

Medical History Report - Summary for Individual Specimen
MILWAUKEE COUNTY ZOO

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LOXODONTA AFRICANA (no subsp)	Sex: Female	Acc. #: 198
AFRICAN ELEPHANT	Age: 45Y Est.	Birth: 30.Aug.1960
Name: BABE		

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.....2000....

5.Jan Parasitology examination: (ROUTINE EXAMINATION) Fecal sample.
CILIATES/NO PARASITES SEEN

26.Jan Clinical note recorded. (VLC)

28.Jan Blood sample: (EDTA) (9:15.0) Hematology results.
WBC:6.60 *10³/UL; HCT: 35.0%;
Clinical note recorded. (VLC)

9.Feb Blood sample: (EDTA) (8:20.0) Hematology/Chemistry/Serology results.
WBC:8.20 *10³/UL; HCT: 36.0%; BUN:17 MG/DL;

17.Mar Blood sample: (EDTA) (11:00.0) Hematology/Chemistry/Serology results.
WBC:9.50 *10³/UL; HCT: 36.0%; BUN:14 MG/DL;
Blood sample: (EDTA) (11:00.1) Hematology results.
HCT: 37.0%;
Clinical note recorded. (VLC)

18.Apr Blood sample: (EDTA) (8:40.0) Hematology/Chemistry/Serology results.
WBC:10.90 *10³/UL; HCT: 37.0%; BUN:16 MG/DL;
Hemolysis
Clinical note recorded. (RSW)

27.Apr Clinical note recorded. (VLC)

28.Apr Clinical note recorded. (VLC)

29.Apr Clinical note recorded. (VLC)

3.May Clinical note recorded. (F01)

15.May Blood sample: (EDTA) (9:05.0) Hematology/Chemistry/Serology results.
WBC:14.60 *10³/UL; HCT: 37.0%; BUN:15 MG/DL;
Clinical note recorded. (RSW)

19.Jun Blood sample: (EDTA) (8:15.0) Hematology/Chemistry/Serology results.
WBC:10.30 *10³/UL; HCT: 35.0%; BUN:16 MG/DL;
Clinical note recorded. (RSW)

27.Jul Blood sample: (8:20.0) Hematology/Chemistry/Serology results.
WBC:7.40 *10³/UL; HCT: 35.0%; BUN:18 MG/DL;
Clinical note recorded. (VLC)

7.Aug Clinical note recorded. (RSW)

12.Sep Clinical note recorded. (VLC)

13.Sep Clinical note recorded. (F01)
Clinical note recorded. (VLC)

14.Sep Blood sample: (EDTA) (9:30.0) Hematology/Chemistry/Serology results.
WBC:11.50 *10³/UL; HCT: 35.0%; BUN:16 MG/DL;

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.....2000....

14.Sep Blood sample: (EDTA) (9:30.1)
Clinical note recorded. (VLC)

15.Sep Clinical note recorded. (VLC)

27.Dec Blood sample: (EDTA) (8:30.0) Hematology/Chemistry/Serology results.
WBC:14.00 *10³/UL; HCT: 34.0%; BUN:19 MG/DL;
Hemolysis
Clinical note recorded. (VLC)

Weight: 4537 Kg (10000 Lb)

.....2001....

3.Jan Parasitology examination: (ROUTINE EXAMINATION) Fecal sample.
NO PARASITES SEEN

6.Jan Clinical note recorded. (F05)

16.Jan Removed from collection.
PROBLEM: death
Blood sample: Hematology/Chemistry/Serology results.
WBC:9.60 *10³/UL; HCT: 61.0%; BUN:12 MG/DL;
Rx: FLUNIXIN MEGLUMINE 2500mg IM SID
Clinical note recorded. (F05)
Clinical note recorded. (MRB)
Clinical note recorded. (RSW)
Necropsy report: 2001-015

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AFRICAN ELEPHANT	Age: 45Y Est.	Birth: 30.Aug.1960
Name: BABE		

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Parasitology Examination:

Submission Data >>

Type: Fecal sample
Purpose: ROUTINE EXAMINATION

Sample id.: 2000-0006
Date collected: **5.Jan.2000**
Time collected: 10:45
Collected by: TLD

Collected from:

From an individual specimen.

Examination Data >>

Storage: room temperature
Consistency: formed
Gross appearance: Typical

Date examined: 5.Jan.2000
at: 13:45
by: MGM

Sample description:

brown hay

Tests & Results >>

DIRECT MICROSCOPIC EXAMINATION CILIATES 1+
FLOATATION - NA NITRATE NO PARASITES SEEN

Clinical Note:

26.Jan.2000

Problem: polyp - vagina (Confirmed)
Keepers report mild bout of colic this morning with abnormal postures and decreased appetite. Mid-morning this elephant passed a large amount of gas, and keepers noted an immediate improvement in behavior and appetite. Animal appeared normal when I saw her mid-day. (VLC)

Clinical Note:

28.Jan.2000

Problem: polyp - vagina (Confirmed)
Blood sample collected - EDTA and serum. Collected by keeper staff from the left ear vein using operant conditioning. (VLC)

Clinical Pathology Records - Specimen Report
MILWAUKEE COUNTY ZOO

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LOXODONTA AFRICANA (no subsp)      Sex: Female      Acc. #: 198
AFRICAN ELEPHANT                  Age: 45Y Est.   Birth: 30.Aug.1960
Name: BABE
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Collection Information >>          Date of Collection: 28.Jan.2000
Health Status: Normal             Time of Collection: 9:15.0
Fasting Time: < 8 hours          Collected by: TLD
Activity: Calm                    Sample Collection Site: EAR VEIN
Weight: 4550 Kg on 11.Apr.1996
Manual restraint used.

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Hematology >>
Analysis Information >>          Laboratory: ACL
Anticoagulant: EDTA              Date of Analysis: 28.Jan.2000
Storage: Fresh                   Time of Analysis:
Sample Quality: deteriorated     Analysis by:
                                   Automated analysis.

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Tests and Results >>
      WHITE BLOOD CELL COUNT <    6.6      *10^3/UL
      RED BLOOD CELL COUNT      2.9      *10^6/UL
      HEMOGLOBIN                12.4      GM/DL
      HEMATOCRIT                 35        %
      MCV                        121       fL
      MCH                        42.8      uug
      MCHC                       35.4     gm/dL
      PLATELET COUNT <         14.9     *10^3/UL

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Comments >>
  Unable to perform differential due to deteriorated specimen.

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AFRICAN ELEPHANT                   Age: 45Y Est.       Birth: 30.Aug.1960
Name: BABE
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Collection Information >>

Health Status: Normal
Fasting Time: < 8 hours
Activity: Calm
Weight: 4550 Kg on 11.Apr.1996
Manual restraint used.

Date of Collection: 9.Feb.2000
Time of Collection: 8:20.0
Collected by: DSN
Sample Collection Site: EAR VEIN

Hematology >>

Analysis Information >>

Anticoagulant: EDTA
Storage: Fresh
Sample Quality: No quality problems.

Laboratory: ACL
Date of Analysis: 9.Feb.2000
Time of Analysis:
Analysis by:
Automated analysis.

Tests and Results >>

WHITE BLOOD CELL COUNT	<	8.2		*10 ³ /UL
RED BLOOD CELL COUNT	>	2.97		*10 ⁶ /UL
HEMOGLOBIN	>	12.9		GM/DL
HEMATOCRIT		36		%
MCV		121		fL
MCH		43.4		uug
MCHC		35.8		gm/dL
SEGMENTED NEUTROPHILS	<	25	(2.050)	% (*10 ³ /UL)
NEUTROPHILIC BANDS	>	7	(0.574)	% (*10 ³ /UL)
LYMPHOCYTES		53	(4.346)	% (*10 ³ /UL)
MONOCYTES		12	(0.984)	% (*10 ³ /UL)
EOSINOPHILS		1	(0.082)	% (*10 ³ /UL)
REACTIVE LYMPHOCYTES		2	(0.164)	% (*10 ³ /UL)

Morphology Results >>

MACROCYTOSIS MOD.

Comments >>

Wbc and platelet morphology normal.

Clinical Pathology Records - Specimen Report
MILWAUKEE COUNTY ZOO

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LOXODONTA AFRICANA (no subsp)      Sex: Female      Acc. #: 198
AFRICAN ELEPHANT                  Age: 45Y Est.    Birth: 30.Aug.1960
Name: BABE
=====

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Collection Information >>

Health Status: Normal
Fasting Time: < 8 hours
Activity: Calm
Weight: 4550 Kg on 11.Apr.1996
Manual restraint used.

Date of Collection: 9.Feb.2000
Time of Collection: 8:20.0
Collected by: DSN
Sample Collection Site: EAR VEIN

Chemistry >>

Analysis Information >>

Chemistry Sample: Serum
Storage: Fresh
Sample Quality: No quality problems.

Laboratory: ACL
Date of Analysis: 9.Feb.2000
Time of Analysis:
Analysis by:
Automated analysis.

Tests and Results >>

GLUCOSE	81	MG/DL
BLOOD UREA NITROGEN	17	MG/DL
CREATININE	> 1.5	MG/DL
BUN/creatinine ratio	11.3	
CALCIUM	10.6	MG/DL
PHOSPHORUS	> 5.6	MG/DL
calcium/phosphorus ratio	1.89	
SODIUM	< 130	MEQ/L
POTASSIUM	< 4.4	MEQ/L
sodium/potassium ratio	29.5	
CHLORIDE	<< 68	MEQ/L
CHOLESTEROL	< 66	MG/DL
TOTAL PROTEIN (COLORIMETRY)	7.9	GM/DL
ALBUMIN (COLORIMETRY)	3.4	GM/DL
ASPARTATE AMINOTRANSFERASE	< 10	IU/L
ALANINE AMINOTRANSFERASE	18	IU/L
TOTAL BILIRUBIN	< 0.2	MG/DL
ALKALINE PHOSPHATASE	57	IU/L
CREATINE PHOSPHOKINASE	222	IU/L
CARBON DIOXIDE	> 27	MMOL/L
GAMMA GLUTAMYLTRANSFERASE	11	IU/L
GLOBULIN (CALCULATED)	4.5	

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AFRICAN ELEPHANT	Age: 45Y Est.	Birth: 30.Aug.1960
Name: BABE		

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Clinical Note:

17.Mar.2000

Problem: polyp - vagina (Confirmed)
Blood sample collected by keeper using operant conditioning- EDTA and
serum. (VLC)

Clinical Pathology Records - Specimen Report
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AFRICAN ELEPHANT                   Age: 45Y Est.   Birth: 30.Aug.1960
Name: BABE
=====

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Collection Information >>

Health Status: Normal
Fasting Time: < 8 hours
Activity: Calm
Weight: 4550 Kg on 11.Apr.1996
Manual restraint used.

Date of Collection: 17.Mar.2000
Time of Collection: 11:00.0
Collected by: TLD

Hematology >>

Analysis Information >>

Anticoagulant: EDTA
Storage: Fresh
Sample Quality: No quality problems.

Laboratory: ACL
Date of Analysis: 17.Mar.2000
Time of Analysis:
Analysis by:
Automated analysis.

Tests and Results >>

WHITE BLOOD CELL COUNT	9.5		*10 ³ /UL
RED BLOOD CELL COUNT	> 2.96		*10 ⁶ /UL
HEMOGLOBIN	12.8		GM/DL
HEMATOCRIT	36		%
MCV	122		fL
MCH	43.2		uug
MCHC	35.6		gm/dL
SEGMENTED NEUTROPHILS	< 20	(1.900)	% (*10 ³ /UL)
LYMPHOCYTES	51	(4.845)	% (*10 ³ /UL)
MONOCYTES	25	(2.375)	% (*10 ³ /UL)
REACTIVE LYMPHOCYTES	> 4	(0.380)	% (*10 ³ /UL)

Morphology Results >>

MACROCYTOSIS MOD.

Comments >>

Wbc and platelet morphology normal. Platelet estimate is 900,000.

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MILWAUKEE COUNTY ZOO

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AFRICAN ELEPHANT                   Age: 45Y Est.       Birth: 30.Aug.1960
Name: BABE
=====

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Collection Information >>

Health Status: Normal
Fasting Time: < 8 hours
Activity: Calm
Weight: 4550 Kg on 11.Apr.1996
Manual restraint used.

Date of Collection: 17.Mar.2000
Time of Collection: 11:00.0
Collected by: TLD

Chemistry >>

Analysis Information >>

Chemistry Sample: Serum
Storage: Fresh
Sample Quality: No quality problems.

Laboratory: ACL
Date of Analysis: 17.Mar.2000
Time of Analysis:
Analysis by:
Automated analysis.

Tests and Results >>

GLUCOSE	>	92	MG/DL
BLOOD UREA NITROGEN		14	MG/DL
CREATININE	>	1.5	MG/DL
BUN/creatinine ratio		9.33	
CALCIUM		11.0	MG/DL
PHOSPHORUS		4.0	MG/DL
calcium/phosphorus ratio		2.75	
SODIUM		134	MEQ/L
POTASSIUM		4.7	MEQ/L
sodium/potassium ratio		28.5	
CHLORIDE		91	MEQ/L
CHOLESTEROL		77	MG/DL
TOTAL PROTEIN (COLORIMETRY)		8.1	GM/DL
TOTAL PROTEIN (REFRACTOMETER)		8.2	GM/DL
ALBUMIN (COLORIMETRY)		3.7	GM/DL
ASPARTATE AMINOTRANSFERASE		12	IU/L
ALANINE AMINOTRANSFERASE		16	IU/L
TOTAL BILIRUBIN	<	0.2	MG/DL
ALKALINE PHOSPHATASE		64	IU/L
CARBON DIOXIDE	>	27	MMOL/L
GAMMA GLUTAMYLTRANSFERASE		11	IU/L
GLOBULIN (CALCULATED)		4.4	

Clinical Pathology Records - Specimen Report
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AFRICAN ELEPHANT	Age: 45Y Est.	Birth: 30.Aug.1960
Name: BABE		

=====

Collection Information >>

Health Status: Normal
Fasting Time: < 8 hours
Activity: Calm
Weight: 4550 Kg on 11.Apr.1996
Manual restraint used.

Date of Collection: **17.Mar.2000**
Time of Collection: 11:00.1
Collected by: TLD

Hematology >>

Analysis Information >>

Anticoagulant: EDTA
Storage: Fresh
Sample Quality: No quality problems.

Laboratory: **MILWAUKEE ZOO**
Date of Analysis: **17.Mar.2000**
Time of Analysis:
Analysis by:
Manual analysis.

Tests and Results >>

HEMOGLOBIN >>	14.0	GM/DL
HEMATOCRIT >	37	%
MCHC >>	37.8	gm/dL

=====

LOXODONTA AFRICANA (no subsp)

Sex: Female

Acc. #: 198

AFRICAN ELEPHANT

Age: 45Y Est.

Birth: 30.Aug.1960

Name: BABE

=====

Clinical Note:

18.Apr.2000

Problem: polyp - vagina (Confirmed)

Blood sample collected - EDTA and serum. Collected by keeper staff
from the ear vein using operant conditioning. (RSW)

Clinical Pathology Records - Specimen Report
MILWAUKEE COUNTY ZOO

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=====
LOXODONTA AFRICANA (no subsp)      Sex: Female      Acc. #: 198
AFRICAN ELEPHANT                   Age: 45Y Est.   Birth: 30.Aug.1960
Name: BABE
=====

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Collection Information >>
Health Status: Normal
Fasting Time: < 8 hours
Activity: Calm
Weight: 4550 Kg on 11.Apr.1996
Manual restraint used.

Date of Collection: 18.Apr.2000
Time of Collection: 8:40.0
Collected by: DSN
Sample Collection Site: EAR VEIN

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Hematology >>
Analysis Information >>
Anticoagulant: EDTA
Storage: Fresh
Sample Quality: hemolysis

Laboratory: ACL
Date of Analysis: 18.Apr.2000
Time of Analysis:
Analysis by:
Automated analysis.

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Tests and Results >>
WHITE BLOOD CELL COUNT      10.9      *10^3/UL
RED BLOOD CELL COUNT >    3.08      *10^6/UL
HEMOGLOBIN >               13.3      GM/DL
HEMATOCRIT >               37          %
MCV                          120       fL
MCH                           43.2     uug
MCHC                          35.9     gm/dL
SEGMENTED NEUTROPHILS      31      (3.379) % (*10^3/UL)
LYMPHOCYTES                 44      (4.796) % (*10^3/UL)
MONOCYTES                   22      (2.398) % (*10^3/UL)
EOSINOPHILS                 2       (0.218) % (*10^3/UL)
BASOPHILS >>              1       (0.109) % (*10^3/UL)
ESTIMATED PLATELET COUNT    600K

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Morphology Results >>
MACROCYTOSIS FEW

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Comments >>
Wbc and platelet morphology normal.

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Clinical Pathology Records - Specimen Report
MILWAUKEE COUNTY ZOO

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LOXODONTA AFRICANA (no subsp)      Sex: Female          Acc. #: 198
AFRICAN ELEPHANT                   Age: 45Y Est.       Birth: 30.Aug.1960
Name: BABE
=====

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Collection Information >>

Health Status: Normal
Fasting Time: < 8 hours
Activity: Calm
Weight: 4550 Kg on 11.Apr.1996
Manual restraint used.

Date of Collection: **18.Apr.2000**
Time of Collection: 8:40.0
Collected by: DSN
Sample Collection Site: EAR VEIN

Chemistry >>

Analysis Information >>

Chemistry Sample: Serum
Storage: Frozen at -20.0C (-4.0F)
Sample Quality: hemolysis

Laboratory: **ACL**
Date of Analysis: **18.Apr.2000**
Time of Analysis:
Analysis by:
Automated analysis.

Tests and Results >>

GLUCOSE	80	MG/DL
BLOOD UREA NITROGEN	16	MG/DL
CREATININE	1.4	MG/DL
BUN/creatinine ratio	11.4	
CALCIUM	10.9	MG/DL
PHOSPHORUS	4.3	MG/DL
calcium/phosphorus ratio	2.53	
SODIUM	> 135	MEQ/L
POTASSIUM	> 5.2	MEQ/L
sodium/potassium ratio	26.0	
CHLORIDE	92	MEQ/L
CHOLESTEROL	71	MG/DL
TOTAL PROTEIN (COLORIMETRY)	8.1	GM/DL
ALBUMIN (COLORIMETRY)	3.4	GM/DL
ASPARTATE AMINOTRANSFERASE	13	IU/L
ALANINE AMINOTRANSFERASE	16	IU/L
TOTAL BILIRUBIN	0.3	MG/DL
ALKALINE PHOSPHATASE	58	IU/L
CREATINE PHOSPHOKINASE	< 183	IU/L
CARBON DIOXIDE	> 27	MMOL/L
GAMMA GLUTAMYLTRANSFERASE	11	IU/L
GLOBULIN (CALCULATED)	4.7	

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LOXODONTA AFRICANA (no subsp)
AFRICAN ELEPHANT
Name: BABE

Sex: Female
Age: 45Y Est.

Acc. #: 198
Birth: 30.Aug.1960

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Clinical Note:

27.Apr.2000

Problem: polyp - vagina (Confirmed)
Trunk wash collected by keepers for USDA mandated mycobacterial culture. Sixty ml of sterile saline inserted into trunk and exhalation collected in clean plastic bag. Twenty ml of sample transferred to sterile sample cup for submission.
Microbiology: trunk wash submitted to the National Veterinary Services Laboratory for mycobacterial culture. (VLC)

Clinical Note:

28.Apr.2000

Problem: polyp - vagina (Confirmed)
Trunk wash collected by keepers for USDA mandated mycobacterial culture. Sixty ml of sterile saline inserted into trunk and exhalation collected in clean plastic bag. Twenty ml of sample transferred to sterile sample cup for submission.
Microbiology: trunk wash submitted to the National Veterinary Services Laboratory for mycobacterial culture. (VLC)

Clinical Note:

29.Apr.2000

Problem: polyp - vagina (Confirmed)
Trunk wash collected by keepers for USDA mandated mycobacterial culture. Sixty ml of sterile saline inserted into trunk and exhalation collected in clean plastic bag. Twenty ml of sample transferred to sterile sample cup for submission.
Microbiology: trunk wash submitted to the National Veterinary Services Laboratory for mycobacterial culture. (VLC)

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LOXODONTA AFRICANA (no subsp)      Sex: Female           Acc. #: 198
AFRICAN ELEPHANT                   Age: 45Y Est.        Birth: 30.Aug.1960
Name: BABE
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Clinical Note: **3.May.2000**

Problem: polyp - vagina (Confirmed)
<<< Microbiology >>>

Sample Accession #: 44291

Laboratory:

<input type="checkbox"/> ACL	Collection Date:
<input type="checkbox"/> Great Lakes	Submission Date: 3.May.2000
<input type="checkbox"/> Medical Complex	Reporting Date: 11.Jul.2000
<input checked="" type="checkbox"/> Other: National Veterinary Services, 1800 Dayton Road, Ames, Iowa 50010	

Submission Type:

<input type="checkbox"/> aerobic bacteriology	Sample Source:
<input type="checkbox"/> anaerobic bacteriology	
<input type="checkbox"/> mycology	
<input type="checkbox"/> enteric pathogen screen	
<input checked="" type="checkbox"/> mycobacterial	
<input type="checkbox"/> aerobic culture/smr	

Organism:

Growth: heavy moderate light

Gram Smear			
1.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Culture			
1.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Sensitivity:	1	2	3		1	2	3
Amoxicillin:				Gentamicin:			
Amox'/Clav'nate:				Cefotaxime:			
Ampicillin:				Cefoxitin:			
Amp./Sulbactam:				Norfloxacin:			
Aztreonam:				Oxacillin:			
Cefazolin:				Penicillin:			
Ceftazidime:				Piperacillin:			
Ceftizoxime:				Sulfamethoxazole:			
Ceftriaxone:				Tetracycline:			
Cefuroxime:				Tobramycin:			
Chloramphenicol:				Trimeth./Sulfa:			
Ciprofloxacin:				Vancomycin:			
Clindamycin:				Imipenem:			
Enrofloxacin:				Lincomycin:			

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Sex: Female

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AFRICAN ELEPHANT

Age: 45Y Est.

Birth: 30.Aug.1960

Name: BABE

=====

Clinical Note:

3.May.2000

Problem: polyp - vagina (Confirmed)

Clinical Note:

15.May.2000

Problem: polyp - vagina (Confirmed)

Blood sample collected - EDTA and serum. Collected by keeper staff
from the right ear vein using operant conditioning. (RSW)

Clinical Pathology Records - Specimen Report
MILWAUKEE COUNTY ZOO

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LOXODONTA AFRICANA (no subsp)      Sex: Female      Acc. #: 198
AFRICAN ELEPHANT                   Age: 45Y Est.    Birth: 30.Aug.1960
Name: BABE
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Collection Information >>
Health Status: Normal
Fasting Time: < 8 hours
Activity: Active
Weight: 4550 Kg on 11.Apr.1996
Manual restraint used.

Date of Collection: 15.May.2000
Time of Collection: 9:05.0
Collected by: DSN
Sample Collection Site: EAR VEIN

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Hematology >>
Analysis Information >>
Anticoagulant: EDTA
Storage: Fresh
Sample Quality: No quality problems.

Laboratory: ACL
Date of Analysis: 15.May.2000
Time of Analysis:
Analysis by:
Automated analysis.

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Tests and Results >>
WHITE BLOOD CELL COUNT > 14.6      *10^3/UL
RED BLOOD CELL COUNT > 3.06      *10^6/UL
HEMOGLOBIN > 13.1      GM/DL
HEMATOCRIT > 37      %
MCV 121      fL
MCH 42.8      uug
MCHC 35.4      gm/dL
SEGMENTED NEUTROPHILS 35 (5.110) % (*10^3/UL)
NEUTROPHILIC BANDS 1 (0.146) % (*10^3/UL)
LYMPHOCYTES 35 (5.110) % (*10^3/UL)
MONOCYTES > 28 (4.088) % (*10^3/UL)
EOSINOPHILS 1 (0.146) % (*10^3/UL)

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Morphology Results >>
MACROCYTOSIS MOD.

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Comments >>
WBC and Platelet morphology were normal. Platelet estimate 825,000.

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Clinical Pathology Records - Specimen Report
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AFRICAN ELEPHANT                   Age: 45Y Est.    Birth: 30.Aug.1960
Name: BABE
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```

Collection Information >>

Health Status: Normal
Fasting Time: < 8 hours
Activity: Active
Weight: 4550 Kg on 11.Apr.1996
Manual restraint used.

Date of Collection: 15.May.2000
Time of Collection: 9:05.0
Collected by: DSN
Sample Collection Site: EAR VEIN

Chemistry >>

Analysis Information >>

Chemistry Sample: Serum
Storage: Fresh
Sample Quality: No quality problems.

Laboratory: ACL
Date of Analysis: 15.May.2000
Time of Analysis:
Analysis by:
Automated analysis.

Tests and Results >>

GLUCOSE	84	MG/DL
BLOOD UREA NITROGEN	15	MG/DL
CREATININE	1.4	MG/DL
BUN/creatinine ratio	10.7	
CALCIUM >	11.5	MG/DL
PHOSPHORUS	4.5	MG/DL
calcium/phosphorus ratio	2.56	
SODIUM >	135	MEQ/L
POTASSIUM	4.9	MEQ/L
sodium/potassium ratio	27.6	
CHLORIDE >	94	MEQ/L
CHOLESTEROL >	85	MG/DL
TOTAL PROTEIN (COLORIMETRY)	8.0	GM/DL
ALBUMIN (COLORIMETRY)	3.5	GM/DL
ASPARTATE AMINOTRANSFERASE	12	IU/L
ALANINE AMINOTRANSFERASE	12	IU/L
TOTAL BILIRUBIN	0.3	MG/DL
ALKALINE PHOSPHATASE	62	IU/L
CREATINE PHOSPHOKINASE	194	IU/L
CARBON DIOXIDE	25	MMOL/L
GAMMA GLUTAMYLTRANSFERASE	11	IU/L
GLOBULIN (CALCULATED)	4.5	

=====

<i>LOXODONTA AFRICANA (no subsp)</i>	Sex: Female	Acc. #: 198
AFRICAN ELEPHANT	Age: 45Y Est.	Birth: 30.Aug.1960
Name: BABE		

=====

Clinical Note:

19.Jun.2000

Problem: polyp - vagina (Confirmed)
Blood sample collected - EDTA and serum. Collected by keeper staff
from the right ear vein using operant conditioning. (RSW)

Clinical Pathology Records - Specimen Report
MILWAUKEE COUNTY ZOO

```

=====
LOXODONTA AFRICANA (no subsp)      Sex: Female      Acc. #: 198
AFRICAN ELEPHANT                  Age: 45Y Est.   Birth: 30.Aug.1960
Name: BABE
=====

```

```

Collection Information >>
Health Status: Normal
Fasting Time: < 8 hours
Activity: Calm
Weight: 4550 Kg on 11.Apr.1996
Manual restraint used.

Date of Collection: 19.Jun.2000
Time of Collection: 8:15.0
Collected by: DSN
Sample Collection Site: EAR VEIN

```

```

Hematology >>
Analysis Information >>
Anticoagulant: EDTA
Storage: Fresh
Sample Quality: No quality problems.

Laboratory: ACL
Date of Analysis: 19.Jun.2000
Time of Analysis:
Analysis by:
Automated analysis.

```

```

Tests and Results >>

```

WHITE BLOOD CELL COUNT	10.3		*10 ³ /UL
RED BLOOD CELL COUNT	2.94		*10 ⁶ /UL
HEMOGLOBIN	12.8		GM/DL
HEMATOCRIT	35		%
MCV	119		fL
MCH	43.5		uug
MCHC	36.6		gm/dL
SEGMENTED NEUTROPHILS	29	(2.987)	% (*10 ³ /UL)
LYMPHOCYTES	48	(4.944)	% (*10 ³ /UL)
MONOCYTES	22	(2.266)	% (*10 ³ /UL)
REACTIVE LYMPHOCYTES	1	(0.103)	% (*10 ³ /UL)
PLATELET COUNT	1050		*10 ³ /UL

```

Comments >>
RBC, WBC, and platelet morphology normal.

```

Clinical Pathology Records - Specimen Report
MILWAUKEE COUNTY ZOO

```

=====
LOXODONTA AFRICANA (no subsp)      Sex: Female      Acc. #: 198
AFRICAN ELEPHANT                   Age: 45Y Est.   Birth: 30.Aug.1960
Name: BABE
=====

```

Collection Information >>

Health Status: Normal
Fasting Time: < 8 hours
Activity: Calm
Weight: 4550 Kg on 11.Apr.1996
Manual restraint used.

Date of Collection: 19.Jun.2000
Time of Collection: 8:15.0
Collected by: DSN
Sample Collection Site: EAR VEIN

Chemistry >>

Analysis Information >>

Chemistry Sample: Serum
Storage: Fresh
Sample Quality: No quality problems.

Laboratory: ACL
Date of Analysis: 19.Jun.2000
Time of Analysis:
Analysis by:
Automated analysis.

Tests and Results >>

GLUCOSE	82	MG/DL
BLOOD UREA NITROGEN	16	MG/DL
CREATININE	1.3	MG/DL
BUN/creatinine ratio	12.3	
CALCIUM	10.9	MG/DL
PHOSPHORUS	< 3.9	MG/DL
calcium/phosphorus ratio	2.79	
SODIUM	134	MEQ/L
POTASSIUM	4.9	MEQ/L
sodium/potassium ratio	27.3	
CHLORIDE	91	MEQ/L
CHOLESTEROL	77	MG/DL
TOTAL PROTEIN (COLORIMETRY)	8.0	GM/DL
ALBUMIN (COLORIMETRY)	3.3	GM/DL
ASPARTATE AMINOTRANSFERASE	13	IU/L
ALANINE AMINOTRANSFERASE	> 20	IU/L
TOTAL BILIRUBIN	< 0.2	MG/DL
ALKALINE PHOSPHATASE	60	IU/L
CREATINE PHOSPHOKINASE	197	IU/L
CARBON DIOXIDE	25	MMOL/L
GAMMA GLUTAMYLTRANSFERASE	12	IU/L
GLOBULIN (CALCULATED)	4.7	

=====

<i>LOXODONTA AFRICANA (no subsp)</i>	Sex: Female	Acc. #: 198
AFRICAN ELEPHANT	Age: 45Y Est.	Birth: 30.Aug.1960
Name: BABE		

=====

Clinical Note: 27.Jul.2000

Problem: polyp - vagina (Confirmed)

Blood sample collected - EDTA and serum. Collected by keeper staff
from right ear vein using operant conditioning. (VLC)

Clinical Pathology Records - Specimen Report
MILWAUKEE COUNTY ZOO

```

=====
LOXODONTA AFRICANA (no subsp)      Sex: Female      Acc. #: 198
AFRICAN ELEPHANT                  Age: 45Y Est.    Birth: 30.Aug.1960
Name: BABE
=====

```

Collection Information >>

Health Status: Normal
Fasting Time: < 8 hours
Activity: Calm
Weight: 4550 Kg on 11.Apr.1996
Manual restraint used.

Date of Collection: 27.Jul.2000
Time of Collection: 8:20.0
Collected by: DSN
Sample Collection Site: EAR VEIN

Hematology >>

Analysis Information >>

Anticoagulant:
Storage: Fresh
Sample Quality: No quality problems.

Laboratory: ACL
Date of Analysis: 27.Jul.2000
Time of Analysis:
Analysis by:
Automated analysis.

Tests and Results >>

WHITE BLOOD CELL COUNT	<	7.4		*10 ³ /UL
RED BLOOD CELL COUNT		2.89		*10 ⁶ /UL
HEMOGLOBIN		12.7		GM/DL
HEMATOCRIT		35		%
MCV		121		fL
MCH		43.9		uug
MCHC		36.3		gm/dL
SEGMENTED NEUTROPHILS		37	(2.738)	% (*10 ³ /UL)
NEUTROPHILIC BANDS		3	(0.222)	% (*10 ³ /UL)
LYMPHOCYTES		36	(2.664)	% (*10 ³ /UL)
MONOCYTES		22	(1.628)	% (*10 ³ /UL)
EOSINOPHILS		2	(0.148)	% (*10 ³ /UL)
PLATELET COUNT		800		*10 ³ /UL

Comments >>

RBC, WBC, and platelet morphology normal.

Clinical Pathology Records - Specimen Report
MILWAUKEE COUNTY ZOO

```

=====
LOXODONTA AFRICANA (no subsp)      Sex: Female      Acc. #: 198
AFRICAN ELEPHANT                   Age: 45Y Est.    Birth: 30.Aug.1960
Name: BABE
=====

```

Collection Information >>

Health Status: Normal
Fasting Time: < 8 hours
Activity: Calm
Weight: 4550 Kg on 11.Apr.1996
Manual restraint used.

Date of Collection: 27.Jul.2000
Time of Collection: 8:20.0
Collected by: DSN
Sample Collection Site: EAR VEIN

Chemistry >>

Analysis Information >>

Chemistry Sample: Serum
Storage: Fresh
Sample Quality: No quality problems.

Laboratory: ACL
Date of Analysis: 27.Jul.2000
Time of Analysis:
Analysis by:
Automated analysis.

Tests and Results >>

GLUCOSE	>	86	MG/DL
BLOOD UREA NITROGEN		18	MG/DL
CREATININE	>	1.5	MG/DL
BUN/creatinine ratio		12.0	
CALCIUM		10.6	MG/DL
PHOSPHORUS		4.4	MG/DL
calcium/phosphorus ratio		2.41	
SODIUM		132	MEQ/L
POTASSIUM	<	4.4	MEQ/L
sodium/potassium ratio		30.0	
CHLORIDE		90	MEQ/L
CHOLESTEROL		75	MG/DL
TOTAL PROTEIN (COLORIMETRY)		8.2	GM/DL
ALBUMIN (COLORIMETRY)		3.3	GM/DL
ASPARTATE AMINOTRANSFERASE		13	IU/L
ALANINE AMINOTRANSFERASE		16	IU/L
TOTAL BILIRUBIN		0.3	MG/DL
ALKALINE PHOSPHATASE	<	51	IU/L
CARBON DIOXIDE		24	MMOL/L
GAMMA GLUTAMYLTRANSFERASE		12	IU/L
GLOBULIN (CALCULATED)	>	4.9	

=====

<i>LOXODONTA AFRICANA (no subsp)</i>	Sex: Female	Acc. #: 198
AFRICAN ELEPHANT	Age: 45Y Est.	Birth: 30.Aug.1960
Name: BABE		

=====

Clinical Note: **7.Aug.2000**

Problem: polyp - vagina (Confirmed)

Keepers report that animal appeared to have a bout of colic this morning. She was not interested in food, and frequently would lean against the wall or kneel down. By this afternoon, her attitude was brighter, she was responsive to keeper commands, and ate pellets and produce offered at 1500 hrs. Today was due to be the last day of Equi-aid for this month, but instructed keepers to give it tomorrow as well. (RSW)

Clinical Note: **12.Sep.2000**

Problem: polyp - vagina (Confirmed)

Keepers report that elephant has appeared very uncomfortable since last night. Nightkeeper saw the animal leaning against the wall, and kneeling down. Animal is not interested in food at all, and is not drinking water. A few piles of stool are present in the holding area, with the solid matter consisting of 5-8 cm stems of hay surrounded by more liquid than normal. It appears as if the hay has not been masticated to a short enough length, and as if the stool was not homogenized adequately within the intestine. Keepers have noted production of gas and loose stool earlier in the day. When I observed the animal, it was very lethargic, reluctant to walk, held its trunk limply, did not respond to commands well, and continued to stretch its back legs as if in pain. Right paralumbar fossa appears distended. Attempted to position animal at bars for antiinflammatory medication, but animal would not cooperate. Animal passed more stool and began to eat and drink around 1730 hr. (VLC)

=====
LOXODONTA AFRICANA (no subsp) Sex: Female Acc. #: 198
AFRICAN ELEPHANT Age: 45Y Est. Birth: 30.Aug.1960
Name: BABE
=====

Clinical Note:

13.Sep.2000

Problem: polyp - vagina (Confirmed)
<<< Microbiology >>>

Sample Accession #: OREF-373230

Laboratory:

- ACL
- Great Lakes
- Medical Complex
- Other:

Collection Date: 13.Sep.2000
Submission Date:
Reporting Date: 16.Sep.2000

Submission type:

- aerobic bacteriology
- anaerobic bacteriology
- mycology
- enteric pathogen screen
- mycobacterial

Sample Source: Stool
[X] Individual sample
[] Group sample

Organism:

Negative for Salmonella, Shigella, E. coli 0157 and
Campylobacter.
(F01)

=====

LOXODONTA AFRICANA (no subsp)
AFRICAN ELEPHANT
Name: BABE

Sex: Female
Age: 45Y Est.

Acc. #: 198
Birth: 30.Aug.1960

=====

Clinical Note:

13.Sep.2000

Problem: polyp - vagina (Confirmed)
Animal is continuing to eat hay and drink water, and is more responsive today. Keepers report that food consumption and activity level are not up to normal. Keepers were able to get animal to consume bran mash with mineral oil. Animal outside in exhibit today. (VLC)

Clinical Note:

14.Sep.2000

Problem: polyp - vagina (Confirmed)
Animal continues to eat hay and drink water, but is not consuming pellets. Keepers will offer bran mash again today. Keepers report that they occasionally see large, 10x15 cm shiny masses within the feces which appears to be compressed psyllium pellets when cut open. Requested submission of such a sample when it is next observed. Blood sample collected - EDTA and serum. Collected by keeper staff from right ear vein using operant conditioning. (VLC)

Clinical Pathology Records - Specimen Report
MILWAUKEE COUNTY ZOO

```

=====
LOXODONTA AFRICANA (no subsp)      Sex: Female          Acc. #: 198
AFRICAN ELEPHANT                   Age: 45Y Est.       Birth: 30.Aug.1960
Name: BABE
=====

```

Collection Information >>

Health Status: Abnormal
Fasting Time: < 8 hours
Activity: Active
Weight: 4550 Kg on 11.Apr.1996
Manual restraint used.

Date of Collection: 14.Sep.2000
Time of Collection: 9:30.0
Collected by: DSN
Sample Collection Site: EAR VEIN

Hematology >>

Analysis Information >>

Anticoagulant: EDTA
Storage: Fresh
Sample Quality: No quality problems.

Laboratory: ACL
Date of Analysis: 14.Sep.2000
Time of Analysis:
Analysis by:
Automated analysis.

Tests and Results >>

WHITE BLOOD CELL COUNT	11.5		*10 ³ /UL
RED BLOOD CELL COUNT	2.86		*10 ⁶ /UL
HEMOGLOBIN	12.7		GM/DL
HEMATOCRIT	35		%
MCV	122		fL
MCH >	44.4		uug
MCHC	36.3		gm/dL
SEGMENTED NEUTROPHILS	56	(6.440)	% (*10 ³ /UL)
NEUTROPHILIC BANDS	0		% (*10 ³ /UL)
LYMPHOCYTES	29	(3.335)	% (*10 ³ /UL)
MONOCYTES	14	(1.610)	% (*10 ³ /UL)
EOSINOPHILS	1	(0.115)	% (*10 ³ /UL)
BASOPHILS	0		% (*10 ³ /UL)
PLATELET COUNT	650		*10 ³ /UL

Clinical Pathology Records - Specimen Report
MILWAUKEE COUNTY ZOO

```

=====
LOXODONTA AFRICANA (no subsp)      Sex: Female      Acc. #: 198
AFRICAN ELEPHANT                  Age: 45Y Est.    Birth: 30.Aug.1960
Name: BABE
=====

```

Collection Information >>

Health Status: Abnormal
Fasting Time: < 8 hours
Activity: Active
Weight: 4550 Kg on 11.Apr.1996
Manual restraint used.

Date of Collection: 14.Sep.2000
Time of Collection: 9:30.0
Collected by: DSN
Sample Collection Site: EAR VEIN

Chemistry >>

Analysis Information >>

Chemistry Sample: Serum
Storage: Fresh
Sample Quality: No quality problems.

Laboratory: ACL
Date of Analysis: 14.Sep.2000
Time of Analysis:
Analysis by:
Automated analysis.

Tests and Results >>

GLUCOSE	84	MG/DL
BLOOD UREA NITROGEN	16	MG/DL
CREATININE >>	1.6	MG/DL
BUN/creatinine ratio	10.0	
CALCIUM	11.0	MG/DL
PHOSPHORUS	5.1	MG/DL
calcium/phosphorus ratio	2.16	
SODIUM >	136	MEQ/L
POTASSIUM	4.7	MEQ/L
sodium/potassium ratio	28.9	
CHLORIDE	90	MEQ/L
CHOLESTEROL	74	MG/DL
TOTAL PROTEIN (COLORIMETRY) >	8.4	GM/DL
ALBUMIN (COLORIMETRY)	3.6	GM/DL
ASPARTATE AMINOTRANSFERASE >>	21	IU/L
ALANINE AMINOTRANSFERASE	18	IU/L
TOTAL BILIRUBIN >	0.5	MG/DL
ALKALINE PHOSPHATASE	68	IU/L
CREATINE PHOSPHOKINASE >>	325	IU/L
CARBON DIOXIDE	25	MMOL/L
GAMMA GLUTAMYLTRANSFERASE >>	17	IU/L
GLOBULIN (CALCULATED) >	4.8	

Clinical Pathology Records - Specimen Report
MILWAUKEE COUNTY ZOO

=====

LOXODONTA AFRICANA (no subsp)	Sex: Female	Acc. #: 198
AFRICAN ELEPHANT	Age: 45Y Est.	Birth: 30.Aug.1960
Name: BABE		

=====

Collection Information >>

Health Status: Abnormal
Fasting Time: < 8 hours
Activity: Active
Weight: 4550 Kg on 11.Apr.1996
Manual restraint used.

Date of Collection: **14.Sep.2000**
Time of Collection: 9:30.1
Collected by: DSN
Sample Collection Site: EAR VEIN

Hematology >>

Analysis Information >>

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

Laboratory: **MARSHFIELD**
Date of Analysis: **15.Sep.2000**
Time of Analysis:
Analysis by:
Automated analysis.

Morphology Results >>

fibrinogen-s 700, total solids 9000

=====

LOXODONTA AFRICANA (no subsp)
AFRICAN ELEPHANT
Name: BABE

Sex: Female
Age: 45Y Est.

Acc. #: 198
Birth: 30.Aug.1960

=====

Clinical Note:

15.Sep.2000

Problem: polyp - vagina (Confirmed)
Consultant large animal surgeon Dr. Bill Stone comments that problems with chronic ingestion of psyllium are being noted in equines. He is now using beet pulp as a fiber alternative in horses with motility problems. Discontinue use of Equi-Aid psyllium pellets at this time while investigating further. (VLC)

Clinical Note:

27.Dec.2000

Problem: polyp - vagina (Confirmed)
Animal is slightly lame on the right rear, placing weight onto the heel and then rolling foot forward as if to keep weight off of the toes. Keepers have inspected foot and report a crack on the sole at the front of the foot. Keepers will be cleaning and monitoring. (VLC)

Clinical Pathology Records - Specimen Report
MILWAUKEE COUNTY ZOO

```

=====
LOXODONTA AFRICANA (no subsp)      Sex: Female          Acc. #: 198
AFRICAN ELEPHANT                   Age: 45Y Est.       Birth: 30.Aug.1960
Name: BABE
=====

```

Collection Information >>

Health Status: Normal
Fasting Time: < 8 hours
Activity: Calm
Weight: 4537 Kg on 27.Dec.2000
Manual restraint used.

Date of Collection: 27.Dec.2000
Time of Collection: 8:30.0
Collected by: DSN
Sample Collection Site: EAR VEIN

Hematology >>

Analysis Information >>

Anticoagulant: EDTA
Storage: Fresh
Sample Quality: hemolysis

Laboratory: ACL
Date of Analysis: 27.Dec.2000
Time of Analysis:
Analysis by:
Automated analysis.

Tests and Results >>

WHITE BLOOD CELL COUNT	>	14.0		*10 ³ /UL
RED BLOOD CELL COUNT		2.82		*10 ⁶ /UL
HEMOGLOBIN		12.2		GM/DL
HEMATOCRIT		34		%
MCV		121		fL
MCH		43.3		uug
MCHC		35.9		gm/dL
SEGMENTED NEUTROPHILS		20	(2.800)	% (*10 ³ /UL)
NEUTROPHILIC BANDS		1	(0.140)	% (*10 ³ /UL)
LYMPHOCYTES		26	(3.640)	% (*10 ³ /UL)
MONOCYTES	>>	49	(6.860)	% (*10 ³ /UL)
EOSINOPHILS		1	(0.140)	% (*10 ³ /UL)
BASOPHILS		0		% (*10 ³ /UL)
REACTIVE LYMPHOCYTES	>	3	(0.420)	% (*10 ³ /UL)

Morphology Results >>

MACROCYTOSIS MOD.

Comments >>

Estimated platelet count at 800,000.

Clinical Pathology Records - Specimen Report
MILWAUKEE COUNTY ZOO

```

=====
LOXODONTA AFRICANA (no subsp)      Sex: Female      Acc. #: 198
AFRICAN ELEPHANT                   Age: 45Y Est.    Birth: 30.Aug.1960
Name: BABE
=====

```

Collection Information >>

Health Status: Normal
Fasting Time: < 8 hours
Activity: Calm
Weight: 4537 Kg on 27.Dec.2000
Manual restraint used.

Date of Collection: 27.Dec.2000
Time of Collection: 8:30.0
Collected by: DSN
Sample Collection Site: EAR VEIN

Chemistry >>

Analysis Information >>

Chemistry Sample: Serum
Storage: Fresh
Sample Quality: hemolysis

Laboratory: ACL
Date of Analysis: 27.Dec.2000
Time of Analysis:
Analysis by:
Automated analysis.

Tests and Results >>

GLUCOSE	74	MG/DL
BLOOD UREA NITROGEN	19	MG/DL
CREATININE	1.3	MG/DL
BUN/creatinine ratio	14.6	
CALCIUM	10.9	MG/DL
PHOSPHORUS >	6.1	MG/DL
calcium/phosphorus ratio	1.79	
SODIUM	132	MEQ/L
POTASSIUM >>	5.5	MEQ/L
sodium/potassium ratio	24.0	
CHLORIDE	90	MEQ/L
CHOLESTEROL >	87	MG/DL
TOTAL PROTEIN (COLORIMETRY) >	8.5	GM/DL
ALBUMIN (COLORIMETRY) >	3.8	GM/DL
ASPARTATE AMINOTRANSFERASE	15	IU/L
ALANINE AMINOTRANSFERASE	15	IU/L
TOTAL BILIRUBIN	0.3	MG/DL
ALKALINE PHOSPHATASE <	46	IU/L
CREATINE PHOSPHOKINASE >	283	IU/L
CARBON DIOXIDE	23	MMOL/L
GAMMA GLUTAMYLTRANSFERASE >>	17	IU/L
GLOBULIN (CALCULATED)	4.7	

=====

<i>LOXODONTA AFRICANA</i> (no subsp)	Sex: Female	Acc. #: 198
AFRICAN ELEPHANT	Age: 45Y Est.	Birth: 30.Aug.1960
Name: BABE		

=====

Parasitology Examination:

Submission Data >>

Type: Fecal sample
Purpose: ROUTINE EXAMINATION

Sample id.: 2001-0003
Date collected: **3.Jan.2001**
Time collected: 11:00
Collected by: TLD

Collected from:

From an individual specimen.

Enclosure: STALL #2

Examination Data >>

Storage: formalin
Consistency: formed
Gross appearance: Typical

Date examined: 4.Jan.2001

Sample description:

green/brown

Tests & Results >>

FLOATATION - ZINC SULFATE NO PARASITES SEEN

Comments >>

Sample submitted to Marshfield Lab for analysis.


```

=====
LOXODONTA AFRICANA (no subsp)           Sex: Female           Acc. #: 198
AFRICAN ELEPHANT                        Age: 45Y Est.        Birth: 30.Aug.1960
Name: BABE
=====

```

Clinical Note:

16.Jan.2001

Problem: polyp - vagina (Confirmed); death (Confirmed)
<<< Microbiology >>>

Sample Accession #: OREF-385382

Laboratory:

- ACL
- Great Lakes
- Medical Complex
- Other:

Collection Date: 16.Jan.2001
Submission Date:
Reporting Date: 20.Jan.2001

Submission Type:

- aerobic bacteriology
- anaerobic bacteriology
- mycology
- enteric pathogen screen
- mycobacterial
- aerobic culture/smr

Sample Source: Swab Cervical

Organism:

Growth: heavy moderate light

- | | | | |
|---------------------------------------|--------------------------|--------------------------|-------------------------------------|
| Gram Smear | | | |
| 1. Not Done | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Culture | | | |
| 1. Rare Enterobacter Agglomerans | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. Rare Streptococcus Alpha Hemolytic | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3. Rare Escherichia Coli | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Sensitivity:	1	2	3		1	2	3
Amoxicillin:				Gentamicin:			
Amox'/Clav'nate:				Cefotaxime:			
Ampicillin:				Cefoxitin:			
Amp./Sulbactam:				Norfloxacin:			
Aztreonam:				Oxacillin:			
Cefazolin:				Penicillin:			
Ceftazidime:				Piperacillin:			
Ceftizoxime:				Sulfamethoxazole:			
Ceftriaxone:				Tetracycline:			
Cefuroxime:				Tobramycin:			
Chloramphenicol:				Trimeth./Sulfa:			
Ciprofloxacin:				Vancomycin:			
Clindamycin:				Imipenem:			
Enrofloxacin:				Lincomycin:			

=====

<i>LOXODONTA AFRICANA</i> (no subsp)	Sex: Female	Acc. #: 198
AFRICAN ELEPHANT	Age: 45Y Est.	Birth: 30.Aug.1960
Name: BABE		

=====

Clinical Note: **16.Jan.2001**

Erythromycin:				Cephalothin:			
Piper./Tazobac:							

Comments: Necropsy 2001-15. (F05)

=====

LOXODONTA AFRICANA (no subsp)

Sex: Female

Acc. #: 198

AFRICAN ELEPHANT

Age: 45Y Est.

Birth: 30.Aug.1960

Name: BABE

=====

Clinical Note:

16.Jan.2001

Problem: polyp - vagina (Confirmed); death (Confirmed)

Clinical Note:

16.Jan.2001

Problem: polyp - vagina (Confirmed); death (Confirmed)

Animal was eating and behaving normally this morning and afternoon.

Animal was seen standing in stall at 2100 hrs on 15 Jan 01.

Nightkeeper found animal in right lateral recumbency unable to rise at

0030 hrs on 16 Jan 01. Visual examination revealed an animal in right

lateral recumbency. Animal was anxious and would kick hindlimbs and

attempt to rock up when approached. Animal however could not get into

sternal recumbency. Banamine was administered intramuscularly and a

blood sample taken from the left ear vein. Staff was attempting to

block and tackle the animal when it appeared that she had a seizure

and regurgitated/vomited a small amount of fluid. Soon after she

expired (approximately 0400 hrs).

Blood sample collected - EDTA and serum. CBC and chemistry profile

(ACL-stat). CBC revealed a relative neutrophilia and monocytopenia.

Chemistry profile revealed a mild hyponatremia and hyperkalemia as

well as a metabolic acidosis (increased anion gap, decreased CO₂).

AST was mildly increased. This was assumed to be secondary to muscle

injury since other hepatic enzymes were within normal limits. (MRB)

Clinical Note:

16.Jan.2001

Problem: polyp - vagina (Confirmed); death (Confirmed)

Rx: FLUNIXIN MEGLUMINE 2500 mg IM SID for 1 day. (RSW)

Clinical Pathology Records - Specimen Report
MILWAUKEE COUNTY ZOO

```

=====
LOXODONTA AFRICANA (no subsp)      Sex: Female      Acc. #: 198
AFRICAN ELEPHANT                  Age: 45Y Est.   Birth: 30.Aug.1960
Name: BABE
=====

```

Collection Information >>

Health Status: Abnormal
Fasting Time: < 8 hours
Activity: Calm
Weight: 4537 Kg on 27.Dec.2000
Manual restraint used.

Date of Collection: 16.Jan.2001
Time of Collection:
Collected by: RSW
Sample Collection Site: EAR VEIN

Hematology >>

Analysis Information >>

Anticoagulant:
Storage: Fresh
Sample Quality: No quality problems.

Laboratory: ACL
Date of Analysis: 16.Jan.2001
Time of Analysis:
Analysis by:
Automated analysis.

Tests and Results >>

WHITE BLOOD CELL COUNT	9.6		*10 ³ /UL
RED BLOOD CELL COUNT >>	4.71		*10 ⁶ /UL
HEMOGLOBIN >>	21.1		GM/DL
HEMATOCRIT >>	61		%
MCV >>	130		fL
MCH >	44.8		uug
MCHC <	34.6		gm/dL
SEGMENTED NEUTROPHILS	63	(6.048)	% (*10 ³ /UL)
NEUTROPHILIC BANDS	3	(0.288)	% (*10 ³ /UL)
LYMPHOCYTES <	24	(2.304)	% (*10 ³ /UL)
MONOCYTES	9	(0.864)	% (*10 ³ /UL)
EOSINOPHILS	1	(0.096)	% (*10 ³ /UL)
BASOPHILS	0		% (*10 ³ /UL)
PLATELET COUNT <	59		*10 ³ /UL

Morphology Results >>

MACROCYTOSIS MANY

Clinical Pathology Records - Specimen Report
MILWAUKEE COUNTY ZOO

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=====
LOXODONTA AFRICANA (no subsp)      Sex: Female      Acc. #: 198
AFRICAN ELEPHANT                   Age: 45Y Est.    Birth: 30.Aug.1960
Name: BABE
=====

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```

Collection Information >>          Date of Collection: 16.Jan.2001
Health Status: Abnormal           Time of Collection:
Fasting Time: < 8 hours          Collected by: RSW
Activity: Calm                    Sample Collection Site: EAR VEIN
Weight: 4537 Kg on 27.Dec.2000
Manual restraint used.

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Chemistry >>
Analysis Information >>          Laboratory: ACL
Chemistry Sample: Serum          Date of Analysis: 16.Jan.2001
Storage: Fresh                   Time of Analysis:
Sample Quality: No quality problems. Analysis by:
                                   Automated analysis.

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Tests and Results >>
                                GLUCOSE >> 147           MG/DL
                                BLOOD UREA NITROGEN < 12           MG/DL
                                CREATININE >> 2.2             MG/DL
                                BUN/creatinine ratio 5.45
                                CALCIUM > 11.4              MG/DL
                                PHOSPHORUS 4.4              MG/DL
                                calcium/phosphorus ratio 2.59
                                SODIUM << 126              MEQ/L
                                POTASSIUM >> 5.3             MEQ/L
                                sodium/potassium ratio 23.8
                                CHLORIDE << 86              MEQ/L
                                MAGNESIUM 2.9              MG/DL
TOTAL PROTEIN (COLORIMETRY) 8.0              GM/DL
ALBUMIN (COLORIMETRY) 3.3              GM/DL
ASPARTATE AMINOTRANSFERASE >> 63              IU/L
ALANINE AMINOTRANSFERASE 17              IU/L
TOTAL BILIRUBIN 0.3              MG/DL
ALKALINE PHOSPHATASE 58              IU/L
CARBON DIOXIDE << 18              MMOL/L
GAMMA GLUTAMYLTRANSFERASE >> 17              IU/L
GLOBULIN (CALCULATED) 4.7

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Medical History Report - Individual Specimen
MILWAUKEE COUNTY ZOO

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LOXODONTA AFRICANA (no subsp)

Sex: Female

Acc. #: 198

AFRICAN ELEPHANT

Age: 45Y Est.

Birth: 30.Aug.1960

Name: BABE

=====

Prescription Data >>

Starting date: 16.Jan.2001

Drug: FLUNIXIN MEGLUMINE 2500 mg IM SID

Formulation: 50.00 mg/ml injectable

Prescribed by: RSW (16.Jan.2001)

Filled by: RSW (16.Jan.2001)

Treatment weight: 4537 kg

Medical History Report - Summary for Individual Specimen
MILWAUKEE COUNTY ZOO

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=====
LOXODONTA AFRICANA (no subsp)           Sex: Female           Acc. #: 198
AFRICAN ELEPHANT                       Age: 40Y Est.        Birth: 30.Aug.1960
Name: BABE
Time in this collection: > 30 days (14019 days)
=====

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Baseline Data >>>                               Pathology Case Number: 2001-015
Specimen Died: 16.Jan.2001                       (Necropsy Record)
Submitted by: ROBERTA WALLACE, DVM
Death was spontaneous
Enclosure: PACHY EA
Carcass Weight: 4550 Kg (10031 Lb) (Estimated)
Reproductive History: Breeding History Unknown

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Recent History and Observations >>

Six year history of intermittent colic. Otherwise healthy animal. Mild colic incident two days ago, seemed normal afterwards. Eating and acting normally 15.Jan.01. Seen standing in stall at 2100 hrs. Found down unable to rise at 0030 hrs 16.Jan.01. Treated with intramuscular banamine and blood sample taken. Animal died in lateral recumbancy at approximately 0400 hrs.

This elephant had suffered from intermittent bouts of colic over the past several months. She was treated symptomatically and each episode seemed to resolve on its own. At approximately midnight on January 15th the nightkeeper was making normal rounds and found Babe down and unable to get up. He immediately notified Dr. Wallace and Dr. Beehler and in the meantime tried to get her to rise. She did not stand again, it was reported that she suffered a convulsion and then died.

Necropsy Report >>

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Prosector: KATHRYN A. COYLE, DVM                 Necropsy Date: 16.Jan.2001
Death to Necropsy Interval: Not recorded
Necropsy Location: MILWAUKEE COUNTY ZOO
Tissue and other samples saved:
  in formalin based fixative
Carcass Disposition: Soft Tissue-Inci; Bones-Buried

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Gross Examination Report >>

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AGE: 40 years (Est.)    WEIGHT: 4537 kg (December 27, 2000)
DATE OF SUBMISSION:    January 16, 2001
DATE OF NECROPSY:     January 16 and 17, 2001
NAME OF ENCLOSURE:    Pachyderms.
POSTMORTEM STATE:    Fresh.

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EXTERNAL FINDINGS: The elephant is in right lateral recumbency. There are no external injuries noted.

INTERNAL EXAMINATION:

Medical History Report - Summary for Individual Specimen
MILWAUKEE COUNTY ZOO

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INTEGUMENT SUB Q: Feet. Left front: There is cracking of the skin along the posterior aspect, which measures 11 by 4 cm and exposes spongy tissue underneath. There are also multifocal abrasions, both medially and caudally, measuring roughly 17 by 8 cm and multiple pitted lesions 1 to 3 cm in diameter at approximately the level of digit 1. The nails are worn; there are four nails on this foot. Right front: There are multiple pitted lesions on this foot as well as significant wear in the area of digit 1. A 2 by 23 cm patch of skin is eroded away. There are four nails on this foot. Left rear: There are three nails on this foot. There are fewer pitted lesions (vs. the front) and more lesions in the cranial area. There are abrasions caudally measuring 10 by 3 cm. Digit 1 has a dermal defect. Right rear: There are three nails on this foot. There are multifocal pitted abrasions (2 to 3 cm) on the bottom of the foot. Between digit 1 and digit 2 there is a 4 by 7 cm wedge of skin missing and a 1.8 cm long crack in this area. The nail beds appear healthy. Dorsal Skin. The skin over the dorsum is creviced and heavily thickened. Measurements: Left upper hind leg thickness equals 1.5 cm; dorsal back thickness equals 3.5 cm; forehead thickness equals 2.1 cm; left upper front leg thickness equals 1.8 cm; abdomen thickness equals 0.8 cm.

CARDIOVASCULAR SYSTEM: The aortic arch has two branches. The left ventricular free wall is 6 cm in width, the right ventricular free wall is 1.5 cm in width, and the interventricular septum is 4.5 cm in width. There are multiple endocardial petechiae/ecchymoses on the interior surface of the left ventricle and papillary muscles. These also occur within the right ventricle but to a lesser extent. The remainder of the heart is within normal limits.

RESPIRATORY SYSTEM: The lungs are diffusely dark red, particularly the right side. This is likely due to hypostatic congestion. On cut section there is a large amount of serosanguineous fluid that exudes from the surface. The lungs palpate as normally aerated and all sections taken float in formalin. No masses are palpable.

DIGESTIVE SYSTEM: The parenchyma of the liver is within normal limits, both on the capsular surface and on cut section. Vessels and bile ducts are unremarkable. There are several small soft to moderately firm round greenish-yellow pebble-like bile stones within the main bile ducts. These range in size from 5 to 15 mm and are not in any way obstructive. There is a moderate amount of thin green bile in the main bile duct. The abdomen is moderately distended. When the peritoneum is incised a large amount of clear to slightly yellowish watery fluid runs out; estimated total volume is 70-100 liters. The massively gas distended intestine protrudes from the abdomen when the abdominal wall was first cut. The cecum is extremely distended and is displaced cranially and to the right. The distended small intestine is compressed between the cecum and the large colon. The large colon

Medical History Report - Summary for Individual Specimen
MILWAUKEE COUNTY ZOO

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contains excessive amounts of extremely dry fiber ingesta. The small colon is empty. The small intestine is distended with gas and contains scant digesta. The stomach is enlarged and contains dry impacted feed, which ends at the pylorus with the duodenum containing a small amount of fluid and little to no feed material. The cecum contains between 40 to 50 liters of green watery fluid and the mucosa is moderately edematous. The large colon is completely filled and the ingesta is most firm at the pelvic flexure. The large colon at the ileocolic junction contains a moderate amount of sand with admixed stones in addition to the impacted fiber. The ileum at the junction with the colon is empty. At the ileo-ceco-colic junction there are two foci of clusters of grey diverticula-like structures with incomplete ring-like opercular openings that are smaller (1 to 2 mm) than the inner cystic(?) depressions (4 to 6 mm). Numerous openings are seen at each cluster site with the larger in the ileum measuring approximately 4 x 4 cm and the smaller 2 x 2 cm. These "diverticula" appear lined by normal mucosal epithelium with no evidence of inflammation.

LYMPHOHEMATOPOIETIC SYSTEM: On the capsular surface of the spleen there are numerous small petechiae. On cut sections the splenic parenchyma is within normal limits. One lymph node located along the abdominal aorta is slightly nodular and on cut surface the interior is whitish cream with reactive appearing follicular structure. Other lymph nodes examined (i.e., mesenteric, tracheal, tracheobronchial) are grossly within normal limits and are not enlarged in any way.

UROGENITAL SYSTEM: The clitoris measures 13 by 4.5-7.5 by 5 cm. There is a pedunculated vulvar/vaginal papilloma, which is 13 by 6 by 8 cm on a 20 cm stalk. The main body of this mass is multinodular with deep crevicing and grape-like clusters as well as several small clusters on the stalk itself. The color is a deep reddish purple and there is some surface bleeding as well. On cut section the interior is a fibrous connective tissue stroma. There are several small surface papillomas on the mucosa of the vagina. These range in measurement from 5 mm to 1 to 1.5 cm roughly in diameter. The uterus is grossly unremarkable. The length of the uterine body from the cervix to the bifurcation equals 17 cm. The right uterine horn is 71 cm and the left uterine horn is 68 cm. The ovaries are oval and greyish-tan; they are inactive and unremarkable on cut section. There is a tremendous amount of fat, often pedunculated and hanging as fat bodies from the uterine ligament within the pelvic cavity. None of this pedunculated fat is in anyway strangulating any of the gastrointestinal tract. The kidneys are grossly unremarkable. The urinary bladder contains approximately 40 cc of a cloudy tan to pink urine. At the proximal end of the bladder the mucosa is moderately hyperemic. The rest of the bladder mucosa is grossly normal.

ENDOCRINE SYSTEM: The adrenal glands are unremarkable. The thyroids

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are oblong cylinders, which measure 20 cm long by 5 to 7 cm in diameter. They are bilaterally symmetrical and palpate as firm. Cut sections are unremarkable. The pituitary is unremarkable.

CENTRAL NERVOUS SYSTEM: Surface vessels are congested. There are no visible lesions.

SPECIAL SENSES: The eyes are removed for Dr. Dubielzig. There are no gross lesions.

MUSCULOSKELETAL SYSTEM: Major joints examined are unremarkable. These would include elbows, shoulders, wrists, stifles, coxofemoral joints and tibiotarsal joints. At the allanto-occipital junction there are degenerative joint disease lesions on both condyles of the occiput. There are corresponding lesions on the articular surface of the atlas. Photos were taken of these lesions.

POSTMORTEM RADIOGRAPHS OBTAINED: No.

POSTMORTEM PHOTOGRAPHS OBTAINED: Yes.

ORGAN WEIGHTS: Heart: 35.8 kg; Liver: 43.55 kg; Spleen: 18.8 kg; Uterus plus Ovaries: 17.4 kg; Left Ovary: 100 gm; Right Ovary: 100 gm; Right Kidney: 7.6 kg; Left Kidney: 6.5 kg; Left Adrenal: 200 gm; Right Adrenal: 200 gm; Brain: 4.4 kg.

PRELIMINARY DIAGNOSES: Mechanical ileus/impaction with secondary obstruction, loss of fluid into the large intestine and the abdomen with subsequent cardiovascular collapse.

LABORATORY: Spleen. Anaerobic culture yielded no organisms. Aerobic culture yielded rare Klebsiella oxytoca and rare Citrobacter freundii. Liver. Anaerobic culture yielded no organisms. Aerobic culture yielded a few E. coli and a few rare gram-negative Bacilli. Lung. Aerobic and anaerobic culture yielded no growth after four days. Heart. Aerobic and anaerobic culture of a ventricular swab yielded no growth after four days. Rear cranial sinus. Aerobic culture of fluid removed from one of the caudal cranial sinuses yielded moderate growth of nasal flora. Cervix. Anaerobic culture of a cervical swab yielded no growth. Aerobic culture of cervical fluid yielded moderate growth of mixed bacterial flora, including alpha hemolytic Streptococcus, and five different colony types of gram-negative rods. Further identification showed that there were several morphologies of bacteria present, including alpha hemolytic Streptococcus, non-hemolytic Staphylococcus, non-hemolytic Corynebacterium sp. and seven different colony types of gram-negative rods. These are interpreted as normal cervical flora. Tracheal-bronchial lymph node: Aerobic culture of a tissue sample yielded no growth. Mycobacterial culture on this node is pending. Sternal thoracic lymph node. Aerobic culture yielded

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MILWAUKEE COUNTY ZOO

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 moderate growth of *Enterobacter aerogenes*. Abdominal aortic lymph node. Aerobic culture of a tissue sample yielded moderate growth of mixed bacterial flora with possible contamination and several morphologies present. These included non-hemolytic *Corynebacterium* sp., non-hemolytic *Staphylococcus*, *Bacillus* sp. and a gram-negative rod. Mycobacterial culture on a sample of this lymph node is pending. Bronchial lymph node. Aerobic culture of a tissue sample yielded insignificant growth. There were non-hemolytic *Staphylococcus* (one colony), and minimal growth of an alpha hemolytic *Streptococcus*. Mycobacterial culture on this node is pending. Abdominal fluid. Aerobic culture yielded no growth after five days incubation. Joint fluid (stifle). Aerobic culture yielded no growth after five day's incubation. Mycoplasma culture was negative for the present of any mycoplasma organisms. Sinsus aspirate (caudal cervical sinuses). Aerobic culture yielded moderate growth of nasal flora with several morphologies present. These included non-hemolytic *Staphylococcus*, non-hemolytic *Corynebacterium* sp., alpha hemolytic *Streptococcus* and eight different colony types of gram-negative rods.

SAVED FROZEN: Heart (RV/IV/LV), lung, liver, spleen, lymph nodes (abdominal, aortic, sternal, thoracic, tracheobronchial), kidneys, adrenals and vaginal polyp, urine and abdominal fluid.

COMMENTS:

FINAL DIAGNOSIS:

ISIS CODE: (20) N (21) B (22) GN

MEASUREMENTS

General

Tip of trunk to tip of tail (along the curve): 688 cm
 Length of trunk (along the curve): 173 cm
 Length of tail: 116 cm
 Shoulder height: 295 cm
 Dorsum height (the highest point of the back): 300 cm
 Note: The animal was in right lateral recumbency for these measurements

Detailed

Trunk:

Tip to base length: 173 cm
 Tip to width: 13 cm
 Base width part A (straight-ventral): 60 cm
 Base width part B (curve-dorsal): 124 cm

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MILWAUKEE COUNTY ZOO

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Head:

Dorsal length (along the curve): 112 cm
Ventral length (along the curve): 56 cm
Neck height: 101 cm
Width between ears: 56 cm
Width between temporal glands: 82 cm
Width between eyes (medial canthus): 70 cm
Width of mouth (dorsal aspect - rostral extreme): 23 cm

Left Ear:

Interior width: 81 cm
Posterior width (straight over curve): 120/120 cm
Dorsal length (straight over curve): 115/133 cm
Ventral length: 42 cm

Neck:

Length: 29 cm
Width: 74 cm
Height: 100 cm

Body:

Dorsal length (along the curve): 239 cm
Middle length: 298 cm
Bottom length: 278 cm
Width at front: 96 cm
Width at middle: 134 cm
Width at back: 110 cm
Height at front of forelimb: 147 cm
Height at front of hindlimb: 176 cm
Height at back of hindlimb: 133 cm

Tail:

Length (excluding hairs): 116 cm
Width at base: 26 cm

Right Forelimb:

Length (height): 191 cm
Width at top: 64.5 cm
Width at bottom: 42.5 cm (Side width if different: 36 cm)

Right Hindlimb:

Length (height) 122 cm
Width at top: 63.5 cm
Width at bottom (include side width since it is narrower): 49 cm (30 cm)

Feet: Number of toenails

Left front: 5

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MILWAUKEE COUNTY ZOO

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Right front: 5
Left hind : 4
Right hind: 4

Tusks:
Length from tip to gumline:
Left: 55 cm
Right: 51 cm.
Length from gumline to base:
Left: 86 cm
Right: 79.5 cm

Teeth: Total number of plates
Left upper: 15 (3 doubles)
Right upper: 14 (two doubles)
Left lower: 13 (one double)
Right lower: 15 (three doubles)
Left upper: 27 cm
Right upper: 27 cm
Left lower: 23.5 cm
Right lower: 23.0 cm

Maximum width:
Left upper: 7.5 cm
Right upper: 7.5 cm
Left lower: 7.5 cm
Right lower: 7.5 cm

Maximum grinding length of individual teeth
Left upper: 26.5 cm
Right upper: 26.0 cm
Left lower: 23.0 cm
Right lower: 22.5 cm.

Maximum grinding length of entire grinding surface
Left upper: 26.5 cm
Right upper: 24.5 cm
Left lower: 23.0 cm
Right lower: 22.0 cm

Laboratory Samples Submitted >>>

LABORATORY: Spleen. Anaerobic culture yielded no organisms. Aerobic culture yielded rare *Klebsiella oxytoca* and rare *Citrobacter freundii*. Liver. Anaerobic culture yielded no organisms. Aerobic culture yielded a few *E. coli* and a few rare gram-negative Bacilli. Lung. Aerobic and anaerobic culture yielded no growth after four days. Heart. Aerobic and anaerobic culture of a ventricular swab yielded no growth after four days. Rear cranial sinus. Aerobic culture of fluid removed from one of the caudal cranial sinuses yielded moderate growth

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of nasal flora. Cervix. Anaerobic culture of a cervical swab yielded no growth. Aerobic culture of cervical fluid yielded moderate growth of mixed bacterial flora, including alpha hemolytic Streptococcus, and five different colony types of gram-negative rods. Further identification showed that there were several morphologies of bacteria present, including alpha hemolytic Streptococcus, non-hemolytic Staphylococcus, non-hemolytic Corynebacterium sp. and seven different colony types of gram-negative rods. These are interpreted as normal cervical flora. Tracheal-bronchial lymph node: Aerobic culture of a tissue sample yielded no growth. Mycobacterial culture on this node is pending. Sternal thoracic lymph node. Aerobic culture yielded moderate growth of Enterobacter aerogenes. Abdominal aortic lymph node. Aerobic culture of a tissue sample yielded moderate growth of mixed bacterial flora with possible contamination and several morphologies present. These included non-hemolytic Corynebacterium sp., non-hemolytic Staphylococcus, Bacillus sp. and a gram-negative rod. Mycobacterial culture on a sample of this lymph node is pending. Bronchial lymph node. Aerobic culture of a tissue sample yielded insignificant growth. There were non-hemolytic Staphylococcus (one colony), and minimal growth of an alpha hemolytic Streptococcus. Mycobacterial culture on this node is pending. Abdominal fluid. Aerobic culture yielded no growth after five days incubation. Joint fluid (stifle). Aerobic culture yielded no growth after five day's incubation. Mycoplasma culture was negative for the present of any mycoplasma organisms. Sinsus aspirate (caudal cervical sinuses). Aerobic culture yielded moderate growth of nasal flora with several morphologies present. These included non-hemolytic Staphylococcus, non-hemolytic Corynebacterium sp., alpha hemolytic Streptococcus and eight different colony types of gram-negative rods.

SAVED FROZEN: Heart (RV/IV/LV), lung, liver, spleen, lymph nodes (abdominal, aortic, sternal, thoracic, tracheobronchial), kidneys, adrenals and vaginal polyp, urine and abdominal fluid.

Histopathology Report >>

GENERAL FINDINGS:

SLIDE A: Lung. Lung sections are moderately to focally markedly congested with some leakage of red cells into alveolar spaces. In addition in some sections there are large to coalescing foci of intraalveolar edema. There is one focus of interstitial mononuclear cells, which is consistent with respiratory associated lymphoid tissue. These lungs are consistent with an animal in terminal cardiovascular collapse.

Esophagus. No visible lesions.

SLIDE B: Thyroid. Scattered among the thyroid follicles there are several follicles, which contain pale staining slightly vacuolated

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colloid. Flattened epithelial cells line these follicles. The remainder of the gland has normal appearing follicles, which are lined, by cuboidal epithelial cells with eosinophilic staining amorphous colloid.

Tracheal Lymph Node. This lymph node is diffusely congested to focally hemorrhagic. Normal follicular architecture is present.

Vaginal Polyp. At the subgross level this section consists of a papillary mass which is covered by stratified squamous epithelium. Underlying this is a dense fibrovascular connective tissue stroma. The stratified epithelium extends deeply in some areas into the fibrovascular stroma as almost rete peg-like formations; this corresponds to the wart-like appearance of the mass noted grossly and these would be the crevice-like areas that undulated over the surface of the mass. There is ballooning degeneration of epithelial cells on the most superficial aspect of the epithelium. Widely scattered and only very occasionally one can find intracytoplasmic inclusion-like bodies. Also widely scattered throughout the epidermis are single eosinophils. Also within the epidermis in some areas are foci, which appear to be small capillaries, however, this is most likely a plane of sectioning artifact. At the basal interface of the epidermis with the submucosal area there are numerous small capillaries and this area is diffusely congested to hemorrhagic. The supporting stroma consists of mature collagen as well as interlacing mature fibrocytes. There are numerous small capillaries within this supporting stroma. There is also a subepidermal inflammatory cell infiltrate which consists largely of mononuclear cells (plasma cells, lymphocytes) admixed with scattered PMNs. In some areas this mononuclear cell infiltrate takes on the appearance of a lymphoid follicle. Within one of these follicle-like structures there are several foci of necrosis. At the deepest aspect of this section the stroma is mature collagen bundles with a moderate amount of vasculature. The inflammatory infiltrates are widely scattered and mild in these deeper areas.

SLIDE C: Skeletal Muscle. No visible lesions.

Sternal Thoracic Lymph Node. There is mild focal edema; otherwise, no visible lesions.

Vaginal Polyp Stalk. This is a cross-section through the stalk. It consists of interlacing bundles of mature collagen within which are numerous smooth muscle bundles running at right angles to the collagen and invested with a fibrovascular supporting network as well. Inflammation is not present in this section.

SLIDE D: Spleen. The capsule is approximately 42-50 microns thick. In the most superficial area of the capsule there is multifocal to confluent hemorrhage; this corresponds to the ecchymotic hemorrhages noted on the capsular surface grossly. The spleen is diffusely hemorrhagic although normal follicular architecture is still present. There are numerous foci of hemosiderin-laden macrophages. Also diffusely throughout the splenic parenchyma there are numerous

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MILWAUKEE COUNTY ZOO

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macrophages that contain the same hemosiderin pigment granules. Erythrophagocytosis is noted although it is very widely scattered. One lymphoid follicle contains a very small area of central necrosis.

Sciatic Nerve (L). No visible lesions.

Lymph Node (Unidentified). There is moderate edema within the medullary cords; otherwise no visible lesions.

SLIDE E: Liver. There is moderate periportal fibrosis, which is bridging in some areas. Periportal and central lobular hepatocytes contain many brown-gold pigment granules consistent with bile. For the most part mid-zonal hepatocytes do not contain these granules, however there are areas in which all of the hepatocytes contain some brown-gold pigment granules.

SLIDE F: Kidneys. There is moderate interstitial fibrosis within the medulla of both kidneys. This does not appear to be microscopically affecting the collecting ducts or the vessels.

SLIDE G: Lymph Node (Unidentified). No visible lesions. Normal follicular architecture is present.

Abdominal Aortic Lymph Node. There are a couple of foci of hemorrhage within this lymph node. Otherwise, there are no visible lesions. The architecture is reactive.

SPECIAL STAINS: Acid-fast, Fite's, GMS and gram (are negative for the presence of any organisms within this lymph node).

Uterine Body. No visible lesions.

SLIDE H: Mesenteric Fat. There are multiple lymphoid nodules within the fat. These exhibit normal follicular structure and have a very fine fibrovascular supporting stroma.

Left Uterine Horn. No visible lesions.

SLIDE I: Right Uterine Horn. No visible lesions.

Cervical Spinal Lymph Node. This section is hemorrhagic with some remnant follicular architecture remaining. There are also some foci of hemorrhage in the surrounding adipose tissue.

Pituitary Gland. There are widely scattered very small foci of mineralization. Additionally, the vasculature is diffusely congested. No other visible lesions.

Harderian Gland. There are no glandular structures within this particular tissue section. This consists of multiple bundles of skeletal muscle with a fibrovascular connective tissue supporting stroma.

SLIDE K: Cervical Spinal Cord. There are scattered very small foci of mineralization of the dura. No other visible lesions.

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SLIDE L: Vomeronasal Ducts. No visible lesions.

SLIDE M: Unidentified Vessel. No visible lesions.

Right Temporal Gland. This section consists of multiple lobules of glandular tissue separated by a moderate fibrovascular stroma. Within each lobule there are sheets of glands separated by a very fine fibrous connective tissue stroma with interlacing blood vessels. Each gland is lined by a cuboidal epithelium and in the lumen there is a faintly eosinophilic amorphous secretion. There are widely scattered glands that contain a mineralized concretion. This is normal architecture. This gland is not at its active peak right now.

SLIDE N: Left Mammary Gland with Duct. This section consists of multiple thick bundles of fibrous connective tissue interlaced with some smooth muscle and adipose tissue. Within here there are multiple foci of atrophic mammary glands with some central ducts. The glandular structures are lining by cuboidal epithelium, which in some areas is slightly piled up. Gland lumina are empty for the most part, as are duct lumina. Ducts are lined by a more columnar epithelium. Within one of the larger vessels in this section there is a fibrin thrombus.

SLIDE O: Right Mammary Gland. Similar to Slide N.
Mesentery. No visible lesions.

SLIDE P: Adrenal Gland. No visible lesions.
Left Ovary. Atrophic, no visible activity.

SLIDE Q: Right Ovary. There are no follicles present. This is an atrophic gland similar in appearance to the left ovary.
Pyloric Stomach. No visible lesions.

SLIDE R: Another Section of Pyloric Stomach. No visible lesions.
Thyroid with Parathyroid. The thyroid on this slide is similar to that seen in Slide B. The parathyroid gland is within normal limits. Cells are divided into small packets and lobules by a fibrovascular stroma. For the most part this section consists of chief cells. A number of these contain brightly eosinophilic cytoplasm indicating an active secretory phase. Other cells whose cytoplasm is much paler staining surround lumina within which there is an amorphous eosinophilic secretion. Oxyphil cells are not particularly noted in this section.

SLIDE S: Heart, Left Ventricle (Papillary Muscle). There is hemorrhage within the endocardium of the papillary muscle. Adjacent to this within the myocardium there are also foci of hemorrhage which are dissecting between cardiac bundles and myocytes. As one moves

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more superficially there are foci of fibrous replacement of the myocardium, which is surrounding vessels. There are also foci of adipose tissue in this area. Some of the cardiac myocytes in these areas are exhibiting attenuation or thinning of the myofibers. Some of the nuclei in these areas are large and contain hyperchromatic granular chromatin. There is brown-gold pigment at the poles of nearly all myocyte nuclei; this is consistent with lipofuscin, which is a normal aging pigment.

SLIDE T: Right Ventricle. Fibrous and adipose changes are not noted in this section. Blood vessels and capillaries are congested. There are widely scattered individual mineralized myocytes. These are characterized by brightly eosinophilic to slightly basophilic amorphous material within the fiber. Lipofuscin pigment is present here as well.

SLIDE U: Aorta. No visible lesions.
Right Atrium. No visible lesions. Approximately half of this section consists of adipose tissue.

SLIDE V: Trachea. No visible lesions.
Jejunum. Most of the mucosa is missing from this section. There is moderate submucosal edema. The muscular layers are within normal limits.

SLIDE W: Colon. The mucosa is artifactually separated from the rest of the section; however, mucosal cells are within normal limits. The glandular cells are within normal limits. Eosinophils are easily found within the lamina propria and around some of the glands.

Cecum. Lymphoid nodules in the submucosa are reactive. No visible lesions.

SLIDE X: Jejunum. No visible lesions.
Small Colon. There is moderate submucosal edema. There are no lesions within the mucosa.

SLIDE Y: Colon just Past the Cecum. No visible lesions.
Ileum. No visible lesions.

SLIDE Z: Duodenum. Eosinophils are again easily found percolating through the lamina propria as well as through the muscularis mucosa layer. There is mild to moderate mixed inflammatory cell infiltrate around several of the submucosal vessels. This is composed mostly of lymphocytes and plasma cells admixed with some eosinophils.

SLIDE AA: Left Temporal Gland. The structure of this section is similar to that seen on Slide M for the right temporal gland.
Mesenteric Lymph Node. No visible lesions.
Oviduct. This is multiple fronds of a well-vascularized

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fine fibrous tissue, which is supporting a cuboidal to columnar epithelium. In some areas at the apical surface of the columnar cells cilia are visible. The base is composed of smooth muscle within, which are several glandular structures lined by cells similar in appearance to the epithelial cells on the fronds. Within some of these lumina there are red blood cells. And again, a number of these cells appear to be ciliated on high power. This is probably a plane of section difference and these cells are the same as those lining the obvious fronds in this tissue. Suspect reproductive, possibly uterine tube.

SLIDE BB: Vagina. No visible lesions.

SLIDE CC: Unidentified Lymph Node. No visible lesions.
Cervix. No visible lesions.

SLIDE DD: Section through One Nasal Passage in the Trunk. This tissue has a stratified squamous keratinizing epithelium on the surface. This is supported by a robust fibrovascular stroma, which as one goes deeper becomes interlaced with more and more skeletal muscle bundles. There are foci of adipose tissue investing some of the skeletal muscle lobules. There are also smooth muscle bundles running at perpendicular angles to some of the skeletal muscle bundles. Some of the smooth muscle fibers take on a basophilic tint, indicating possibly some mineralization. This appears to be a normal configuration for a nasal passage.

HISTOPATHOLOGICAL DIAGNOSES: (1) Reproductive: Fibrovascular polyp, single, distal-most vestibule, papillary (2) Spleen: (a) Capsular petechiae/hemorrhage, multifocal to coalescing, acute (b) Hemorrhage, parenchymal, diffuse, moderate, acute (3) Liver: Periportal bridging fibrosis, moderate, diffuse, chronic (4) Kidneys: Interstitial medullary fibrosis, moderate, bilateral, diffuse, chronic (5) Pituitary Gland: Multifocal mineralization, scattered, mild, chronic (6) Spinal Cord (Cervical): Multifocal mineralization, dura. (7) Heart: (a) Left Ventricle - Multifocal endocardial, myocardial hemorrhage, mild to moderate, peracute to acute; Left Ventricle - Multifocal fibrous and fatty replacement of myocardium, mild, chronic; Right Ventricle - Multifocal myocyte mineralization, chronic.

LABORATORY RESULTS: LABORATORY: Spleen. Anaerobic culture yielded no organisms. Aerobic culture yielded rare Klebsiella oxytoca and rare Citrobacter freundii. Liver. Anaerobic culture yielded no organisms. Aerobic culture yielded a few E. coli and a few rare gram-negative Bacilli. Lung. Aerobic and anaerobic culture yielded no growth after four days. Heart. Aerobic and anaerobic culture of a ventricular swab yielded no growth after four days. Rear cranial sinus. Aerobic culture of fluid removed from one of the caudal

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cranial sinuses yielded moderate growth of nasal flora. Cervix. Anaerobic culture of a cervical swab yielded no growth. Aerobic culture of cervical fluid yielded moderate growth of mixed bacterial flora, including alpha hemolytic Streptococcus, and five different colony types of gram-negative rods. Further identification showed that there were several morphologies of bacteria present, including alpha hemolytic Streptococcus, non-hemolytic Staphylococcus, non-hemolytic Corynebacterium sp. and seven different colony types of gram-negative rods. These are interpreted as normal cervical flora. Tracheal-bronchial lymph node: Aerobic culture of a tissue sample yielded no growth. Mycobacterial culture on this node is pending. Sternal thoracic lymph node. Aerobic culture yielded moderate growth of Enterobacter aerogenes. Abdominal aortic lymph node. Aerobic culture of a tissue sample yielded moderate growth of mixed bacterial flora with possible contamination and several morphologies present. These included non-hemolytic Corynebacterium sp., non-hemolytic Staphylococcus, Bacillus sp. and a gram-negative rod. Mycobacterial culture on a sample of this lymph node is pending. Bronchial lymph node. Aerobic culture of a tissue sample yielded insignificant growth. There were non-hemolytic Staphylococcus (one colony), and minimal growth of an alpha hemolytic Streptococcus. Mycobacterial culture on this node is pending. Abdominal fluid. Aerobic culture yielded no growth after five days incubation. Joint fluid (stifle). Aerobic culture yielded no growth after five day's incubation. Mycoplasma culture was negative for the present of any mycoplasma organisms. Sinsus aspirate (caudal cervical sinuses). Aerobic culture yielded moderate growth of nasal flora with several morphologies present. These included non-hemolytic Staphylococcus, non-hemolytic Corynebacterium sp., alpha hemolytic Streptococcus and eight different colony types of gram-negative rods.

SAVED FROZEN: Heart (RV/IV/LV), lung, liver, spleen, lymph nodes (abdominal, aortic, sternal, thoracic, tracheobronchial), kidneys, adrenals and vaginal polyp, urine and abdominal fluid.

COMMENTS: As expected the microscopic examination of tissues does not change the gross diagnosis. Microscopic findings are incidental and consistent with the age of the animal.

FINAL DIAGNOSES: Mechanical ileus/impaction with secondary obstruction, loss of fluid into the large intestine and the abdomen with subsequent cardiovascular collapse.

ISIS CODES: (20) N (21) AB (22) GN

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Pathologist: KATHRYN A. COYLE, DVM
Final report signed: 20.Jun.2001

Additional Comments >>>

As expected the microscopic examination of tissues does not change the gross diagnosis. Microscopic findings are incidental and consistent with the age of the animal.

Clinical Pathology Records Report - ISIS/In-House Reference Values
MILWAUKEE COUNTY ZOO

Scientific name: *LOXODONTA AFRICANA*
Common Name: AFRICAN ELEPHANT

		ISIS Values			In-House Values				
		Mean	S.D.	(N)	Mean	S.D.	Min.	Max.	(N)
WBC	*10 ³ /UL	10.50 ±	2.648	(1544	10.87 ±	2.41	7.300	17.10	(40)
RBC	*10 ⁶ /UL	3.15 ±	0.40	(1480	2.758 ±	0.192	2.360	3.070	(40)
HGB	GM/DL	13.7 ±	1.6	(1522	12.02 ±	0.87	10.00	14.00	(41)
HCT	%	39.5 ±	4.6	(1984	33.67 ±	2.34	28.00	37.00	(46)
MCH	MG/DL	43.6 ±	3.0	(1454	43.38 ±	0.85	41.16	45.04	(41)
MCHC	uug	34.7 ±	2.0	(1501	35.89 ±	0.72	34.06	37.84	(42)
MCV	fL	125.8 ±	8.1	(1466	121.0 ±	2.8	116.5	132.2	(41)
SEGS	*10 ³ /UL	3.146 ±	1.695	(1224	4.673 ±	2.028	1.900	10.43	(40)
BANDS	*10 ³ /UL	0.843 ±	0.799	(605)	0.169 ±	0.242	0.000	0.864	(35)
LYMPHOCYTES	*10 ³ /UL	4.913 ±	2.532	(1236	4.204 ±	1.544	1.387	7.171	(40)
MONOCYTES	*10 ³ /UL	1.513 ±	1.651	(1175	1.813 ±	1.325	0.192	5.586	(39)
EOSINOPHILS	*10 ³ /UL	0.225 ±	0.273	(885)	0.130 ±	0.129	0.000	0.448	(35)
BASOPHILS	*10 ³ /UL	0.049 ±	0.081	(464)	0.000 ±	0.000	0.000	0.000	(28)
REAC LYMPHS	*10 ³ /UL				0.121 ±	0.189	0.000	0.672	(31)
NRBC	/100 WBC	0 ±	1	(92)					
PLATE. CNT.	*10 ³ /UL	417 ±	245	(215)	670.7 ±	415.9	97.00	1200	(12)
RETICS	%	0.0 ±	0.0	(7)					
GLUCOSE	MG/DL	84 ±	15	(1437	79.02 ±	6.57	64.00	92.00	(41)
BUN	MG/DL	10 ±	3	(1458	16.05 ±	3.02	9.000	21.00	(43)
CREAT.	MG/DL	1.5 ±	0.5	(1405	1.363 ±	0.113	1.100	1.600	(43)
URIC ACID	MG/DL	0.2 ±	0.4	(466)	0.200 ±	0.000	0.200	0.200	(1)
CA	MG/DL	10.9 ±	0.6	(1434	10.77 ±	0.41	10.00	11.60	(43)
PHOS	MG/DL	4.9 ±	0.8	(1291	4.761 ±	0.794	3.200	6.300	(38)
NA	MEQ/L	129 ±	4	(1353	132.8 ±	2.1	127.0	137.0	(43)
K	MEQ/L	4.8 ±	0.5	(1368	4.737 ±	0.261	4.300	5.400	(43)
CL	MEQ/L	88 ±	4	(1323	90.67 ±	1.76	87.00	96.00	(42)
IRON	MCG/DL	79 ±	42	(54)					
MG	MG/DL	1.97 ±	0.75	(98)					
HCO3	MMOL/L	25.1 ±	3.6	(44)					
CHOL	MG/DL	68 ±	17	(1290	76.29 ±	7.17	60.00	91.00	(42)
TRIG	MG/DL	64 ±	31	(1124					
T. PROT. (C)	GM/DL	7.7 ±	0.6	(1261	7.954 ±	0.287	7.100	8.400	(43)
T. PROT. (R)	GM/DL	8.0 ±	0.4	(8)	7.943 ±	0.568	7.500	9.100	(7)
ALBUMIN (C)	GM/DL	3.6 ±	0.4	(1145	3.421 ±	0.282	3.000	4.100	(43)
GLOBULIN (C)	GM/DL	4.1 ±	0.5	(1135	4.600 ±	0.216	4.400	4.900	(4)
AST (SGOT)	IU/L	24 ±	10	(1398	13.67 ±	2.04	10.00	19.00	(43)
ALT (SGPT)	IU/L	7 ±	6	(547)	14.63 ±	3.43	6.000	21.00	(43)
T. BILI.	MG/DL	0.2 ±	0.1	(1187	0.313 ±	0.102	0.100	0.600	(40)
D. BILI	MG/DL	0.1 ±	0.1	(154)	0.000 ±	0.000	0.000	0.000	(1)
I. BILI.	MG/DL	0.1 ±	0.1	(152)	0.000 ±	0.000	0.000	0.000	(1)
AMYLASE	U/L	3075 ±	1552	(241)					
ALK. PHOS.	IU/L	128 ±	61	(1404	63.84 ±	11.12	48.00	96.00	(43)

Clinical Pathology Records Report - ISIS/In-House Reference Values
MILWAUKEE COUNTY ZOO

Scientific name: **LOXODONTA AFRICANA**
Common Name: **AFRICAN ELEPHANT**

		ISIS Values			In-House Values				
		Mean	S.D.	(N)	Mean	S.D.	Min.	Max.	(N)
LDH	IU/L	988 ±	568	(1099)	1012 ±	51	957.0	1063	(4)
CPK	IU/L	256 ±	196	(247)	220.3 ±	35.1	171.0	284.0	(23)
OSMOLARITY	MOSMOL/L	259 ±	4	(689)					
ALPHA GLOB.	GM/DL	0.7 ±	0.0	(1)					
ALPHA-1 GLOB	GM/DL	0.7 ±	0.2	(8)					
ALPHA-2 GLOB	GM/DL	1.0 ±	0.3	(8)					
BETA GLOB.	GM/DL	1.2 ±	0.8	(2)					
Body Temperature:		39.0 ±	0.0	(1)					
CO2	MMOL/L	27.0 ±	3.1	(840)	24.84 ±	1.98	21.00	29.00	(37)
DELTA BILI.	MMOL/L				0.200 ±	0.000	0.200	0.200	(1)
ESR	MM/HR	27 ±	0	(1)					
FIBRINOGEN	MG/DL	238 ±	139	(70)					
fibrinogen-s	MG/DL				500.0 ±	0.0	500.0	500.0	(1)
GGT	IU/L	12 ±	5	(389)	12.92 ±	1.99	9.000	17.00	(37)
GLOBULIN					4.526 ±	0.223	4.000	5.000	(39)
LIPASE	U/L	7 ±	7	(66)					
PROGESTERONE	NG/DL	144.8 ±	216.4	(266)					
TESTOSTERONE	NG/ML	1.010 ±	1.117	(2)					
total solids	MG/DL				8700 ±	0	8700	8700	(1)
TOTAL T4	NMOL/L	8.2 ±	1.3	(3)					
T3 (RIA)	NMOL/L	209.0 ±	0.0	(1)					
ALBUMIN (E)	GM/DL	4.4 ±	0.3	(7)					
GAMMA GLOB	GM/DL	1.6 ±	0.4	(7)					

