

=====
Scientific Name: *ELEPHAS MAXIMUS HIRSUTUS*
Common Name: Malayan elephant
Name: BILLY
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Accession #: 95661
Male
Birth: 8.Jan.1985 (Estimated)
=====

Clinical Note: 6.May.2001
S/O: Crusted painful, slightly swollen area on ventral distal tail.
Cultured. Keepers area attempting to soak in warm nolvasan BID.
A: Tail abscess.
P: Monitor and continue soaking as able. (JW)

Clinical Note: 11.May.2001
Billy has developed a tail abscess that has been opened and drained.
Currently 80% of the area is open and beginning to establish a
granulation bed. The remaining 20% need debridment. The tail is
being soaked in a nolvasan solution BID. (SK)

Clinical Note: 18.May.2001
Examination of the tail shows the abscessed area to be 60 - 70 percent
filled in. All other areas have cleaned up well with the BID soaking.
This should need minimal care at this time. (SK)

Clinical Note: 25.May.2001
Examination of the tail abscessed area shows excellent healing (90%).
Ok at this time to stop the daily Nolvasan Soaks. Keepers to monitor
the tail daily for 10 days to make sure that no problems develop. (SK)

Clinical Note: 2.Oct.2001
TB trunk wash performed- day 1 (LG)

Clinical Note: 3.Oct.2001
TB trunk wash performed- Day 2 (LG)

Clinical Note: 4.Oct.2001
TB-trunk wash wash- day 3 (LG)

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Clinical Note:

22.Dec.2002

CC: Thick exudative pus from right temporal gland.
S/O: The temporal gland has a small hole about 1/2 inch in diameter with thick exudative discharge. The surrounding area, about 4inch diameter appears swollen however, not fluctuant to the touch. This morning the keepers report when he banged his cheek into the gate a significant amount of discharge came from this area, about 75 cc.
A: Appears to be Musth gland, possibly infected, but otherwise appears to be normal, just copious drainage.
P: Submit aerobic and anaerobic cultures. (LG)

Clinical Note:

23.Dec.2002

Excessive amounts of discharge noted today.
A: It is a good thing that it is draining, the actual area does not appear more swollen so hopefully all of it is draining appropriately.
P: Wait for cultures, requested keepers to see if they can get a portion of the discharge that we could submit for cytology. (LG)

Clinical Note:

24.Dec.2002

Less discharge today.
Jeff Briscoe was able to insert a Q-tip about 6 inches straight in. Made three slide for cytology and acid fast stain.
A: Discharge is decreasing, however, there is probably still an excessive amount of material in the gland that will need to drain out.
P: Encouraged keepers once again to try and peel crust off and clean out area (JW)

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Clinical Note:

29.Dec.2002

Cytology results =highly cellular with necrotic neutrophils, reactive macrophages and extracellular bacteria. Pathologist interpretation is septic necrotic inflammation.

Culture = E. coli Sensitive to TMS if necessary

A: Most likely reactive and exudative temporal gland because he has been in musth he likely packed his gland with dirt that had a high load of ecoli, gland is responding this way. Still appears very localized and is actively draining. AK are able to clean area and flush with dilute nolvasan every day. There is the remote possibility that there is a foreign body (stick for example) that may be causing such an extreme response however the AK say this is extremely unlikely. There is also the remote possibility that this could be neoplasia.

P: Continue daily flushing/cleaning if condition worsens then consider further evaluation. (LG)

Clinical Note:

10.Jan.2003

S Keepers report that the discharge has decreased. Currently though his behavior has changed. He is slow to respond and is sluggish at times. Very little aggressive behavior noted now. Appetite and everything else is normal

Keepers have been trying to get a blood sample as per Dr Greer's request but difficult with cooler weather.

P continue to monitor. Keepers to continue to try and obtain a blood sample. (BC)

Clinical Note:

29.Jan.2003

Trunk wash for Annual TB testing.
Temporal gland has resolved. (LG)

Clinical Note:

17.Feb.2003

Prelim Trunk wash stain from all three days = no acid fast bacilli seen (LG)

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Clinical Note: 10.Mar.2003
County of Orange Accuprobe Identification Mycobacterium other than
M.Tb isolated, final ID to follow if can get sufficient growth. (LG)

Clinical Note: 12.Mar.2003
Final ID = Mycobacterium avium complex.
A: No evidence of clinical disease, assume environmental contaminant,
likely just in distal nares.
P: No plan at this time. (LG)

Clinical Note: 13.Jan.2004
Rx: WEST NILE VIRUS VACCINE (KILLED) 2 ml IM once for 1 day. (JW)

Prescription Data >> Starting date: 13.Jan.2004
Drug: WEST NILE VIRUS VACCINE (KILLED) 2 ml IM once
Formulation: injectable
Prescribed by: JW (13.Jan.2004) Filled by: JW (13.Jan.2004)
Treatment weight: 4826 kg

Submission Data >> Sample id.: 2004-0032
Type: Fecal sample Date collected: 14.Jan.2004
Purpose: ROUTINE EXAMINATION

Collected from: Enclosure: 8259AZ
From an individual specimen.

Examination Data >> Date examined: 15.Jan.2004
Storage: refrigerated
Consistency: Not specified
Gross appearance: Not specified by: CAL

Tests & Results >>
DIRECT MICROSCOPIC EXAMINATION NO PARASITES SEEN
FLOATATION - NA NITRATE NO PARASITES SEEN

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Clinical Note: 15.Jan.2004
Proc: Sample #1 collected for TB culture of trunk washings. (JW)

Clinical Note: 17.Jan.2004
Proc: Sample #2 collected for TB Culture of trunk washing. Instilled
60 cc sterile saline into trunk and collected it into a bag. (LJG)

Clinical Note: 18.Jan.2004
Rx: TETANUS TOXOID 1 ml IM once for 1 day. (JW)

Prescription Data >>

Starting date: 18.Jan.2004

Drug: TETANUS TOXOID 1 ml IM once
Formulation: injectable
Prescribed by: JW (18.Jan.2004)

Filled by: JW (18.Jan.2004)
Treatment weight: 4826 kg

Clinical Note: 19.Jan.2004
Proc: Sample #3 collected for TB Culture of trunk washing. Instilled
60 cc sterile saline into trunk and collected it into a bag. (LG)

Clinical Note: 22.Jan.2004
TRUNK WASH
Second of third required trunk washes. 2 that were done over weekend
were accidentally left out (not frozen), so needed to be repeated.
Proc:
1. Trunk wash performed by kprs in presence of vet using sterile
saline.
Assess:
Pending results. (RB)

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Clinical Note:

23.Jan.2004

Trunk Wash # 3. Proc:
1. Trunk wash performed by kprs in presence of vet (SK) using sterile saline.
Assess:
Pending results. (SK)

Clinical Note:

31.Jan.2004

KEEPERS gave WNV Vaccine IM in left rear hip. (LJG)

Prescription Data >>

Starting date: 31.Jan.2004

Drug: WEST NILE VIRUS VACCINE (KILLED) 2 ml IM once

Formulation: injectable

Prescribed by: JW (27.Jan.2004)

Filled by: JW (27.Jan.2004)

Treatment weight: 4826 kg

Clinical Note:

3.Feb.2004

Rx: WEST NILE VIRUS VACCINE (KILLED) 2 ml IM once for 1 day. (JW)

Clinical Note:

15.Feb.2004

TOOK BLOOD from ear vein on cranial surface of the right ear flap (as opposed to the usual caudal surface). Got very slow draw, but enough blood to run a CBC and partial Chemistry. (LJG)

Clinical Pathology Records - Specimen Report
LOS ANGELES ZOO

Scientific Name: *ELEPHAS MAXIMUS HIRSUTUS*
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Name: BILLY

Accession #: 95661
Male
Birth: 8.Jan.1985 (Estimated)
Age: 19Y Est.

Collection Information >>

Health Status: Normal
Fasting Time: 8-24 hours
Activity: Calm
Weight: 4826 Kg on 14.Oct.2000
Manual restraint used.

Date of Collection: 15.Feb.2004
Time of Collection:
Collected by: LJG
Sample Collection Site: EAR VEIN

Hematology >>

Analysis Information >>

Anticoagulant: EDTA
Storage: Refrigerated (<48 hours)
Sample Quality: hemolysis

Laboratory: ANT-SCREEN
Date of Analysis: 16.Feb.2004
Time of Analysis:
Analysis by:
Automated analysis.

Tests and Results >>

WHITE BLOOD CELL COUNT	12.2		*10 ³ /UL
RED BLOOD CELL COUNT	3.2		*10 ⁶ /UL
HEMOGLOBIN	14.0		GM/DL
HEMATOCRIT	40		%
MCV	125		fL
MCH	43.8		ug
MCHC	35.0		gm/dL
SEGMENTED NEUTROPHILS	47	(5.734)	% (*10 ³ /UL)
LYMPHOCYTES	43	(5.246)	% (*10 ³ /UL)
MONOCYTES	< 5	(0.610)	% (*10 ³ /UL)
EOSINOPHILS	5	(0.610)	% (*10 ³ /UL)
ESTIMATED PLATELET COUNT	ADEQ		
PLATELET COUNT	626		*10 ³ /UL

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Age: 19Y Est.

Collection Information >>

Health Status: Normal
Fasting Time: 8-24 hours
Activity: Calm
Weight: 4826 Kg on 14.Oct.2000
Manual restraint used.

Date of Collection: 15.Feb.2004
Time of Collection:
Collected by: LJJ
Sample Collection Site: EAR VEIN

Chemistry >>

Analysis Information >>

Chemistry Sample: Serum
Storage: Refrigerated (<48 hours)
Sample Quality: hemolysis

Laboratory: ANT-SCREEN
Date of Analysis: 16.Feb.2004
Time of Analysis:
Analysis by:
Automated analysis.

Tests and Results >>

GLUCOSE <<	35	MG/DL
BLOOD UREA NITROGEN	15	MG/DL
CREATININE	1.8	MG/DL
BUN/creatinine ratio	8.33	
CALCIUM	10.0	MG/DL
PHOSPHORUS	5.5	MG/DL
calcium/phosphorus ratio	1.82	
SODIUM	124	MEQ/L
POTASSIUM >>	6.1	MEQ/L
sodium/potassium ratio	20.3	
CHLORIDE <	82	MEQ/L
CHOLESTEROL	46	MG/DL
TOTAL PROTEIN (COLORIMETRY)	8.5	GM/DL
ALBUMIN (COLORIMETRY)	3.6	GM/DL
GLOBULIN (COLORIMETRY)	4.9	GM/DL
albumin/globulin ratio	0.735	
ALANINE AMINOTRANSFERASE	5	IU/L
TOTAL BILIRUBIN	0.2	MG/DL
ALKALINE PHOSPHATASE	151	IU/L
CREATINE PHOSPHOKINASE >>	983	IU/L
ALBUMIN GLOBULIN RATIO	0.7	GM/DL
BUN/CREATININE RATIO	8	MG/DL
SODIUM/POTASSIUM RATIO	20	RATIO

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Clinical Note:

29.Mar.2004

O: Trunk wash results: One report of culture overgrowth. Two negative cultures. (JW)

Clinical Note:

8.Aug.2004

AK report he is currently in Musth - both temporal glands draining, and aggressive attitude. (LG)

Clinical Pathology Records Report - ISIS/In-House Reference Values
LOS ANGELES ZOO

Scientific name: *ELEPHAS MAXIMUS*
Common Name: Indian elephant

		ISIS Values		Min.	Max.	(N)
		Mean	S.D.			
WBC	*10 ³ /UL	14.43 ±	4.409	5.800	33.30	(1779)
RBC	*10 ⁶ /UL	3.06 ±	0.51	1.78	5.15	(1501)
HGB	GM/DL	13.2 ±	2.2	6.6	24.9	(1568)
HCT	%	37.1 ±	6.0	20.3	68.0	(1890)
MCH	MG/DL	43.3 ±	4.8	16.6	63.2	(1464)
MCHC	uug	35.4 ±	3.6	16.9	68.6	(1536)
MCV	fL	122.3 ±	13.4	47.1	213.2	(1491)
SEGS	*10 ³ /UL	4.822 ±	2.925	0.291	23.90	(1502)
BANDS	*10 ³ /UL	1.402 ±	2.124	0.000	11.40	(307)
LYMPHOCYTES	*10 ³ /UL	5.243 ±	3.223	0.196	20.60	(1513)
MONOCYTES	*10 ³ /UL	3.677 ±	2.909	0.000	9.983	(1273)
EOSINOPHILS	*10 ³ /UL	0.465 ±	0.551	0.000	4.520	(1093)
BASOPHILS	*10 ³ /UL	0.173 ±	0.105	0.000	0.508	(119)
NRBC	/100 WBC	1 ±	1	0	3	(85)
PLATE. CNT.	*10 ³ /UL	469 ±	215	121	1394	(428)
RETICS	%	0.8 ±	1.6	0.0	4.4	(10)
GLUCOSE	MG/DL	91 ±	21	33	223	(1257)
BUN	MG/DL	13 ±	4	4	30	(1260)
CREAT.	MG/DL	1.6 ±	0.4	0.7	3.3	(1230)
URIC ACID	MG/DL	0.2 ±	0.3	0.0	3.4	(286)
CA	MG/DL	10.6 ±	0.8	7.8	14.8	(1184)
PHOS	MG/DL	5.0 ±	1.2	1.9	11.1	(724)
NA	MEQ/L	130 ±	6	99	181	(859)
K	MEQ/L	4.6 ±	0.5	3.2	6.6	(861)
CL	MEQ/L	89 ±	4	77	103	(731)
IRON	MCG/DL	65 ±	23	29	158	(82)
MG	MG/DL	2.10 ±	0.53	0.00	2.90	(68)
HCO3	MMOL/L	26.3 ±	3.0	19.0	32.3	(55)
CHOL	MG/DL	48 ±	19	0	189	(599)
TRIG	MG/DL	61 ±	42	10	329	(745)
T.PROT. (C)	GM/DL	8.1 ±	0.8	5.8	11.3	(1227)
T.PROT. (R)	GM/DL	8.4 ±	0.4	7.8	9.2	(23)
ALBUMIN (C)	GM/DL	3.2 ±	0.5	1.9	4.7	(648)
GLOBULIN (C)	GM/DL	5.0 ±	1.0	2.7	8.6	(639)
AST (SGOT)	IU/L	22 ±	11	4	97	(1227)
ALT (SGPT)	IU/L	7 ±	8	0	72	(781)
T. BILI.	MG/DL	0.2 ±	0.2	0.0	1.2	(765)
D. BILI	MG/DL	0.1 ±	0.1	0.0	1.3	(233)
I. BILI.	MG/DL	0.1 ±	0.1	0.0	0.6	(224)
AMYLASE	U/L	3017 ±	2492	0	9866	(170)
ALK. PHOS.	IU/L	143 ±	66	28	641	(1157)
LDH	IU/L	655 ±	703	46	4769	(495)

Clinical Pathology Records Report - ISIS/In-House Reference Values
LOS ANGELES ZOO

Scientific name: *ELEPHAS MAXIMUS*
Common Name: Indian elephant

		ISIS Values		Min.	Max.	(N)
		Mean	S.D.			
CPK	IU/L	225 ±	170	23	1260	(486)
OSMOLARITY	MOSMOL/L	264 ±	29	0	325	(98)
ALPHA GLOB.	MG/DL	250.4 ±	353.1	0.7	500.0	(2)
ALPHA-1 GLOB	MG/DL	0.8 ±	0.1	0.7	1.0	(6)
ALPHA-2 GLOB	MG/DL	0.9 ±	0.2	0.7	1.1	(6)
BETA GLOB.	MG/DL	1.0 ±	0.6	0.6	1.4	(2)
Body Temperature:		36.3 ±	0.5	36.0	37.0	(4)
CO2	MMOL/L	24.8 ±	4.0	15.8	37.0	(230)
CORTISOL	UG/DL	2.0 ±	1.0	0.5	5.4	(35)
ESR	MM/HR	98 ±	32	53	130	(7)
FIBRINOGEN	MG/DL	371 ±	181	0	810	(238)
GGT	IU/L	7 ±	5	0	33	(314)
LIPASE	U/L	19 ±	30	0	127	(53)
PROGESTERONE	NG/DL	18.82 ±	62.45	0.020	346.0	(379)
TESTOSTERONE	NG/ML	20.34 ±	27.95	0.570	40.10	(2)
A-TOCOPHEROL	UG/DL	19 ±	15	0	42	(8)
TOTAL T4	MCG/DL	10.0 ±	2.7	4.2	12.6	(10)
T3 UPTAKE	%	28 ±	2	26	29	(2)
ALBUMIN (E)	GM/DL	4.1 ±	0.6	3.5	4.9	(4)
GAMMA GLOB	GM/DL	2.9 ±	2.9	0.0	9.0	(11)