the natural vitamin E (Baselle alpha Tocopherol - 50. IU/ml produced by Chuarn Products). The following is the total number of IU the elephant will need and the total number of mls received on a daily basis.

Weight: 3,202 lbs. (1462 kg); IU Vit. E: 4,394 IU; ml of Excelle: 9 ml (CW)

.....1996...

19.Jan.1996
Weight: 3400 lbs. (CW)

11.Feb.1996 Weight: 1099 Kg (3828 Lb)
Drew blood on elephant for a CBC, differential and complete panel. Will be doing TB testing, worming and fecal cultures and fecal parasite checks next week. (CW)

16.Feb.1996
The Brucellosis card test was negative. (CW)

20.Feb.1996
The CBC and panel results indicated a normal WBC count with an elevated neutrophil level -- may be secondary to stress. The blood glucose was low -- suspect this was due to cells not being separated from the serum quickly enough. Alk Phos and GGT are increased -- young growing animal. Animal was TB tested with 0.1cc Bovine PPD in the caudal fold, right side. Will read the test at 24, 48, and 72 hours. A fecal culture is pending and fecal screening for parasites was negative. Treated with 2cc tetanus toxoid IM and 2cc Imrab Rabies IM. Animal will be prophylactically wormed with Telmin powder this week. See treatment record. The enteric pathogen cultures were negative for Salmonella. The EIA and brute titers were negative. (CW)

Clinical Notes - Individual Specimen Report
BURNET PARK ZOO

Scientific Name: *ELEPHAS MAXIMUS (no subsp)* Accession #: M91057
Common Name: INDIAN ELEPHANT Male
Name: EMMETT Birth: 10.Jul.1991

10.Mar.1996
Siri bit the end of his tail late yesterday afternoon. The keepers disinfected the tail and wrapped it with bandage to control the bleeding. There were multiple skin scrapes with one area that was through the skin. Betsy examined and treated it today. The skin on the distal tail is bleeding due to the bite. Cleaned and bandaged. Recheck daily. (DA)

1.Oct.1996
Recalculated Vitamin E dosages based on recent serum vitE levels. All animals have high to normal alpha-tocopheral levels. Dose: 1/Friday of Emcelle (500IU/ml). Based on current serum vitamin E levels, Siri and Indy will receive an increased amount. Ronani, although weight has dropped, will receive a higher dose because she is nursing a calf. Tarra will receive an increased amount due to pregnancy and weight gain.

Name	Weight	IU Vit. E	ml Emcelle	'97 dose
Siri	- 9,865 lbs.	- 11,460 IU	- 24ml	- 24ml
Indy	- 10,000 lbs.	- 13,636 IU	- 30ml	- 29ml
Ronani	- 8,800 lbs.	- 7,977 IU	- 19ml	- 17ml
Tarra	- 6,850 lbs.	- 8,932 IU	- 18ml	- 18ml
Rosie	- 8,510 lbs.	- 7,814 IU	- 18ml	- 17ml
Emmett	- 2,900 lbs.	- 4,773 IU	- 10ml	- 9ml
Karina	- 1,335 lbs.	- 1,946 IU	- 4ml	(DW)

.....1997...

18.Feb.1997
TB tested with bovine PPD 0.10 ml ID in right caudal tail fold. The test will be read at 24, 48 and 72 hours. Blood was drawn for CBC and chemistry panel. Treated with Imrab rabies 2.0 ml IM. Tetanus toxoid 2.0 ml IM. Fecal to be collected next week. (DW)

21.Feb.1997
The TB test was negative at 24, 48 and 72 hours. CBC and panel results were normal. Sodium values were within normal reference ranges for all animals except for Siri and Tandi, who had low sodium, 121 mEq/L and 124 mEq/L respectively. (DW)

18.Mar.1997
Weight 9726 lbs. (DW)

24.Mar.1997
Keepers were removing his tusks yesterday and on the right tusk too

Clinical Notes - Individual Specimen Report
BURNET PARK ZOO

Scientific Name: *ELEPHAS MAXIMUS (no subsp)*
Common Name: INDIAN ELEPHANT
Name: EMMETT

Accession #: M91057
Male
Birth: 10.Jul.1991

26.Mar.1997
short. They hit the pulp canal and exposed the vein and canal. It bled for a short while then stopped. The tip was cleaned with hydrogen peroxide then Iodine to dry the protruding tissue. Talked with Charlie Grey, who has had this problem four times in the past. Once he capped the end of the exposed canal and the tusk got infected. Since then he has treated conservatively with topical Corthivet spray, which is a cicatrizing agent containing hydrocrotyle tincture. It speeds the formation of scar tissue and dries up the exposed pulp allowing the ivory to close down and heal more quickly. Have ordered this product and will treat the end of the tusk 4 - 5 times daily with it. In the mean time, keepers will apply Iodine to disinfect the tissue and prevent secondary infection. (CW)

23.Jul.1997
Received intradermal TB test today with 0.1mL PPD Bovis ID behind the right ear (circled with black ink), triangle. Will be read at 24, 48 & 72 hours. (BK)

25.Jul.1997
TB test negative at 24, 48 & 72 hours. No swelling palpated. (BK)

30.Jul.1997
Trunk wash TB culture performed by Drs. Kollias and Abou-Madi. 20ml of saline infused in trunk via a 8 or 10 french feeding tube. The fluid was collected in a plastic bag and transferred to red rubber tubes. Samples to be sent for Mycobacterium isolated at Ames, Iowa. No side effects noted. (BK)

9.Oct.1997
Results of trunk wash culture for TB negative. (BK)

15.Oct.1997
Received 100 mg Valium IM right triceps. No sedation noted. (BK)

20.Oct.1997
Blood drawn for CBC, chemistry panel and equine and bovine herpes tests, as per request by Whipsnade Wild Animal Park. (BK)

BK Received 22.Oct.1997
~~Injected with~~ 100mg Xylazine ~~IM in the right triceps~~ Orally (Mild sedation noted after approximately 20 minutes. Still aware and responsive. See keeper sedation loc. (NA)

Clinical Notes - Individual Specimen Report
BURNET PARK ZOO

Scientific Name: *ELEPHAS MAXIMUS (no subsp)*
Common Name: INDIAN ELEPHANT
Name: EMMETT

Accession #: M91057
Male
Birth: 10.Jul.1991

24.Oct.1997
Received injection of Xylazine (15mg) and Butorphanol (30mg) IM in left tricep. Exhibited sedation after 15 minutes. See keeper sedation log. Given an outgoing physical for impending shipment to Whipsnade Wild Animal Park in London, England. (NA)

4.Nov.1997
Switched to 7272 IU of vitamin E (Nasuri TP68) today to boost vitamin E levels prior to shipment. Current vitamin E level 1.85 ug/ml, and increase from 1.30 ug/ml on 9/96. (BK)