

=====  
Scientific Name: *LOXODONTA AFRICANA* (=====  
*Scientific Name: LOXODONTA AFRICANA (no subsp)* Accession #: 1669  
Common Name: African elephant Female  
Name: LBA Birth: 17.Sep.1978 (Estimated)  
Age: 27Y Est.  
=====

Clinical Note: 2.Nov.2005  
UMC Results Accession #:0522402

Date rcv'd: 11/02/05  
Date reported: 11/16/05

Bacteriology

Aerobic Culture  
Specimen ID: Fecal  
Organism ID:  
No significant growth

Comments: The sample was negative, by culture, for Salmonella using primary and secondary enrichment in conjunction with the use of selective media.

WNL. WKS (TLH)

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Clinical Note: 4.Nov.2005  
UMC Results Accession #:0521841

Date rcv'd: 10/25/05  
Date reported: 11/4/05

Bacteriology

Aerobic Culture  
Specimen ID: Fecal  
Organism ID:  
No Significant Growth

Comments: The fecal sample was negative, by culture, for Salmonella using primary and secondary enrichment in conjunction with the use of selective media.

WNL. WKS (TLH)

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=====  
Scientific Name: *LOXODONTA AFRICANA (no subsp)* Accession #: 1669  
Common Name: African elephant Female  
Name: LEA Birth: 17.Sep.1978 (Estimated)  
Age: 27Y Est.  
=====

Clinical Note: 16.Nov.2005  
Weight: Actual 9101  
+/-12.5-15%:  
10136-10362# (WKS)

Clinical Note: 7.Dec.2005  
Vaccinated via 1cc Fort Dodge lot# 1630100A, exp 1/10/2007 in rt  
triceps. Did well. (WKS)

Clinical Note: 9.Dec.2005  
UMC Results Accession #:0524721

Date rcv'd: 12/9/05  
Date reported: 12/20/05

Bacteriology  
Sample: Swab/culturette

Aerobic Culture  
Specimen ID: Fecal  
Specimen ID 2: Produce  
Organism ID:  
No significant growth

Comments: The samples were negative, by culture, for Salmonella using  
primary and secondary enrichment in conjunction with the use of  
selective media.

WNL. WKS (TLH)

=====  
Scientific Name: *LOXODONTA AFRICANA (no subsp)* Accession #: 1669  
Common Name: African elephant Female  
Name: LEA Birth: 17.Sep.1978 (Estimated)  
Age: 27Y Est.  
=====

Clinical Note: 4.Jan.2006

NVSL Results Accession: 417019

Date rcv'd: 1/4/06

Date reported: 3/1/06

Trunk Wash results- Tuberculosis test

NVSL ID	Case ID	Sample Date	Results (Mycobac
1395165	0602598	12/27/05	No isolation mad
1395156	0602599	12/29/05	No isolation mad
1395157	0602600	12/30/05	No isolation mad

WNL. WKS (TLH)

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Scientific Name: *LOXODONTA AFRICANA (no subsp)* Accession #: 1669  
Common Name: African elephant Female  
Name: LEA Birth: 17.Sep.1978 (Estimated)  
Age: 27Y Est.  
=====

Clinical Note: 6.Jan.2006  
UMC Results Accession #:0600325 and 0600324

Date rcv'd: 1/6/06  
Date reported: 1/16/06

Bacteriology

Aerobic Culture  
Specimen ID: Fecal  
Organism ID:  
No significant growth

Comments: The fecal sample was negative, by culture, for Salmonella using primary and secondary enrichment in conjunction with the use of selective media.

WNL. WKS

UMC Results Accession #:0600324

Date rcv'd: 1/6/06  
Date reported: 1/16/06

Bacteriology

Aerobic Culture  
Specimen ID: Produce- Elephant barn  
Organism ID:  
No significant growth

Comments: The produce sample was negative, by culture, for Salmonella using primary and secondary enrichment in conjunction with the use of selective media.

WNL. WKS (TLH)

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Scientific Name: *LOXODONTA AFRICANA (no subsp)* Accession #: 1669  
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Name: LEA Birth: 17.Sep.1978 (Estimated)  
Age: 27Y Est.  
=====

Clinical Note: 6.Jan.2006

Behavioral restraint for indirect oscillometric blood pressure measurement. Placed cuff ~1/3 the way down tail and obtained 3 readings each. All did very well. To repeat at least two more times while "calm", then three times after coming off exhibit/exercised. (WKS)

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Clinical Note: 10.Jan.2006

Behavioral restraint for indirect blood pressure determination via oscillometric unit. Placed cuff in same position as before, obtained 3 readings each. All did very well. Results of 102529 are preliminarily compatible with hypertension (have observed scleral injection and has retained calf) caused by retained calf, or as a result or previous suspected nephritis, which is also secondary to ascending infection from retained calf. To complete one more set on "calm" group, then immediately after coming off exhibit, or when animals are in restraint for other procedures. (WKS)

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Clinical Note: 17.Jan.2006

Recorded blood pressures on each elephant via tail. (ANL)

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Common Name: African elephant Female  
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Age: 27Y Est.  
=====

Clinical Note: 2.Feb.2006

UMC Results Accession #:0602450 and 0602451

Date rcv'd: 2/2/06  
Date finalized: 2/11/06

Bacteriology Results

Aerobic Culture  
Specimen ID: Produce  
Organism ID:  
No significant growth

Comments: The produce sample was negative, by culture, for Salmonella using primary and secondary enrichment in conjunction with the use of selective media.

WNL. WKS

UMC Results Accession #:0602451

Date rcv'd: 2/2/06  
Date finalized: 2/11/06

Bacteriology Results

Aerobic Culture  
Specimen ID: Fecal  
Organism ID:  
No significant growth

Comments: The fecal sample was negative, by culture, for Salmonella using primary and secondary enrichment in conjunction with the use of selective media.

WNL. WKS (TLH)

=====  
Scientific Name: *LOXODONTA AFRICANA (no subsp)* Accession #: 1669  
Common Name: African elephant Female  
Name: LEA Birth: 17.Sep.1978 (Estimated)  
Age: 27Y Est.  
=====

Clinical Note: 8.Feb.2006  
Performed PLR in both eyes and utilized 6.35mm (known measurement) tag  
as comparison. Time from rest to maximal miotic response averaged  
>15sec and return to full mydriasis averaged >2 minutes at a fc of  
~10-20 ambient light and >600 fc with transillumination. (WKS)

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Submission Data >> Sample id.: 2006-0124  
Type: Fecal sample Date collected: 5.Mar.2006  
Purpose: ROUTINE EXAM

Collected from: Enclosure: EBC  
Group of specimens housed together.

Examination Data >> Date examined: 5.Mar.2006  
Storage: other storage  
Consistency: Not specified  
Gross appearance: Not specified by: WKS

Comments >>  
Sent to MU for salmonella culture

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Submission Data >> Sample id.: 2006-0061  
Type: Fecal sample Date collected: 6.Mar.2006  
Purpose: ROUTINE EXAM

Collected from:  
From an individual specimen.

Examination Data >> Date examined: 6.Mar.2006  
Storage: room temperature  
Consistency: Not specified  
Gross appearance: Not specified by: ANL

Sample description:  
Sample sent to MU for culture for Salmonella.

=====  
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Common Name: African elephant Female  
Name: LEA Birth: 17.Sep.1978 (Estimated)  
Age: 27Y Est.  
=====

Clinical Note: 7.Mar.2006  
UMC Results Accession #: 0605169

Bacteriology results

Aerobic Culture  
Specimen ID: Fecal salmonella screen  
Organism ID:  
No significant growth

The fecal sample was negative, by culture, for Salmonella using primary and secondary enrichment in conjunction with the use of selective media.

WNL. WKS (TLH)

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Submission Data >>

Type: Fecal sample  
Purpose: NOT SPECIFIED

Sample id.: 2006-0077  
Date collected: 4.Apr.2006  
Collected by: SS

Collected from:

Group of specimens housed together.

Enclosure: EBC

Examination Data >>

Storage: refrigerated  
Consistency: Not specified  
Gross appearance: Not specified

Date examined: 4.Apr.2006

by: ANL

Sample description:

Sent to MU for salmonella culture.

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=====  
Scientific Name: *LOXODONTA AFRICANA (no subsp)* Accession #: 1669  
Common Name: African elephant Female  
Name: LEA Birth: 17.Sep.1978 (Estimated)  
Age: 27Y Est.  
=====

Clinical Note: 6.Apr.2006

UMC Results Accession #: 0608516 and 0608511

Date rcv'd: 4/6/06  
Date finalized: 4/15/06

Bacteriology

Aerobic Culture  
Specimen ID: Fecal  
Organism ID:  
No significant growth

The fecal sample was negative, by culture, for Salmonella using primary and secondary enrichment in conjunction with the use of selective media.

WNL. WKS

UMC Results Accession #: 0608511

Date rcv'd: 4/6/06  
Date finalized: 4/15/06

Bacteriology

Aerobic Culture  
Specimen ID: Produce  
Organism ID:  
No significant growth

The fecal sample was negative, by culture, for Salmonella using primary and secondary enrichment in conjunction with the use of selective media.

WNL. WKS (TLH)



=====  
Scientific Name: *LOXODONTA AFRICANA (no subsp)* Accession #: 1669  
Common Name: African elephant Female  
Name: LEA Birth: 17.Sep.1978 (Estimated)  
Age: 27Y Est.  
=====

Clinical Note: 4.May.2006

<<<Microbiology>>>

Sample Accession #:0611086

Collection Date: 05/04/2006  
Submission Date: SAME  
Reporting Date: 06/20/2006

Laboratory:  
 ANTECH  
 NVSL  
 UMC  
 OTHER

Submission type:

- aerobic bacteriology
- anaerobic bacteriology
- comprehensive stool culture
- mycology
- enteric pathogen screen
- mycobacteria isolation
- other:

Sample source: Fecal

Organism:

- 1.
- 2.
- 3.

Comments: No Significant growth. WNL per WKS. (ERB)

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Clinical Note: 13.May.2006  
Results of most recent salmonella culture from feces of each elephant  
are NEG (WKS)

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Age: 27Y Est.  
=====

Clinical Note: 2.Jul.2006  
This am accepted flushing well and cream ok-did notice the laceration  
on the medial aspect of sulcus. To apply cream directly to that area  
daily. (WKS)

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Clinical Pathology Records - Specimen Report  
KANSAS CITY ZOOLOGICAL PARK

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Scientific Name: LOXODONTA AFRICANA (no subsp)           Accession #: 1669
Common Name: African elephant                             Female
Name: LEA                                                Birth: 17.Sep.1978 (Estimated)
                                                         Age: 28Y Est.
=====

```

Collection Information >>

```

Health Status: Normal
Fasting Time: < 8 hours
Activity: Active
Weight: 4088 Kg on 16.Nov.2005
Manual restraint used.

```

```

Date of Collection: 3.Jul.2006
Time of Collection: 8:00.0
Collected by: ANL
Sample Collection Site: EAR VEIN

```

Hematology >>

Analysis Information >>

```

Anticoagulant: EDTA
Storage: Refrigerated (>48 hours)
Sample Quality: No quality problems.

```

```

Laboratory: ANTECH
Date of Analysis: 5.Jul.2006
Time of Analysis: 14:27
Analysis by:
Automated analysis.

```

Tests and Results >>

WHITE BLOOD CELL COUNT	11.0		*10 <sup>3</sup> /UL
RED BLOOD CELL COUNT	2.9		*10 <sup>6</sup> /UL
HEMOGLOBIN	13.1		GM/DL
HEMATOCRIT	37		%
MCV	128		fL
MCH	45.2		uug
MCHC	35.4		gm/dL
SEGMENTED NEUTROPHILS	37	(4.070)	% (*10 <sup>3</sup> /UL)
LYMPHOCYTES	41	(4.510)	% (*10 <sup>3</sup> /UL)
MONOCYTES	22	(2.420)	% (*10 <sup>3</sup> /UL)
ESTIMATED PLATELET COUNT	ADEQU		
PLATELET COUNT	358		*10 <sup>3</sup> /UL
ABSOLUTE LYMPHOCYTES	4510		/UL
ABSOLUTE MONOCYTES	2420		/UL
FIBRINOGEN >>	757		MG/DL
MEAN CORPUSCULAR HEMOGLOBIN	45.4		UUG
MEAN CORPUSCULAR HEMOGLOBIN CONCENTRATION	35		%
MEAN CORPUSCULAR VOLUME	129		U(3)

Morphology Results >>

ANISOCYTOSIS +2

Comments >>

Frequent platelet clumps are present on the blood smear.  
slight degeneration of SBC.

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Scientific Name: LOXODONTA AFRICANA (no subsp)           Accession #: 1669
Common Name: African elephant                           Female
Name: LEA                                               Birth: 17.Sep.1978 (Estimated)
                                                         Age: 28Y Est.
=====

```

Collection Information >>

```

Health Status: Normal
Fasting Time: < 8 hours
Activity: Active
Weight: 4088 Kg on 16.Nov.2005
Manual restraint used.

```

```

Date of Collection: 3.Jul.2006
Time of Collection: 8:00.0
Collected by: ANL
Sample Collection Site: EAR VEIN

```

Chemistry >>

Analysis Information >>

```

Chemistry Sample: Serum
Storage: Refrigerated (>48 hours)
Sample Quality: No quality problems.

```

```

Laboratory: ANTECH
Date of Analysis: 5.Jul.2006
Time of Analysis: 14:27
Analysis by:
Automated analysis.

```

Tests and Results >>

```

GLUCOSE >> 119 MG/DL
BLOOD UREA NITROGEN < 5 MG/DL
CREATININE 1.2 MG/DL
BUN/creatinine ratio 4.17
CALCIUM 10.7 MG/DL
PHOSPHORUS < 4.0 MG/DL
calcium/phosphorus ratio 2.68
SODIUM 129 MEQ/L
POTASSIUM 4.3 MEQ/L
sodium/potassium ratio 30.0
CHOLESTEROL >> 114 MG/DL
TOTAL PROTEIN (COLORIMETRY) >> 8.2 GM/DL
ALBUMIN (COLORIMETRY) < 3.1 GM/DL
GLOBULIN (COLORIMETRY) > 5.1 GM/DL
albumin/globulin ratio 0.608
ASPARTATE AMINOTRANSFERASE 21 IU/L
TOTAL BILIRUBIN 0.2 MG/DL
ALKALINE PHOSPHATASE 92 IU/L
CREATINE PHOSPHOKINASE >> 1370 IU/L
ALBUMIN GLOBULIN RATIO 0.6 GM/DL
BUN/CREATININE RATIO 4 MG/DL
GAMMA GLUTAMYLTRANSFERASE 11 IU/L
SODIUM/POTASSIUM RATIO 30 RATIO

```

Comments >>

Significant elevation of fibrinogen compatible with trauma from tusk damage and damaged root. Slight elevation of globulins. Significant elevation of CPK also. Compatible with trauma from interspecific aggression. per WKS.

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Age: 28Y Est.  
=====

Clinical Note: 5.Jul.2006  
Visual exam of sulcus-slight malodor but area is clean and no  
discharge noted. To continue flushing with water, then disinfectant,  
then apply Sulfadiazine cream Doing well-has finished phenylbutazone  
paste. (WKS)

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=====
Scientific Name: LOXODONTA AFRICANA (no subsp)           Accession #: 1669
Common Name: African elephant                             Female
Name: LEA                                                Birth: 17.Sep.1978 (Estimated)
                                                         Age: 28Y Est.
=====

```

Clinical Note: 7.Jul.2006

<<< Microbiology >>>

Sample Accession #:0616066

```

Collection Date: 07/07/2006           Laboratory:
Submission Date: SAME                 [ ] LABCORP
Reporting Date: 07/11/2006           [ ] NVSL
[ ] ANTECH                           [x] UMC

```

Sample Source: pus swab

Submission type:

- aerobic bacteriology
- anaerobic bacteriology
- comprehensive stool culture
- mycology
- enteric pathogen screen
- mycobacterial

Organism:	Growth:	heavy	moderate	light
1. Streptococcus equisimilis		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Citrobacter spp.		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Escherichia hermannii		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.				

\*\*\*\*\*S = SUSCEPTIBLE; I = INTERMEDIATE; R = RESISTANT

Sensitivity:	1	2	3	4
Amikacin:	I	S	S	
Amoxicillin:				
Ampicillin:	S	R	R	
Clavamox:				
Carbenicillin:				
Cephalexin:				
Chloramphenicol:	S	S	S	
Clindamycin:	S	R	R	
Enrofloxacin:	S	S	S	

```

=====
Scientific Name: LOXODONTA AFRICANA (no subsp)           Accession #: 1669
Common Name: African elephant                             Female
Name: LEA                                                Birth: 17.Sep.1978 (Estimated)
                                                         Age: 28Y Est.
=====

```

Clinical Note:

7.Jul.2006

Furadantin:			
Oxacillin:			
Gentamycin:	R	S	S
Kanamycin:			
Neomycin:			
Polymyxin B:			
TMP/SULFA:	S	S	S
Tetracycline:	S	S	S
Tobramycin:			
Erythromycin:	I	R	R
Sulfathiazole:			
Ticarcillin:	S	R	R
Penicillin:	S	R	R
Piperacillin:			
Cefotaxime:			
Ciprofloxacin:			
Doxycycline:			
Orbifloxacin:	I	S	S
Vancomycin:			
Rifampin:	S	R	R
Metronidazole:			
Cefazolin:	S	R	S
Cefoxitin:	S	S	S
Ceftiofur:	S	S	S
Imipenem:	S	S	S
Oxacil 2% NaCl:	S	R	R
Sulfadimethox:			
Ticar/Clav Acid:	S	S	S
Spectinomycin:			
Cephalothin:	S	R	S

Comments:  
(ERB)



Clinical Pathology Records - Specimen Report  
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=====
Scientific Name: LOXODONTA AFRICANA (no subsp)           Accession #: 1669
Common Name: African elephant                             Female
Name: LEA                                                Birth: 17.Sep.1978 (Estimated)
                                                         Age: 28Y Est.
=====

```

Collection Information >>

```

Health Status: Abnormal
Fasting Time: < 8 hours
Activity: Active
Weight: 4088 Kg on 16.Nov.2005
Manual restraint used.

```

```

Date of Collection: 7.Jul.2006
Time of Collection: 9:00.0
Collected by: SM
Sample Collection Site: EAR VEIN

```

Hematology >>

Analysis Information >>

```

Anticoagulant: EDTA
Storage: Refrigerated (<48 hours)
Sample Quality: No quality problems.

```

```

Laboratory: ANTECH
Date of Analysis: 8.Jul.2006
Time of Analysis: 5:40
Analysis by:
Automated analysis.

```

Tests and Results >>

WHITE BLOOD CELL COUNT	>	14.1		*10 <sup>3</sup> /UL
RED BLOOD CELL COUNT		2.9		*10 <sup>6</sup> /UL
HEMOGLOBIN		13.7		GM/DL
HEMATOCRIT		35		%
MCV		121		fL
MCH	>	47.2		uug
MCHC	>>	39.1		gm/dL
SEGMENTED NEUTROPHILS	>	38	(5.358)	% (*10 <sup>3</sup> /UL)
LYMPHOCYTES		52	(7.332)	% (*10 <sup>3</sup> /UL)
MONOCYTES		7	(0.987)	% (*10 <sup>3</sup> /UL)
EOSINOPHILS		2	(0.282)	% (*10 <sup>3</sup> /UL)
BASOPHILS	>	1	(0.141)	% (*10 <sup>3</sup> /UL)
PLATELET COUNT		419		*10 <sup>3</sup> /UL
ABSOLUTE BASOPHILS		141		/UL
ABSOLUTE EOSINOPHILS		282		\UL
ABSOLUTE LYMPHOCYTES		7332		/UL
ABSOLUTE MONOCYTES		987		/UL
FIBRINOGEN	>	400		MG/DL
MEAN CORPUSCULAR HEMOGLOBIN		46.8		UUG
MEAN CORPUSCULAR HEMOGLOBIN CONCENTRATION		39		%
MEAN CORPUSCULAR VOLUME		120		U(3)

Morphology Results >>

ANISOCYTOSIS +2

Comments >>

```

Degeneration of WBCs - differential questionable
HCT: manual PCV performed
Absolute neutrophils: 5358
Platelets are slightly increased

```

Clinical Pathology Records - Specimen Report  
KANSAS CITY ZOOLOGICAL PARK

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=====
Scientific Name: LOXODONTA AFRICANA (no subsp)           Accession #: 1669
Common Name: African elephant                             Female
Name: LEA                                                Birth: 17.Sep.1978 (Estimated)
                                                         Age: 28Y Est.
=====

```

Collection Information >>

```

Health Status: Abnormal
Fasting Time: < 8 hours
Activity: Active
Weight: 4088 Kg on 16.Nov.2005
Manual restraint used.

```

```

Date of Collection: 7.Jul.2006
Time of Collection: 9:00.0
Collected by: SM
Sample Collection Site: EAR VEIN

```

Chemistry >>

Analysis Information >>

```

Chemistry Sample: Serum
Storage: Refrigerated (<48 hours)
Sample Quality: No quality problems.

```

```

Laboratory: ANTECH
Date of Analysis: 8.Jul.2006
Time of Analysis: 5:40
Analysis by:
Automated analysis.

```

Tests and Results >>

```

GLUCOSE >> 115 MG/DL
BLOOD UREA NITROGEN < 5 MG/DL
CREATININE 1.1 MG/DL
BUN/creatinine ratio 4.55
CALCIUM 11.2 MG/DL
PHOSPHORUS > 5.8 MG/DL
calcium/phosphorus ratio 1.93
SODIUM > 135 MEQ/L
POTASSIUM 4.6 MEQ/L
sodium/potassium ratio 29.3
CHLORIDE > 93 MEQ/L
CHOLESTEROL >> 111 MG/DL
TOTAL PROTEIN (COLORIMETRY) 7.9 GM/DL
ALBUMIN (COLORIMETRY) 3.3 GM/DL
GLOBULIN (COLORIMETRY) 4.6 GM/DL
albumin/globulin ratio 0.717
ASPARTATE AMINOTRANSFERASE < 11 IU/L
TOTAL BILIRUBIN 0.2 MG/DL
ALKALINE PHOSPHATASE 77 IU/L
LACTATE DEHYDROGENASE < 368 IU/L
CREATINE PHOSPHOKINASE > 453 IU/L
ALBUMIN GLOBULIN RATIO 0.7 GM/DL
BUN/CREATININE RATIO 5 MG/DL
GAMMA GLUTAMYLTRANSFERASE 10 IU/L
SODIUM/POTASSIUM RATIO 29 RATIO

```

Comments >>

Significant improvement in fibrinogen levels. Increased cholesterol, increased Ca likely from the alfalfa flakes given. Hyperglycemia of unknown etiology. Increased WBC at high end of normal with monocytes

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Age: 28Y Est.  
=====

Chemistry >>

Comments >>

and basophils compatible with ongoing inflammation associated with the  
tusk. WKS.

Clinical Pathology Records - Specimen Report  
KANSAS CITY ZOOLOGICAL PARK

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=====
Scientific Name: LOXODONTA AFRICANA (no subsp)           Accession #: 1669
Common Name: African elephant                             Female
Name: LEA                                                Birth: 17.Sep.1978 (Estimated)
                                                         Age: 28Y Est.
=====

```

Collection Information >>

```

Health Status: Normal                               Date of Collection: 10.Jul.2006
Fasting Time: < 8 hours                            Time of Collection: 8:00.0
Activity: Active                                    Collected by:
Weight: 4088 Kg on 16.Nov.2005                     Sample Collection Site: EAR VEIN
Manual restraint used.

```

Chemistry >>

Analysis Information >>

```

Chemistry Sample: Serum                               Laboratory: ANTECH
Storage: Refrigerated (<48 hours)                  Date of Analysis: 11.Jul.2006
Sample Quality: No quality problems.                 Time of Analysis: 1:06
                                                         Analysis by:
                                                         Automated analysis.

```

Tests and Results >>

	GLUCOSE	92	MG/DL
	BLOOD UREA NITROGEN	< 5	MG/DL
	CREATININE	1.1	MG/DL
	BUN/creatinine ratio	4.55	
	CALCIUM	10.8	MG/DL
	PHOSPHORUS	5.4	MG/DL
	calcium/phosphorus ratio	2.00	
	SODIUM	129	MEQ/L
	POTASSIUM	4.7	MEQ/L
	sodium/potassium ratio	27.4	
	CHLORIDE	88	MEQ/L
	CHOLESTEROL	>> 106	MG/DL
	TOTAL PROTEIN (COLORIMETRY)	8.0	GM/DL
	ALBUMIN (COLORIMETRY)	< 3.0	GM/DL
	GLOBULIN (COLORIMETRY)	> 5.0	GM/DL
	albumin/globulin ratio	0.600	
	ASPARTATE AMINOTRANSFERASE	< 13	IU/L
	TOTAL BILIRUBIN	0.2	MG/DL
	ALKALINE PHOSPHATASE	92	IU/L
	LACTATE DEHYDROGENASE	< 415	IU/L
	CREATINE PHOSPHOKINASE	295	IU/L
	ALBUMIN GLOBULIN RATIO	0.6	GM/DL
	BUN/CREATININE RATIO	5	MG/DL
	GAMMA GLUTAMYLTRANSFERASE	12	IU/L
	SODIUM/POTASSIUM RATIO	27	RATIO

Comments >>

Mild increase in cholesterol and slight decrease in BUN/Creatinine.  
WKS.

Clinical Pathology Records - Specimen Report  
KANSAS CITY ZOOLOGICAL PARK

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Common Name: African elephant                             Female
Name: LEA                                                Birth: 17.Sep.1978 (Estimated)
                                                         Age: 28Y Est.
=====

```

Collection Information >>

```

Health Status: Abnormal                               Date of Collection: 12.Jul.2006
Fasting Time: < 8 hours                             Time of Collection: 8:00.0
Activity: Active                                     Collected by: SM
Weight: 4088 Kg on 16.Nov.2005                     Sample Collection Site: EAR VEIN
Manual restraint used.

```

Hematology >>

Analysis Information >>

```

Anticoagulant: EDTA                                  Laboratory: ANTECH
Storage: Refrigerated (<48 hours)                  Date of Analysis: 13.Jul.2006
Sample Quality: No quality problems.                 Time of Analysis: 10:46
                                                         Analysis by:
                                                         Automated analysis.

```

Tests and Results >>

```

WHITE BLOOD CELL COUNT > 13.5 *10^3/UL
RED BLOOD CELL COUNT < 2.6 *10^6/UL
HEMOGLOBIN 12.3 GM/DL
HEMATOCRIT < 33 %
MCV 127 fL
MCH > 47.3 uug
MCHC > 37.3 gm/dL
SEGMENTED NEUTROPHILS > 39 (5.265) % (*10^3/UL)
LYMPHOCYTES > 60 (8.100) % (*10^3/UL)
MONOCYTES 0 % (*10^3/UL)
EOSINOPHILS 1 (0.135) % (*10^3/UL)
BASOPHILS 0 % (*10^3/UL)
ESTIMATED PLATELET COUNT ADEQU
PLATELET COUNT 418 *10^3/UL
ABSOLUTE BASOPHILS 0 /UL
ABSOLUTE EOSINOPHILS 135 \UL
ABSOLUTE LYMPHOCYTES 8100 /UL
ABSOLUTE MONOCYTES 0 /UL
FIBRINOGEN >> 794 MG/DL
MEAN CORPUSCULAR HEMOGLOBIN 46.8 UUG
MEAN CORPUSCULAR HEMOGLOBIN CONCENTRATION 37 %
MEAN CORPUSCULAR VOLUME 127 U(3)

```

Comments >>

```

RBC morphology normal
absolute neutrophils: 5265
Platelet estimate adequate

```

Clinical Pathology Records - Specimen Report  
KANSAS CITY ZOOLOGICAL PARK

```

=====
Scientific Name: LOXODONTA AFRICANA (no subsp)           Accession #: 1669
Common Name: African elephant                             Female
Name: LEA                                                Birth: 17.Sep.1978 (Estimated)
                                                         Age: 28Y Est.
=====

```

Collection Information >>

```

Health Status: Abnormal                               Date of Collection: 12.Jul.2006
Fasting Time: < 8 hours                             Time of Collection: 8:00.0
Activity: Active                                     Collected by: SM
Weight: 4088 Kg on 16.Nov.2005                     Sample Collection Site: EAR VEIN
Manual restraint used.

```

Chemistry >>

Analysis Information >>

```

Chemistry Sample: Serum                               Laboratory: ANTECH
Storage: Refrigerated (<48 hours)                  Date of Analysis: 13.Jul.2006
Sample Quality: No quality problems.                 Time of Analysis: 10:46
                                                         Analysis by:
                                                         Automated analysis.

```

Tests and Results >>

GLUCOSE	93	MG/DL
BLOOD UREA NITROGEN	< 5	MG/DL
CREATININE	1.2	MG/DL
BUN/creatinine ratio	4.17	
CALCIUM	10.3	MG/DL
PHOSPHORUS	5.3	MG/DL
calcium/phosphorus ratio	1.94	
SODIUM	130	MEQ/L
POTASSIUM	4.8	MEQ/L
sodium/potassium ratio	27.1	
CHLORIDE	89	MEQ/L
CHOLESTEROL	> 98	MG/DL
TOTAL PROTEIN (COLORIMETRY)	8.1	GM/DL
ALBUMIN (COLORIMETRY)	< 3.0	GM/DL
GLOBULIN (COLORIMETRY)	> 5.1	GM/DL
albumin/globulin ratio	0.588	
ASPARTATE AMINOTRANSFERASE	< 12	IU/L
TOTAL BILIRUBIN	0.2	MG/DL
ALKALINE PHOSPHATASE	91	IU/L
LACTATE DEHYDROGENASE	< 396	IU/L
CREATINE PHOSPHOKINASE	225	IU/L
ALBUMIN GLOBULIN RATIO	0.6	GM/DL
BUN/CREATININE RATIO	4	MG/DL
GAMMA GLUTAMYLTRANSFERASE	13	IU/L
SODIUM/POTASSIUM RATIO	27	RATIO

Comments >>

Mild increase in globulins with increase in lymphocytes, WBC and fibrinogen compatible with inflammation associated with tusk loss. WKS.

Clinical Pathology Records - Specimen Report  
KANSAS CITY ZOOLOGICAL PARK

=====  
Scientific Name: *LOXODONTA AFRICANA (no subsp)* Accession #: 1669  
Common Name: African elephant Female  
Name: LEA Birth: 17.Sep.1978 (Estimated)  
Age: 28Y Est.  
=====

Chemistry >>  
Comments >>

Unknown significance of mild decrease in BUN, this could represent mild liver dysfunction, or cholestasis, as the albumin is also decreased and cholesterol is elevated. However, remaining liver values are WNL. Mild normocytic normochromic anemia suggestive of chronic disease. Other less likely causes include bone marrow disorder or peracute hemorrhage. Inflammation is ongoing as suggested by mildly elevated globulins and a mild lymphocytic leukocytosis. Improvement seen from last leukogram. Relevance of eosinophilia is unknown - parasitic, allergic, etc. GLT.

=====  
Scientific Name: *LOXODONTA AFRICANA* (no subsp)

Accession #: 1669

Common Name: African elephant

Female

Name: LEA

Birth: 17.Sep.1978 (Estimated)

Age: 28Y Est.

=====

Clinical Note:

13.Jul.2006

Supervisor stated he observed thick discharge to left sulcus today. In pm she was flapping ears more than the other elephants and had been slapping her tail against her back harder than before-visual exam on exhibit did not observe it occurring, but hasn't been constant. Disp enrofloxacin 400mg, 17 capsules po sid to start. (ANL)

---

Clinical Note:

19.Jul.2006

PE - Left sulcus culture obtained. 5cm historical cut distal trunk right of dorsal midline. Ophthalmic exam-OS;Slightly swollen medial canthus, lenticular sclerosis noted centrally, OD lenticular sclerosis dorsomedially. Oral/tusk exam-WNL. Mammary exam-WNL. Vulvular exam-WNL. Little hair noted on Left side of distal tail. Conformation exam-Left Rear is medially deviated at/about the tarsus. Foot exam-LF; separation b/w all digits, RF;hyperkeratosis noted b/w nails 4-5, RH;minor pad separation, LH; vertical crack in 2nd nail and few minor pockets in pad. Swelling noted on Right caudal dorsum, advised to monitor for any change. (ANL)

---

Clinical Pathology Records - Specimen Report  
KANSAS CITY ZOOLOGICAL PARK

```

=====
Scientific Name: LOXODONTA AFRICANA (no subsp)           Accession #: 1669
Common Name: African elephant                             Female
Name: LEA                                                Birth: 17.Sep.1978 (Estimated)
                                                         Age: 28Y Est.
=====

```

Collection Information >>

```

Health Status: Normal                                     Date of Collection: 19.Jul.2006
Fasting Time: < 8 hours                                  Time of Collection: 10:30.0
Activity: Active                                         Collected by: SM
Weight: 4088 Kg on 16.Nov.2005                          Sample Collection Site: EAR VEIN
Manual restraint used.

```

Hematology >>

Analysis Information >>

```

Anticoagulant: EDTA                                     Laboratory: ANTECH
Storage: Refrigerated (<48 hours)                    Date of Analysis: 20.Jul.2006
Sample Quality: No quality problems.                  Time of Analysis: 4:25
                                                         Analysis by:
                                                         Automated analysis.

```

Tests and Results >>

WHITE BLOOD CELL COUNT	12.2		*10 <sup>3</sup> /UL
RED BLOOD CELL COUNT	< 2.6		*10 <sup>6</sup> /UL
HEMOGLOBIN	< 11.6		GM/DL
HEMATOCRIT	< 33		%
MCV	127		fL
MCH	44.6		uug
MCHC	35.2		gm/dL
SEGMENTED NEUTROPHILS	> 49	(5.978)	% (*10 <sup>3</sup> /UL)
LYMPHOCYTES	45	(5.490)	% (*10 <sup>3</sup> /UL)
MONOCYTES	6	(0.732)	% (*10 <sup>3</sup> /UL)
EOSINOPHILS	0		% (*10 <sup>3</sup> /UL)
BASOPHILS	0		% (*10 <sup>3</sup> /UL)
ABSOLUTE BASOPHILS	0		/UL
ABSOLUTE EOSINOPHILS	0		\UL
ABSOLUTE LYMPHOCYTES	5490		/UL
ABSOLUTE MONOCYTES	732		/UL
FIBRINOGEN	>> 714		MG/DL
MEAN CORPUSCULAR HEMOGLOBIN	45.2		UUG
MEAN CORPUSCULAR HEMOGLOBIN CONCENTRATION	36		%
MEAN CORPUSCULAR VOLUME	127		U(3)

Comments >>

```

RBC morphology normal
absolute neutrophils: 5978
Platelet estimate: platelets appear increased and are above 600,000/uL

```

Clinical Pathology Records - Specimen Report  
KANSAS CITY ZOOLOGICAL PARK

```

=====
Scientific Name: LOXODONTA AFRICANA (no subsp)           Accession #: 1669
Common Name: African elephant                             Female
Name: LEA                                                Birth: 17.Sep.1978 (Estimated)
                                                         Age: 28Y Est.
=====

```

Collection Information >>

```

Health Status: Normal
Fasting Time: < 8 hours
Activity: Active
Weight: 4088 Kg on 16.Nov.2005
Manual restraint used.

```

```

Date of Collection: 19.Jul.2006
Time of Collection: 10:30.0
Collected by: SM
Sample Collection Site: EAR VEIN

```

Chemistry >>

Analysis Information >>

```

Chemistry Sample: Serum
Storage: Refrigerated (<48 hours)
Sample Quality: No quality problems.

```

```

Laboratory: ANTECH
Date of Analysis: 20.Jul.2006
Time of Analysis: 4:25
Analysis by:
Automated analysis.

```

Tests and Results >>

```

GLUCOSE >> 117 MG/DL
BLOOD UREA NITROGEN < 5 MG/DL
CREATININE 1.6 MG/DL
BUN/creatinine ratio 3.13
CALCIUM 10.4 MG/DL
PHOSPHORUS 5.1 MG/DL
calcium/phosphorus ratio 2.04
SODIUM > 137 MEQ/L
POTASSIUM 4.8 MEQ/L
sodium/potassium ratio 28.5
CHLORIDE > 94 MEQ/L
CHOLESTEROL > 97 MG/DL
TOTAL PROTEIN (COLORIMETRY) > 8.4 GM/DL
ALBUMIN (COLORIMETRY) < 2.9 GM/DL
GLOBULIN (COLORIMETRY) >> 5.5 GM/DL
albumin/globulin ratio 0.527
ASPARTATE AMINOTRANSFERASE < 11 IU/L
TOTAL BILIRUBIN 0.1 MG/DL
ALKALINE PHOSPHATASE 112 IU/L
LACTATE DEHYDROGENASE < 374 IU/L
CREATINE PHOSPHOKINASE 177 IU/L
ALBUMIN GLOBULIN RATIO 0.5 GM/DL
BUN/CREATININE RATIO 3 MG/DL
GAMMA GLUTAMYLTRANSFERASE 10 IU/L
SODIUM/POTASSIUM RATIO 29 RATIO

```

Comments >>

Increased monocytes and high normal WBC secondary to tusk loss, as well as increased fibrinogen. Had been fighting in am - increased glucose secondarily. Mild dehydration indicated by increased total



```

=====
Scientific Name: LOXODONTA AFRICANA (no subsp)           Accession #: 1669
Common Name: African elephant                             Female
Name: LEA                                                Birth: 17.Sep.1978 (Estimated)
                                                         Age: 28Y Est.
=====

```

Clinical Note: 21.Jul.2006

UMC Microbiology Results  
 Accession #0617046  
 Received: 7/21/2006  
 Finalized: 7/26/06  
 Reported: 7/25/2006 (Preliminary)

Bacteriology Results

Aerobic Culture

Specimen ID: Sulcus swab  
 Organism ID: Streptococcus spp., alpha hemolytic  
 Organism ID: Streptococcus spp., alpha hemolytic  
 Organism ID: Enterobacter amingenus  
 Organism ID: Aeromonas caviae  
 Organism ID: Streptococcus spp., beta hemolytic  
 Comments: The growth of the isolates was heavy on direct culture.

Anaerobic culture

Specimen ID: Sulcus swab  
 Organism ID: Streptococcus spp., beta hemolytic  
 Comments: 7/24/2006 Anaerobic culture results are pending. The anaerobic culture grew a beta-hemolytic streptococcus spp., susceptibility testing results are reported.

Small animal suscept

Specimen ID: Sulcus swab  
 Organism ID: #1 Streptococcus spp., alpha hemolytic  
 Organism ID: #2 Streptococcus spp., alpha hemolytic  
 Organism ID: #3 Enterobacter amingenus  
 Organism ID: #4 Aeromonas caviae  
 Organism ID: #5 Streptococcus spp., beta hemolytic

		#1	#2	#3	#4	#5
Amikacin	i	s	s	s	r	
Amoxi/Clav	s	s	r	s	s	
Ampicillin	s	s	r	r	s	
Cefazolin	s	s	r	i	s	
Cefoxitin	s	r	r	s	s	
Cefpodoxime	s	s	s	s	s	
Ceftiofur	s	r	s	s	s	
Cephalothin	s	s	r	r	s	
Chloramphenicol	s	s	s	s	s	
Clindamycin	s	s	r	r	s	

```

=====
Scientific Name: LOXODONTA AFRICANA (no subsp)           Accession #: 1669
Common Name: African elephant                             Female
Name: LEA                                                Birth: 17.Sep.1978 (Estimated)
                                                         Age: 28Y Est.
=====

```

Clinical Note:

21.Jul.2006

Enrofloxacin	s	s	s	s	s	
Erythromycin	i	i	r	r	i	
Getamicin		s	s	s	s	r
Imipenem		s	s	s	s	s
Marbofloxacin		i	s	s	s	s
Orbifloxacin	i	i	s	s	i	
Oxacil + 2% Nacl	s	s	r	r	s	
Penicillin		s	i	r	r	s
Rifampin		s	s	r	i	s
Tetracycline	r	s	s	s	s	
Ticar/Clav Acid		s	s	s	s	s
Ticarcillin		s	s	r	i	s
Trimeth/Sulfa		s	s	s	s	s

Comments: All three strepts are likely pathogens. Aeromonas and enterobacter more likely contaminants. All are sensitive to enrofloxacin. Anaerobic result somewhat surprising. WKS.

UMC Results

Accession #0617047  
Received: 7/21/2006  
Reported: 7/26/2006

Bacteriology results

Aerobic culture

Specimen ID: Left Ear Swab

Organism ID: Aeromonas caviae

Organism ID: Streptococcus spp., alpha hemolytic

Comments: The ear swab impression stain did not show yeast. The ear swab produced heavy mixed growth on direct culture.

Anaerobic culture

Specimen ID: Left ear swab

Organism ID: No significant growth

Small animal suscept

Specimen ID: Left ear swab

Organism ID: #1 Aeromonas caviae

Organism ID: #2 Streptococcus spp., alpha hemolytic

		#1	#2
Amikacin	s	s	
Amoxi/Clav	i	s	

```

=====
Scientific Name: LOXODONTA AFRICANA (no subsp)           Accession #: 1669
Common Name: African elephant                           Female
Name: LEA                                               Birth: 17.Sep.1978 (Estimated)
                                                         Age: 28Y Est.
=====

```

Clinical Note:

21.Jul.2006

Ampicillin		r	s
Cefazolin		r	s
Cefoxitin		i	s
Cefpodoxime		s	s
Ceftiofur		i	s
Cephalothin		r	s
Chloramphenicol		s	s
Clindamycin		r	s
Enrofloxacin	s	s	
Erythromycin	r	r	
Gentamicin		s	s
Imipenem		s	s
Marbofloxacin		s	s
Orbifloxacin	s	i	
Oxacil + 2% NaCl	r	s	
Penicillin		r	s
Rifampin		r	s
Tetracycline	s	s	
Ticar/Clav Acid		i	s
Ticarcillin		r	s
Trimeth/Sulfa		s	s

Attempting to define normal aural flora. WKS.

UMC Results

Accession #0617050  
Received: 7/21/2006  
Reported: 7/28/2006

Bacteriology Results

Aerobic culture

Specimen ID: Right Ear swab  
Organism ID: Acinetobacter calcoaceticus lwoffii  
Organism ID: Streptococcus spp., alpha hemolytic  
Organism ID: Aeromonas caviae  
Organism ID: Corynebacterium spp.

Comments: The ear swab impression stain did not show yeast. The growth of the isolates was heavy on direct culture.

Anaerobic culture

Specimen ID: Right ear swab  
Organism ID: NO significant growth

```

=====
Scientific Name: LOXODONTA AFRICANA (no subsp)           Accession #: 1669
Common Name: African elephant                           Female
Name: LEA                                               Birth: 17.Sep.1978 (Estimated)
                                                         Age: 28Y Est.
=====

```

Clinical Note: 21.Jul.2006

Small animal suscept  
Specimen ID: right ear swab  
Organism ID: #1 Streptococcus spp., alpha hemolytic  
              #2 Aeromonas caviae  
              #3 Acinetobacter calcoaceticus lwoffii  
              #4 Corynebacterium spp.

			#1	#2	#3	#4
Amikacin		i	s	s	s	
Amoxi/Clav		s	i	s	s	
Ampicillin		s	r	s	s	
Cefazolin		s	r	s	s	
Cefoxitin		s	i	s	s	
Cefpodoxime		s	s	i	i	
Ceftiofur		s	i	s	s	
Cephalothin		s	r	s	s	
Chloramphenicol		s	s	s	s	
Clindamycin		s	r	s	s	
Enrofloxacin	s	s	s	s		
Erythromycin	i	r	s	s		
Gentamicin		s	s	s	s	
Imipenem		s	s	s	s	
Marbofloxacin		s	s	s	i	
Orbifloxacin	s	s	s	i		
Oxacil + 2% NaCl	s	r	s	s		
Penicillin		s	r	s	s	
Rifampin		s	r	s	s	
Tetracycline	s	s	s	s		
Ticar/Clav Acid		s	r	s	s	
Ticarcillin		s	r	s	s	
Trimeth/Sulfa		s	s	s	s	

Attempting to define normal flora. WKS. (ERB)

Clinical Note: 24.Jul.2006

Disp 102 capsules enrofloxacin 400mg, to give 17 capsules PO SID (WKS)

Clinical Pathology Records - Specimen Report  
KANSAS CITY ZOOLOGICAL PARK

```

=====
Scientific Name: LOXODONTA AFRICANA (no subsp)           Accession #: 1669
Common Name: African elephant                             Female
Name: LEA                                                Birth: 17.Sep.1978 (Estimated)
                                                         Age: 28Y Est.
=====

```

Collection Information >>  
Health Status: Abnormal

```

Date of Collection: 24.Jul.2006
Time of Collection:
Collected by:
Sample Collection Site: from Floor

```

Weight: 4088 Kg on 16.Nov.2005

Analysis Information >>

```

Sample type: Urine
Storage: Refrigerated (<48 hours)
Sample Quality: No quality problems.

```

```

Laboratory: IN HOUSE
Date of Analysis: 25.Jul.2006
Time of Analysis:
Analysis by:
Manual analysis.

```

Tests and Results >>

APPEARANCE	CLEAR	
COLOR	PLYELL	
PH	8.0	
SPECIFIC GRAVITY	1.005	
URINE BACTERIA	COCCI+	
URINE BILIRUBIN	NEG	
URINE BLOOD	NEG	
URINE CASTS	-	
URINE CRYSTALS	OXALAT	
URINE EPITHELIAL CELLS	SQUAMO	
URINE GLUCOSE	NEG	MG/DL
URINE KETONE	NEG	
URINE NITRITE	NEG	
URINE PROTEIN	NEG	
URINE RBC/HPF	-	
URINE UROBILINOGEN	NORMAL	
URINE WBC/HPF	-	

Comments >>

Epithelial cells: squamous (occ)



```

=====
Scientific Name: LOXODONTA AFRICANA (no subsp)           Accession #: 1669
Common Name: African elephant                             Female
Name: LEA                                                Birth: 17.Sep.1978 (Estimated)
                                                         Age: 28Y Est.
=====

```

Clinical Note:

27.Jul.2006

Mich. State Univ. Results Case #:00203367

Date Received: 7/27/06
Date Reported: 7/28/06

Sample: Serum
Test: Serum/Plasma Panel (values in ppm)

B:<1.00
Fe: 0.54
P: 51
Ca: 104
K: 178
Zn: 0.87
Cr: <0.100
Mg: 22.3
Cu: 1.53
Na: 2970

Comments: Essentially WNL. WKS.

Mich. State Univ. Results Case #:00203367

Date Received: 7/27/06
Date Reported: 7/29/06

Sample: Serum
Test: (values in ppm)

B: <1.00
Fe: 0.54
P: 51
Ca: 104
K: 178
Zn: 0.87
Cr: <0.100
Mg: 22.3
Cu: 1.53
Na: 2970

Comments: WNL per WKS. (ERB)

=====  
Scientific Name: *LOXODONTA AFRICANA (no subsp)* Accession #: 1669  
Common Name: African elephant Female  
Name: LEA Birth: 17.Sep.1978 (Estimated)  
Age: 28Y Est.  
=====

Clinical Note: 27.Jul.2006  
Dispensed 7 60cc syringes of dilute nolvasan to use to flush sulcus  
once daily. (WKS)

Clinical Note: 29.Jul.2006  
Supervisor stated almost out of meds (enrofloxacin). still finding  
daily dime to quarter sized amounts of discharge from sulcus but is  
otherwise acting fine. C&S sensitive to abs chosen and latest  
bloodwork indicates high WBC To disp enrofloxacin 400mg 17 caps po  
sid for 7 more days. #119 (WKS)

Clinical Note: 2.Aug.2006  
Changed q-tip medication to nolvasan ointment instead of  
Ssulfadiazine. Will make available on a daily basis. (WKS)

Submission Data >> Sample id.: 2006-0159  
Type: Fecal sample Date collected: 2.Aug.2006  
Purpose: ROUTINE EXAM Collected by: SM

Collected from: Enclosure: EBC  
Group of specimens housed together.

Examination Data >> Date examined: 2.Aug.2006  
Storage: other storage  
Consistency: Not specified  
Gross appearance: Typical

Comments >>  
samples sent out for salmonella





```

=====
Scientific Name: LOXODONTA AFRICANA (no subsp)           Accession #: 1669
Common Name: African elephant                             Female
Name: LEA                                                Birth: 17.Sep.1978 (Estimated)
                                                         Age: 28Y Est.
=====

```

Clinical Note: 23.Aug.2006

UMC Microbiology results  
 Accession #0619402  
 Received: 8/23/06  
 Reported: 8/30/06

Bacteriology results

Aerobic culture

Specimen ID: Sulcus discharge swab #1  
 Organism ID: Citrobacter freundii  
               Pseudomonas aeruginosa  
               Streptococcus spp., beta hemolytic  
               Corynebacterium spp.

Comments: The growth of the isolates was heavy on direct culture.

Specimen ID: Sulcus discharge #2  
 Organism ID: Corynebacterium spp.  
               Streptococcus spp. beta hemolytic  
               Actinomyces spp.

Anaerobic culture

Specimen ID: Sulcus discharge swab #1  
 Organism ID: No significant growth  
 Specimen ID: Sulcus discharge swab #2  
 Organism ID: No significant growth

Antimicrob suscept/equine

Specimen ID: sulcus discharge swab  
 Organism ID: #1 Corynebacterium spp.  
               #2 Citrobacter freundii  
               #3 Pseudomonas aeruginosa  
               #4 Streptococcus spp., beta hemolytic  
               #5 Corynebacterium spp.  
               #6 Streptococcus spp., beta hemolytic  
               #6 Actinomyces spp.

		#1		#2		#3
Amikacin	s		s		s	
Amoxi/Clav	s		r		r	
Ampicillin	s		r		r	
Cefazolin	s		i		r	
Ceftiofur	s		s		r	
Chloramphenicol	s		s		r	
Erythromycin	s	r		r		i
Gentamicin	s		s		s	

```

=====
Scientific Name: LOXODONTA AFRICANA (no subsp)           Accession #: 1669
Common Name: African elephant                             Female
Name: LEA                                                Birth: 17.Sep.1978 (Estimated)
                                                         Age: 28Y Est.
=====

```

Clinical Note: 23.Aug.2006

Imipenem		s		s		s
Oxacil + 2% NaCl	s		r		r	s
Penicillin		s		r		r
Rifampin		s		r		r
Tetracycline	s		s		r	s
Ticar/Clav Acid		s		s		r
Ticarcillin		s		r		r
Trimeth/Sulfa		s		s		r

Comments: B hemolytic strep and actinomyces, corynebacterium likely pathogens initiating purulent debris. On enrofloxacin - to get sensitivities for that. WKS. (ERB)

Clinical Note: 28.Aug.2006

Keepers called this morning to report that the back of Lea's tongue looked black. Visual exam- mostly symmetrical black pigment on caudal aspect of tongue and two spots of black pigmentation on hard palate. Non ulcerated and no visual evidence of a pseudomembrane, exudate, etc. Obtained a culture swab and prepared a slide to check for yeast--nothing of significance seen on slide. Took blood for Elephant Herpes testing as a precaution. Prehending and eating well. Pytalism has not been noted. (WKS)

Clinical Pathology Records - Specimen Report  
KANSAS CITY ZOOLOGICAL PARK

```

=====
Scientific Name: LOXODONTA AFRICANA (no subsp)           Accession #: 1669
Common Name: African elephant                           Female
Name: LEA                                               Birth: 17.Sep.1978 (Estimated)
                                                         Age: 28Y Est.
=====

```

Collection Information >>

```

Health Status: Abnormal
Fasting Time: < 8 hours
Activity: Active
Weight: 4088 Kg on 16.Nov.2005
Manual restraint used.

```

```

Date of Collection: 30.Aug.2006
Time of Collection: 8:00.0
Collected by:
Sample Collection Site: EAR VEIN

```

Hematology >>

Analysis Information >>

```

Anticoagulant: EDTA
Storage: Refrigerated (<48 hours)
Sample Quality: No quality problems.

```

```

Laboratory: ANTECH
Date of Analysis: 31.Aug.2006
Time of Analysis: 5:27
Analysis by:
Automated analysis.

```

Tests and Results >>

WHITE BLOOD CELL COUNT	9.5		*10 <sup>3</sup> /UL
RED BLOOD CELL COUNT	> 3.6		*10 <sup>6</sup> /UL
HEMOGLOBIN	> 15.8		GM/DL
HEMATOCRIT	44		%
MCV	122		fL
MCH	43.9		uug
MCHC	35.9		gm/dL
SEGMENTED NEUTROPHILS	36	(3.420)	% (*10 <sup>3</sup> /UL)
LYMPHOCYTES	55	(5.225)	% (*10 <sup>3</sup> /UL)
MONOCYTES	6	(0.570)	% (*10 <sup>3</sup> /UL)
EOSINOPHILS	3	(0.285)	% (*10 <sup>3</sup> /UL)
BASOPHILS	0		% (*10 <sup>3</sup> /UL)
ESTIMATED PLATELET COUNT	ADEQU		
PLATELET COUNT	291		*10 <sup>3</sup> /UL
ABSOLUTE BASOPHILS	0		/UL
ABSOLUTE EOSINOPHILS	285		\UL
ABSOLUTE LYMPHOCYTES	5225		/UL
ABSOLUTE MONOCYTES	570		/UL
FIBRINOGEN	328		MG/DL
MEAN CORPUSCULAR HEMOGLOBIN	45.3		UUG
MEAN CORPUSCULAR HEMOGLOBIN CONCENTRATION	36		%
MEAN CORPUSCULAR VOLUME	126		U(3)

Comments >>

```

RBC morphology Normal
Platelet estimate: adequate

```

Clinical Pathology Records - Specimen Report  
KANSAS CITY ZOOLOGICAL PARK

```

=====
Scientific Name: LOXODONTA AFRICANA (no subsp)           Accession #: 1669
Common Name: African elephant                             Female
Name: LEA                                                Birth: 17.Sep.1978 (Estimated)
                                                         Age: 28Y Est.
=====

```

Collection Information >>

```

Health Status: Abnormal
Fasting Time: < 8 hours
Activity: Active
Weight: 4088 Kg on 16.Nov.2005
Manual restraint used.

```

```

Date of Collection: 30.Aug.2006
Time of Collection: 8:00.0
Collected by:
Sample Collection Site: EAR VEIN

```

Chemistry >>

Analysis Information >>

```

Chemistry Sample: Serum
Storage: Refrigerated (<48 hours)
Sample Quality: No quality problems.

```

```

Laboratory: ANTECH
Date of Analysis: 31.Aug.2006
Time of Analysis: 5:27
Analysis by:
Automated analysis.

```

Tests and Results >>

GLUCOSE	95	MG/DL
BLOOD UREA NITROGEN	< 5	MG/DL
CREATININE	1.2	MG/DL
BUN/creatinine ratio	4.17	
CALCIUM	11.1	MG/DL
PHOSPHORUS	< 3.8	MG/DL
calcium/phosphorus ratio	2.92	
SODIUM	132	MEQ/L
POTASSIUM	< 4.2	MEQ/L
sodium/potassium ratio	31.4	
CHLORIDE	87	MEQ/L
CHOLESTEROL	>> 111	MG/DL
TOTAL PROTEIN (COLORIMETRY)	> 8.7	GM/DL
ALBUMIN (COLORIMETRY)	3.5	GM/DL
GLOBULIN (COLORIMETRY)	>> 5.2	GM/DL
albumin/globulin ratio	0.673	
ASPARTATE AMINOTRANSFERASE	< 12	IU/L
TOTAL BILIRUBIN	0.2	MG/DL
ALKALINE PHOSPHATASE	99	IU/L
LACTATE DEHYDROGENASE	< 317	IU/L
CREATINE PHOSPHOKINASE	123	IU/L
ALBUMIN GLOBULIN RATIO	0.7	GM/DL
BUN/CREATININE RATIO	4	MG/DL
GAMMA GLUTAMYLTRANSFERASE	10	IU/L
SODIUM/POTASSIUM RATIO	31	RATIO

Comments >>

Slight increase in globulins and fibrinogen compatible with ongoing sulcus inflammation. WKS.

=====  
Scientific Name: *LOXODONTA AFRICANA* (no subsp) Accession #: 1669  
Common Name: African elephant Female  
Name: LEA Birth: 17.Sep.1978 (Estimated)  
Age: 28Y Est.  
=====

Clinical Note: 31.Aug.2006  
Results of CBC/profile demonstrate hypercholesterolemia, but essentially normal in other aspects. Fibrinogen mildly elevated but WBC normal. Results of EEHV are negative via Smithsonian Institute. (WKS)

---

Clinical Note: 2.Sep.2006  
Continuing discharge from sulcus but virtually all pathogens sensitive to enrofloxacin. To continue flushing sulcus, packing with ointment and systemic abs. Dr. Kollias contacted last week and concurs with tx. States additional diagnostics just are not available for further evaluation (radiographs, etc. ). (WKS)

---

Clinical Note: 7.Sep.2006  
Michigan State University Toxicology results  
Encounter: 00227177  
Received: 9/7/06  
Reported: 9/28/06

General Toxicology  
GCMS Specimen: Lettuce  
GCMS: Positive  
GCMS Interpretation: Compounds in lettuce: Permethrin. Permethrin is a synthetic pyrethroid compound which is used as an insecticide.  
Wilson K. Rumbelha BVM, PhD, Clinical Toxicologist.

Comments: Expected result. WKS. (ERB)

---



=====  
Scientific Name: *LOXODONTA AFRICANA* (no subsp) Accession #: 1669  
Common Name: African elephant Female  
Name: LEA Birth: 17.Sep.1978 (Estimated)  
Age: 28Y Est.  
=====

Clinical Note:

12.Sep.2006

Texas Veterinary Medical Diagnostic Laboratory Sytem results  
Accession #C062550301  
Received: 9/12/06  
Final report Mailed: 9/18/06

Salmonellosis (genu) PCR  
Specimen: Feces  
Result: weak positive

WNL - to monitor and repeat if diarrhea/loose stools occur. Culture  
have been negative. WKS.Texas Veterinary Medical Diagnostic Laboratory  
System results  
Accession #: C062550306  
Received: 9/12/06  
Report Mailed: 9/15/06

Specimen: Produce sample  
Test requested: Salmonella PCR

Results: PCR cancelled ver vet - no valid protocol for Salmonella PCR  
from fruit sample.

WKS. (ERB)

---

Clinical Note:

15.Sep.2006

Disp enrofloxacin 400mg, 17 capsules po sid #250. Also disp  
chlorhexidine flush x 14 syringes (60cc) as a flush sid to rt sulcus.  
Purulent "chunks are being observed on a dily basis. Visual exam on  
exghibit 9/9 though did not observe any swelling to proximal sulcus on  
an outward appearance. (WKS)

---

Clinical Note:

27.Sep.2006

On visual exam, Lea's tusk appears to be open and draining, and  
healing appropriately. Continue with current chlorhexidine daily  
therapy. q (AP)

=====  
Scientific Name: *LOXODONTA AFRICANA (no subsp)* Accession #: 1669  
Common Name: African elephant Female  
Name: LEA Birth: 17.Sep.1978 (Estimated)  
Age: 28Y Est.  
=====

Clinical Note: 15.Oct.2006  
Keepers report that Lea is bloated, although acting normally. Abdomen looks to be slightly distended on visual exam. Dispensed 1 gallon mineral oil to be given orally on top of hay once. To monitor. (ANL)

---

Clinical Note: 16.Oct.2006  
Dispensed 119 400mg capsules of enrofloxacin, to give 17 capsules PO SID. Keeper reports no more evidence of bloating or abnormal behavior. (WKS)

---

Clinical Note: 19.Oct.2006  
Performed blood pressure readings via oscilimetric unit at base of tail. (GLT)

---

Clinical Note: 2.Nov.2006  
Performed 5 serial blood pressure measurements for scientific study via a tail cuff. Patient had a short attention span during training and has been observed by keeper staff to be swaying more than normal. DDx: behavior, discomfort associated with sulcus infection. Plan to dispense analgesic to rule in/out pain as cause of behavioral change. (GLT)

---

Clinical Note: 3.Nov.2006  
Disp phenylbutazone paste, 6gm orally po sid for 3 days to ascertain response to non-clinical/non-detectable discomfort. Also dispensed SMZ960 #500, 93 tabs po bid to start tomorrow, as small amounts of purulent debris continue to discharge from sulcus. Also had discussed with curator conditioning her to enter restraint to more closely evaluate sulcus-have felt a moderately size area of granulation tissue on medial aspect of sulcus. (WKS)

---



=====  
Scientific Name: *LOXODONTA AFRICANA* (no subsp) Accession #: 1669  
Common Name: African elephant Female  
Name: LEA Birth: 17.Sep.1978 (Estimated)  
Age: 28Y Est.  
=====

Clinical Note:

3.Dec.2006

Keepers called to report Lea as being somewhat bloated this afternoon. Upon visual exam, she was bloated, possibly more on the left side. She was reported as eating, drinking, and acting normally. Dispensed 2 gallons of mineral oil, to give up to two gallons orally once on hay. (ANL)

Clinical Note:

6.Dec.2006

Dispensed 1 bottle TMS 960mg to give 93 tablets orally twice daily, and 1 week's worth of 60cc catheter tip syringes to use once daily to flush Lea's sulcus. (ANL)

Clinical Note:

8.Dec.2006

Vaccination- Tetanus toxoid Fort Dodge 1630100A exp 10 jan 07. IM left triceps. Watch lethargy, lameness, anorexia. (AWB)

Clinical Note:

9.Dec.2006

Keeper stated animal is walking normally but wehn stretched, kept left front leg rigid. To monitor. (WKS)

Clinical Note:

16.Dec.2006

Overall purulent debris is decreasing in amount-some days there is none now. (WKS)

Clinical Note:

19.Dec.2006

Performed trunk wash #1 using 60ml of sterile saline infused into 1 or both nostrils, trunk is gently agitated and the contents were blown into a plastic bag. Contents were then transferred into a sterile tube. At least 20ml of fluid was obtained from each elephant. Samples will be frozen, batched and sent off for culture. (GLT)

Clinical Note:

20.Dec.2006

Dispensed TMS/SMZ 960 mg tab: Give 93 tab PO BID. #429 tablets. (GLT)



=====  
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Common Name: African elephant Female  
Name: LEA Birth: 17.Sep.1978 (Estimated)  
Age: 28Y Est.  
=====

Clinical Note: 5.Jan.2007

NVSL trunk wash results  
Accession #476573  
Received: 1/5/07  
Submitted: 3/14/07

Sample ID: 12/19/06  
Sample ID: 12/26/06  
Sample ID: 1/3/07

Mycobacteria isolation diagnosis: no isolation made  
Specimen submitted: trunk wash

Comments: WNL per WKS. (ERB)

Clinical Note: 10.Jan.2007  
Disp. tms/szm tablets 500mg, to give 93 tabs PO SID (ANL)

Clinical Note: 15.Jan.2007  
Disp. TMS/SMZ tablets 960mg, to give 93 tablets PO SID (ANL)

Clinical Note: 18.Jan.2007  
Performed PLRs on all six elephants All did well. Noted small (3mm) pink, nonulcerated raised lesion at dorsal limbus (12:00) OD in Tattoo. Not present at annual exam. To monitor. Noted brown, 3-4mm slightly raised mass at lateral canthus of Lois's eye OD and note pink, nonulcerated 2-3mm mass at lateral canthus OS in Penny. To monitor all. Will repeat PLRs from temporal aspect next week. (WKS)

Clinical Note: 20.Jan.2007  
Yesterday was 2nd day observed with no purulent discharge to sulcus. If today has no discharge, to discontinue antibiotics.. (WKS)

=====  
Scientific Name: *LOXODONTA AFRICANA (no subsp)* Accession #: 1669  
Common Name: African elephant Female  
Name: LEA Birth: 17.Sep.1978 (Estimated)  
Age: 28Y Est.  
=====

Clinical Note: 22.Jan.2007  
Communication with keeper: Patient had discharge from sulcus on Saturday and Sunday. Continue on antibiotics. TMS/SMZ 960mg tab: Give 93 tab PO SID #500. (GLT)

---

Clinical Note: 23.Jan.2007  
Performed 5 serial blood pressure readings using tail cuff and behavioral restraint. Patient did very well. (GLT)

---

Clinical Note: 23.Jan.2007  
Performed 2nd of 3 final BPs on each. 5 readings obtained with cuff at level of heart. (WKS)

---

Clinical Note: 25.Jan.2007  
Dispensed TMZ 960mg; give 93 tablets po sid; #500 tablets; dispensed chlorhexidine dilution for flushing sulcus (MS)

---

Clinical Note: 25.Jan.2007  
Performed PLR in a nasal to temporal angle with Finoff transilluminator-all did very well-records all times from resting pupillary size to maximal mydriasis, then to maximal mydriasis. Some apparent differences noted. Study is completed (WKS)

---

Clinical Note: 30.Jan.2007  
Dispensed TMS/SMZ 960mg tabs: Give 93 tab PO SID. #500. (GLT)

---

Clinical Note: 1.Feb.2007  
Performed 5 serial blood pressure measurements via a tail oscillometric cuff. Elephant did very well for measurements. (GLT)

---

Clinical Note: 4.Feb.2007  
Dispensed 7 60cc catheter tip syringes with dilute chlorhexidine to flush sulcus daily. (ANL)

---

=====  
Scientific Name: *LOXODONTA AFRICANA (no subsp)*

Accession #: 1669

Common Name: African elephant

Female

Name: LEA

Birth: 17.Sep.1978 (Estimated)

Age: 28Y Est.

=====

Clinical Note:

5.Feb.2007

Visual exam for bloating: Keeper called at 4pm that patient has left sided bloating. Patient is bloated moderately on the left and mildly on the right. Normal appetite. Normal attitude. Already fed pm diet and ate all of grain and produce. Normal stools throughout the day. Gave patient 2 gallons of mineral oil. Readily drank 1 1/2 gallons directly. Patient sucked remaining 1/2 gallon off of the hay. To recheck tomorrow. (GLT)

---

Clinical Note:

5.Feb.2007

Dispensed TMS/SME, #500, give 93 tablets po sid (MS)

---

Clinical Note:

6.Feb.2007

Visual recheck for bloating: Patient is not bloated this a.m. Is eating normal with normal stools. Treat as normal.

In p.m. keeper called that patient has rebloated: Patient is again moderately bloated on the left and mildly bloated on the right. Normal appetite and stools per keepers. Group was allowed to go outside today, the first long outing since the snow and ice storms. Dispensed 2 gallons of mineral oil. She readily drank them. Communicated with keeper supervisor at close who said she was acting normal but was still slightly bloated. (GLT)

---

Clinical Note:

7.Feb.2007

Communication with keeper supervisor: Patient is only slightly bloated this a.m. Normal appetite and stools. Advised to feed as normal. (GLT)

---

Clinical Note:

8.Feb.2007

Still bloated according to supervisor-advised if still bloated in am, do not give grain. To discontinue oral TMS, as purulent debris has been much less overall and only small pieces observed on a daily to every other day basis. Administered 3 gallons mineral oil and took readily. (WKS)

---

=====  
Scientific Name: *LOXODONTA AFRICANA* (no subsp)  
Common Name: African elephant  
Name: LEA

Accession #: 1669  
Female  
Birth: 17.Sep.1978 (Estimated)  
Age: 28Y Est.  
=====

Clinical Note:

9.Feb.2007

This am still somewhat bloated but stools normal and has been acting normal. To discontinue grain this am and monitor. In pm, still a little bloated-administered 3 gallons of mineral oil po for this evening. In light of oryx and three elephants bloating this week, likely related to hay quality and being indoors. (WKS)

---

Clinical Note:

10.Feb.2007

Disp .05cc ophthalmic solution in individual TB syringes w/o needle. To apply as a practice/conditioning in preparation for atropine study (mydriasis effect). #12  
This am-still a little bloated-advised no grain this am and if at close looks the same, no grain then either. In pm still the same, though acting normal. Disp 2 g mineral oil. Have noted sheen on stool. To monitor results. (WKS)

---

Clinical Note:

12.Feb.2007

Visual exam for bloating: Moderate bloating on left, minimal on right. Was fed normal diet overnight. Patient is BAR with normal stools and normal appetite. Advised no grain, but normal amount of hay this a.m. Dispensed 2 gallons of mineral oil to give orally this a.m. To recheck in p.m. (GLT)

---

Clinical Note:

16.Feb.2007

In pm still bloated but not uncomfortable and stools are normal-administered only gallon of mineral oil available at the time-took readily. (WKS)

---

=====  
Scientific Name: *LOXODONTA AFRICANA* (no subsp)

Accession #: 1669

Common Name: African elephant

Female

Name: LEA

Birth: 17.Sep.1978 (Estimated)

Age: 28Y Est.

=====

**Clinical Note:**

5.Mar.2007

Visual exam for swelling on neck: 6-12" cranial to thoracic inlet to the left of midline there is a 3x2x2" well encapsulated swelling with a hole on the ventral most aspect. The swelling is not painful to the touch and is not hot. Keeper staff noticed swelling this morning and pulled a black "scab" out of it that had a malodor. A culture was taken of the hole and submitted for aerobic and anaerobic culture and sensitivity. The hole depth is approx. 1.5-2" with an opening diameter of 0.5cm. No purulent material can be expressed, however a malodor can be detected from the hole. The area was cleaned with Nolvasan solution on gauze. The hole was flushed with 35mls of dilute Nolvasan and then 12ml of 0.9% NaCl. 1 tube of BNP ointment was placed into the hole. There is also a 2x2x2" swelling about 1 inch cranial and on the left of midline that has the same appearance and feel. There is a divit present on the ventral aspect of this swelling, but no hole is present when probed by a culture swab. Blood was obtained from the auricular vein and submitted for a CBC, Chemistry Panel and fibrinogen. Patient's attitude, appetite and stool are normal. DDX: abscess, foreign body, enlarged lymph nodes from draining sulcus, etc. Recheck tomorrow. (GLT)

---

Clinical Pathology Records - Specimen Report  
KANSAS CITY ZOOLOGICAL PARK

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=====
Scientific Name: LOXODONTA AFRICANA (no subsp)           Accession #: 1669
Common Name: African elephant                             Female
Name: LEA                                                Birth: 17.Sep.1978 (Estimated)
                                                         Age: 28Y Est.
=====

```

Collection Information >>

```

Health Status: Abnormal
Fasting Time: < 8 hours
Activity: Active
Weight: 4088 Kg on 16.Nov.2005
Manual restraint used.

```

```

Date of Collection: 5.Mar.2007
Time of Collection: 9:00.0
Collected by: SM
Sample Collection Site: EAR VEIN

```

Hematology >>

Analysis Information >>

```

Anticoagulant: EDTA
Storage: Refrigerated (<48 hours)
Sample Quality: No quality problems.

```

```

Laboratory: ANTECH
Date of Analysis: 6.Mar.2007
Time of Analysis: 7:43
Analysis by:
Automated analysis.

```

Tests and Results >>

WHITE BLOOD CELL COUNT	<	6.7		*10 <sup>3</sup> /UL
RED BLOOD CELL COUNT		3.1		*10 <sup>6</sup> /UL
HEMOGLOBIN		12.3		GM/DL
HEMATOCRIT		39		%
MCV		126		fL
MCH	<	39.7		uug
MCHC	<	31.5		gm/dL
SEGMENTED NEUTROPHILS		60	(4.020)	% (*10 <sup>3</sup> /UL)
LYMPHOCYTES	<	30	(2.010)	% (*10 <sup>3</sup> /UL)
MONOCYTES		10	(0.670)	% (*10 <sup>3</sup> /UL)
EOSINOPHILS		0		% (*10 <sup>3</sup> /UL)
BASOPHILS		0		% (*10 <sup>3</sup> /UL)
ESTIMATED PLATELET COUNT		ADEQU		
PLATELET COUNT		356		*10 <sup>3</sup> /UL
ABSOLUTE BASOPHILS		0		/UL
ABSOLUTE EOSINOPHILS		0		\UL
ABSOLUTE LYMPHOCYTES		2010		/UL
ABSOLUTE MONOCYTES		670		/UL
FIBRINOGEN		208		MG/DL
MEAN CORPUSCULAR HEMOGLOBIN		39.9		UUG
MEAN CORPUSCULAR HEMOGLOBIN CONCENTRATION		31		%
MEAN CORPUSCULAR VOLUME		126		U(3)

Comments >>

```

RBC morphology normal
absolute neutrophils: 4020
platelet estimate adequate
platelet clumps are present
Blood smear reviewed by a technologist

```

Clinical Pathology Records - Specimen Report  
KANSAS CITY ZOOLOGICAL PARK

```

=====
Scientific Name: LOXODONTA AFRICANA (no subsp)           Accession #: 1669
Common Name: African elephant                             Female
Name: LEA                                                Birth: 17.Sep.1978 (Estimated)
                                                         Age: 28Y Est.
=====

```

Collection Information >>

```

Health Status: Abnormal
Fasting Time: < 8 hours
Activity: Active
Weight: 4088 Kg on 16.Nov.2005
Manual restraint used.

```

```

Date of Collection: 5.Mar.2007
Time of Collection: 9:00.0
Collected by: SM
Sample Collection Site: EAR VEIN

```

Chemistry >>

Analysis Information >>

```

Chemistry Sample: Serum
Storage: Refrigerated (<48 hours)
Sample Quality: No quality problems.

```

```

Laboratory: ANTECH
Date of Analysis: 6.Mar.2007
Time of Analysis: 7:43
Analysis by:
Automated analysis.

```

Tests and Results >>

GLUCOSE	96	MG/DL
BLOOD UREA NITROGEN	< 6	MG/DL
CREATININE	1.1	MG/DL
BUN/creatinine ratio	5.45	
CALCIUM	11.1	MG/DL
PHOSPHORUS	4.8	MG/DL
calcium/phosphorus ratio	2.31	
SODIUM	131	MEQ/L
POTASSIUM	4.5	MEQ/L
sodium/potassium ratio	29.1	
CHLORIDE	90	MEQ/L
CHOLESTEROL	81	MG/DL
TOTAL PROTEIN (COLORIMETRY)	7.9	GM/DL
ALBUMIN (COLORIMETRY)	3.3	GM/DL
GLOBULIN (COLORIMETRY)	4.6	GM/DL
albumin/globulin ratio	0.717	
ASPARTATE AMINOTRANSFERASE	14	IU/L
TOTAL BILIRUBIN	0.2	MG/DL
ALKALINE PHOSPHATASE	67	IU/L
LACTATE DEHYDROGENASE	< 402	IU/L
CREATINE PHOSPHOKINASE	169	IU/L
ALBUMIN GLOBULIN RATIO	0.7	GM/DL
BUN/CREATININE RATIO	5	MG/DL
GAMMA GLUTAMYLTRANSFERASE	10	IU/L
SODIUM/POTASSIUM RATIO	29	RATIO

Comments >>

Essentially normal. WKS.

=====  
Scientific Name: *LOXODONTA AFRICANA* (no subsp)  
Common Name: African elephant  
Name: LEA

Accession #: 1669  
Female  
Birth: 17.Sep.1978 (Estimated)  
Age: 28Y Est.  
=====

**Clinical Note:**

6.Mar.2007

Recheck visual of swellings on ventral neck: The two swellings are similar in appearance to yesterday. No additional drainage or scabbing is seen out of the left hole. BNP ointment is still present in the hole. Awaiting bloodwork results and culture results. Keeper supervisor said that he has observed those swellings for the past several years, but there has never been any drainage before and no change in size/shape etc. Has been previously examined. Suspect long-term walled off abscesses that have recently opened. Mass is very superficial and unlikely lymph node. Continue to monitor. (GLT)

---

```

=====
Scientific Name: LOXODONTA AFRICANA (no subsp)           Accession #: 1669
Common Name: African elephant                             Female
Name: LEA                                                Birth: 17.Sep.1978 (Estimated)
                                                         Age: 28Y Est.
=====

```

Clinical Note: 7.Mar.2007

<<< Microbiology >>>

Sample Accession #: 0704699

Collection Date: 3/7/07  
Submission Date: SAME  
Reporting Date: 3/16/07

Laboratory:  
 LABCORP  
 NVSL  
 UMC

ANTECH

Sample Source: left side neck swab

Submission type:

- aerobic bacteriology
- anaerobic bacteriology
- comprehensive stool culture
- mycology
- enteric pathogen screen
- mycobacterial

Organism: Growth: heavy moderate light

Aerobic

- |  |     |     |     |
|--|-----|-----|-----|
| 1. Bacillus spp.                       | [X] | [ ] | [ ] |
| 2. Streptococcus spp., alpha hemolytic | [X] | [ ] | [ ] |
| 3. Pseudomonas alcaligenes             | [X] | [ ] | [ ] |
| 4. Comamonas testosteroni              | [X] | [ ] | [ ] |
| 5. E. coli                             | [X] | [ ] | [ ] |
| 6.                                     | [ ] | [ ] | [ ] |

Comments: Aerobic: the growth of the isolates was heavy on direct culture. Anaerobic: No significant growth

\*\*\*\*\*S = SUSCEPTIBLE; I = INTERMEDIATE; R = RESISTANT

Sensitivity: 1 | 2 | 3 | 4 | 5 | 6 |

Scientific Name: *LOXODONTA AFRICANA (no subsp)*  
 Common Name: African elephant  
 Name: LEA

Accession #: 1669  
 Female  
 Birth: 17.Sep.1978 (Estimated)  
 Age: 28Y Est.

Clinical Note:

7.Mar.2007

Amikacin:	s	s	s	s	s
Amoxi/Clav:	s	s	r	r	r
Ampicillin:	i	s	r	r	r
Cefazolin:	s	s	r	i	r
Cefoxitin:	s	s	r	r	r
Cefpodoxime:	s	s	r	r	r
Ceftiofur:	s	s	r	r	r
Cephalothin:	s	s	r	r	r
Chloramphenicol:	s	s	s	s	s
Clindamycin:	r	r	i	r	r
Enrofloxacin:	s	s	s	s	s
Erythromycin:	r	r	r	i	r
Gentamicin:	i	s	s	s	s
Imipenem:	s	s	r	r	r
Marbofloxacin:	s	s	s	s	s
Orbifloxacin:	s	s	s	s	s
Oxacil + 2% NaCl:	r	s	s	r	s
Penicillin:	r	s	r	r	r
Rifampin:	r	s	s	s	s
Tetracycline:	r	r	s	s	s
Ticar/Clav Acid:	s	s	s	i	i
Ticarcillin:	s	s	r	r	r
Trimeth/Sulfa:	s	s	s	s	s

Comments: Bacillus and alpha hemolytic strep likely source of inflammation. E. coli, Pseudomonas and Comamonas likely contaminants. WKS.

(ERB)

=====  
Scientific Name: *LOXODONTA AFRICANA* (no subsp)  
Common Name: African elephant  
Name: LEA

Accession #: 1669  
Female  
Birth: 17.Sep.1978 (Estimated)  
Age: 28Y Est.  
=====

**Clinical Note:**

7.Mar.2007

Visual Examination...today keepers noticed Lea limping on her right fore limb. Visual exam-stilted gait-minimally flexing manus of rt limb. Appeared normal and was let outside in am, then when brought back into building 1 1/2 hours later, noted limping. On examination there was heat over her right carpus. Top differential acute trauma. 3000 mg of oral Banamine was given in oranges in pm. To reevaluate tomorrow. (RS)

---

**Clinical Note:**

8.Mar.2007

Physical Examination...This am limb appeared more stiff but eating and attitude was good. This pm, more flexing of manus noted-palpation revealed no erythema, but limb has significant amount of dried mud present. No swelling, wounds, hemorrhage or purulent debris noted. Lea had a slight abnormal gait today. Still favoring her right fore leg. 8 grams of Phenylbutazone paste was prescribed to be given orally in her food-did not take as of very late pm, and also wasn't eating hay. Stools in yard through the day were not noted as abnormal and attitude and behavior were otherwise normal through the day. To obtain blood for CBC/chemistry tomorrow am. (RS)

---

**Clinical Note:**

9.Mar.2007

This am-ate about 1/2 hay, but would not take medications-Supervisor doesn't believe she will take paste in produce. Will try ibuprofen, 800mg, 39 tabs po bid x 3-5 days. Stools normal, walking about the same as yesterday-flexing the manus a little better but still slow on gait with rt front limb. Sets foot down carefully when walking-potentially sole bruise that hasn't been able to be visualized yet. Blood for CBC/profile obtained. PCV 38%, TP 8.2, no toxic changes or hypersegmented neutrophils observed. Serum clear. There has been no discharge noted to sulcus for past couple days. (WKS)

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Clinical Pathology Records - Specimen Report  
KANSAS CITY ZOOLOGICAL PARK

```

=====
Scientific Name: LOXODONTA AFRICANA (no subsp)           Accession #: 1669
Common Name: African elephant                             Female
Name: LEA                                                Birth: 17.Sep.1978 (Estimated)
                                                         Age: 28Y Est.
=====

```

Collection Information >>

```

Health Status: Abnormal
Fasting Time: < 8 hours
Activity: Active
Weight: 4088 Kg on 16.Nov.2005
Manual restraint used.

```

```

Date of Collection: 9.Mar.2007
Time of Collection: 9:00.0
Collected by: SM
Sample Collection Site: EAR VEIN

```

Hematology >>

Analysis Information >>

```

Anticoagulant: EDTA
Storage: Refrigerated (<48 hours)
Sample Quality: No quality problems.

```

```

Laboratory: ANTECH
Date of Analysis: 10.Mar.2007
Time of Analysis: 2:29
Analysis by:
Automated analysis.

```

Tests and Results >>

WHITE BLOOD CELL COUNT	8.4		*10 <sup>3</sup> /UL
RED BLOOD CELL COUNT	2.9		*10 <sup>6</sup> /UL
HEMOGLOBIN	13.0		GM/DL
HEMATOCRIT	36		%
MCV	124		fL
MCH	44.8		uug
MCHC	36.1		gm/dL
SEGMENTED NEUTROPHILS	44	(3.696)	% (*10 <sup>3</sup> /UL)
LYMPHOCYTES	46	(3.864)	% (*10 <sup>3</sup> /UL)
MONOCYTES	9	(0.756)	% (*10 <sup>3</sup> /UL)
EOSINOPHILS	1	(0.084)	% (*10 <sup>3</sup> /UL)
BASOPHILS	0		% (*10 <sup>3</sup> /UL)
ESTIMATED PLATELET COUNT	ADEQU		
PLATELET COUNT	330		*10 <sup>3</sup> /UL
ABSOLUTE BASOPHILS	0		/UL
ABSOLUTE EOSINOPHILS	84		\UL
ABSOLUTE LYMPHOCYTES	3864		/UL
ABSOLUTE MONOCYTES	756		/UL
FIBRINOGEN	273		MG/DL
MEAN CORPUSCULAR HEMOGLOBIN	45.3		UUG
MEAN CORPUSCULAR HEMOGLOBIN CONCENTRATION	36		%
MEAN CORPUSCULAR VOLUME	124		U(3)

Comments >>

```

Degeneration of WBCs - differential questionable
RBC morphology normal
absolute neutrophils: 3696
platelet estimate adequate
Two smears have been reviewed and fibrin clumps are seen.
Micro-clotting in the sample may spuriously lower the platelet count

```



Clinical Pathology Records - Specimen Report  
KANSAS CITY ZOOLOGICAL PARK

```

=====
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Collection Information >>

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```

```

Date of Collection: 9.Mar.2007
Time of Collection: 9:00.0
Collected by: SM
Sample Collection Site: EAR VEIN

```

Chemistry >>

Analysis Information >>

```

Chemistry Sample: Serum
Storage: Refrigerated (<48 hours)
Sample Quality: No quality problems.

```

```

Laboratory: ANTECH
Date of Analysis: 10.Mar.2007
Time of Analysis: 2:29
Analysis by:
Automated analysis.

```

Tests and Results >>

```

GLUCOSE > 113 MG/DL
BLOOD UREA NITROGEN 8 MG/DL
CREATININE < 0.9 MG/DL
BUN/creatinine ratio 8.89
CALCIUM 10.3 MG/DL
PHOSPHORUS 4.9 MG/DL
calcium/phosphorus ratio 2.10
SODIUM 132 MEQ/L
POTASSIUM < 4.2 MEQ/L
sodium/potassium ratio 31.4
CHLORIDE 87 MEQ/L
CHOLESTEROL > 89 MG/DL
TOTAL PROTEIN (COLORIMETRY) > 8.5 GM/DL
ALBUMIN (COLORIMETRY) < 2.9 GM/DL
GLOBULIN (COLORIMETRY) >> 5.6 GM/DL
albumin/globulin ratio 0.518
ASPARTATE AMINOTRANSFERASE 18 IU/L
TOTAL BILIRUBIN 0.2 MG/DL
ALKALINE PHOSPHATASE 67 IU/L
LACTATE DEHYDROGENASE < 418 IU/L
CREATINE PHOSPHOKINASE 253 IU/L
ALBUMIN GLOBULIN RATIO 0.5 GM/DL
BUN/CREATININE RATIO 9 MG/DL
GAMMA GLUTAMYLTRANSFERASE < 6 IU/L
SODIUM/POTASSIUM RATIO 31 RATIO

```

Comments >>

Mild elevation of cholesterol and globulins but rest essentially normal. WKS.



Clinical Pathology Records Report - ISIS/In-House Reference Values  
KANSAS CITY ZOOLOGICAL PARK

Scientific name: *LOXODONTA AFRICANA*  
Common Name: African elephant

		ISIS Values				
		Mean	S.D.	Min.	Max.	(N)
WBC	*10 <sup>3</sup> /UL	10.50 ± 2.648		4.500	22.10	(1544)
RBC	*10 <sup>6</sup> /UL	3.15 ± 0.40		2.05	4.80	(1480)
HGB	GM/DL	13.7 ± 1.6		7.0	26.1	(1522)
HCT	%	39.5 ± 4.6		27.0	56.0	(1984)
MCH	MG/DL	43.6 ± 3.0		34.8	66.8	(1454)
MCHC	uug	34.7 ± 2.0		18.4	57.9	(1501)
MCV	fL	125.8 ± 8.1		91.1	190.0	(1466)
SEGS	*10 <sup>3</sup> /UL	3.146 ± 1.695		0.000	11.80	(1224)
BANDS	*10 <sup>3</sup> /UL	0.843 ± 0.799		0.000	6.530	(605)
LYMPHOCYTES	*10 <sup>3</sup> /UL	4.913 ± 2.532		0.022	17.40	(1236)
MONOCYTES	*10 <sup>3</sup> /UL	1.513 ± 1.651		0.000	9.480	(1175)
EOSINOPHILS	*10 <sup>3</sup> /UL	0.225 ± 0.273		0.000	2.898	(885)
BASOPHILS	*10 <sup>3</sup> /UL	0.049 ± 0.081		0.000	0.525	(464)
NRBC	/100 WBC	0 ± 1		0	3	(92)
PLATE. CNT.	*10 <sup>3</sup> /UL	417 ± 245		74	1380	(215)
RETICS	%	0.0 ± 0.0		0.0	0.0	(7)
GLUCOSE	MG/DL	84 ± 15		38	174	(1437)
BUN	MG/DL	10 ± 3		0	22	(1458)
CREAT.	MG/DL	1.5 ± 0.5		0.0	11.0	(1405)
URIC ACID	MG/DL	0.2 ± 0.4		0.0	5.1	(466)
CA	MG/DL	10.9 ± 0.6		8.1	15.3	(1434)
PHOS	MG/DL	4.9 ± 0.8		2.8	8.2	(1291)
NA	MEQ/L	129 ± 4		107	182	(1353)
K	MEQ/L	4.8 ± 0.5		3.3	7.6	(1368)
CL	MEQ/L	88 ± 4		67	129	(1323)
IRON	MCG/DL	79 ± 42		8	174	(54)
MG	MG/DL	1.97 ± 0.75		0.65	4.20	(98)
HCO3	MMOL/L	25.1 ± 3.6		13.0	31.0	(44)
CHOL	MG/DL	68 ± 17		0	234	(1290)
TRIG	MG/DL	64 ± 31		0	179	(1124)
T.PROT. (C)	GM/DL	7.7 ± 0.6		5.8	10.5	(1261)
T.PROT. (R)	GM/DL	8.0 ± 0.4		7.4	8.6	(8)
ALBUMIN (C)	GM/DL	3.6 ± 0.4		2.4	5.2	(1145)
GLOBULIN (C)	GM/DL	4.1 ± 0.5		2.6	6.4	(1135)
AST (SGOT)	IU/L	24 ± 10		6	93	(1398)
ALT (SGPT)	IU/L	7 ± 6		0	40	(547)
T. BILI.	MG/DL	0.2 ± 0.1		0.0	1.0	(1187)
D. BILI	MG/DL	0.1 ± 0.1		0.0	0.3	(154)
I. BILI.	MG/DL	0.1 ± 0.1		0.0	0.9	(152)
AMYLASE	U/L	3075 ± 1552		0	7918	(241)
ALK.PHOS.	IU/L	128 ± 61		32	441	(1404)
LDH	IU/L	988 ± 568		157	4306	(1099)

Clinical Pathology Records Report - ISIS/In-House Reference Values  
KANSAS CITY ZOOLOGICAL PARK

Scientific name: *LOXODONTA AFRICANA*  
Common Name: African elephant

		ISIS Values		Min.	Max.	(N)
		Mean	S.D.			
CPK	IU/L	256 ±	196	18	1884	(247)
OSMOLARITY	MOSMOL/L	259 ±	4	246	272	(689)
ALPHA GLOB.	MG/DL	0.7 ±	0.0	0.7	0.7	(1)
ALPHA-1 GLOB	MG/DL	0.7 ±	0.2	0.2	0.8	(8)
ALPHA-2 GLOB	MG/DL	1.0 ±	0.3	0.8	1.6	(8)
BETA GLOB.	MG/DL	1.2 ±	0.8	0.6	1.7	(2)
Body Temperature:		39.0 ±	0.0	39.0	39.0	(1)
CO2	MMOL/L	27.0 ±	3.1	12.0	61.4	(840)
ESR	MM/HR	27 ±	0	27	27	(1)
FIBRINOGEN	MG/DL	238 ±	139	0	600	(70)
GGT	IU/L	12 ±	5	0	37	(389)
LIPASE	U/L	7 ±	7	0	45	(66)
PROGESTERONE	NG/DL	144.8 ±	216.4	0.060	1005	(266)
TESTOSTERONE	NG/ML	1.010 ±	1.117	0.220	1.800	(2)
TOTAL T4	MCG/DL	8.2 ±	1.3	6.9	9.5	(3)
T3 (RIA)	NG/ML	209.0 ±	0.0	209.0	209.0	(1)
ALBUMIN (E)	GM/DL	4.4 ±	0.3	4.1	4.9	(7)
GAMMA GLOB	GM/DL	1.6 ±	0.4	0.7	1.9	(7)