

Hemolysis

.....1988...

19.Jan Parasitology examination: (ROUTINE EXAMINATION) Fecal sample.

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Medical History Report - Summary for Individual Specimen
LOUISVILLE ZOOLOGICAL GARDEN

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=====
Scientific Name: ELEPHAS MAXIMUS (no subsp)           Accession #: 100479
Common Name: Asiatic elephant                         Female
Name: PUNCH                                           Birth: 29.Nov.1970 (Estimated)
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.....1988...

19.Jan NEGATIVE

6.Apr Parasitology examination: (ROUTINE EXAMINATION) Fecal sample.
NEGATIVE

10.Jul Parasitology examination: (ROUTINE EXAMINATION) Fecal sample.
NEGATIVE

11.Oct Parasitology examination: (ROUTINE EXAMINATION) Fecal sample.
NEGATIVE

.....1989...

26.Jan Parasitology examination: (ROUTINE EXAMINATION) Fecal sample.
NEGATIVE

22.Mar Parasitology examination: (ROUTINE EXAMINATION) Fecal sample.
NEGATIVE

27.Jun Parasitology examination: (ROUTINE EXAMINATION) Fecal sample.
NEGATIVE

25.Sep Blood sample: (EDTA) Hematology results.
WBC:14.00 *10³/UL; HCT: 38.0%;

9.Oct Blood sample: (EDTA) Hematology results.
WBC:13.60 *10³/UL; HCT: 35.0%;

30.Oct Blood sample: (EDTA) Hematology results.
WBC:11.00 *10³/UL; HCT: 39.0%;
Parasitology examination: (ROUTINE EXAMINATION) Fecal sample.
NEGATIVE

6.Nov Blood sample: Chemistry results.
BUN:9 MG/DL;

1.Dec Blood sample: (EDTA) Hematology/Chemistry/Serology results.
WBC:16.70 *10³/UL; HCT: 35.7%; BUN:13 MG/DL;

13.Dec Blood sample: (EDTA) Hematology results.
WBC:13.20 *10³/UL; HCT: 36.0%;

.....1990...

19.Jan Blood sample: (EDTA) Hematology results.
WBC:20.90 *10³/UL; HCT: 37.0%;

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LOUISVILLE ZOOLOGICAL GARDEN

Scientific Name: ELEPHAS MAXIMUS (no subsp)	Accession #: 100479
Common Name: Asiatic elephant	Female
Name: PUNCH	Birth: 29.Nov.1970 (Estimated)

.....1990...

- 26.Jan Blood sample: Chemistry results.
BUN:11 MG/DL;
- 8.Mar Parasitology examination: (ROUTINE EXAMINATION) Fecal sample.
NEGATIVE
- 11.May Blood sample: (EDTA) Hematology results.
WBC:20.10 *10³/UL; HCT: 37.6%;
- 7.Jun Blood sample: (EDTA) Hematology results.
WBC:15.70 *10³/UL; HCT: 39.6%;
- 20.Jun Parasitology examination: (DIAGNOSTIC EXAMINATION) Fecal sample.
NEGATIVE
- 9.Aug Rx: PSYLLIUM HYDROPHILIC MUCILLOID PO SID for 4 days.
Originally prescribed for 7 days. Treatment discontinued on
12.Aug.1990 TREATMENT STOPPED DUE TO RESOLUTION OF PROBLEM.
Tradename of drug used: METAMUCIL
- 5.Sep Blood sample: (16:05.0)
Blood sample: (16:06.0) Chemistry results.
BUN:10 MG/DL;
- 24.Sep Blood sample: (EDTA) Hematology results.
WBC:16.80 *10³/UL; HCT: 39.4%;
- 6.Nov Blood sample: (EDTA) Hematology/Chemistry/Serology results.
WBC:16.90 *10³/UL; HCT: 39.6%; BUN:10 MG/DL;

.....1991...

- 30.Jan Blood sample: (EDTA) Hematology/Chemistry/Serology results.
WBC:16.40 *10³/UL; HCT: 40.3%; BUN:12 MG/DL;
- 5.Aug Blood sample: (EDTA) (9:00.0) Hematology/Chemistry/Serology results.
WBC:15.10 *10³/UL; HCT: 45.3%; BUN:12 MG/DL;
Blood sample: (9:00.1)
- 25.Aug Blood sample: (EDTA) (9:00.0) Hematology/Chemistry/Serology results.
WBC:13.20 *10³/UL; HCT: 45.0%;
- 26.Aug Blood sample: (9:00.0) Chemistry results.
BUN:9 MG/DL;
Parasitology examination: (ROUTINE EXAMINATION) Fecal sample.
NEGATIVE
- 9.Sep Blood sample: Chemistry results.

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Medical History Report - Summary for Individual Specimen
LOUISVILLE ZOOLOGICAL GARDEN

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Scientific Name: ELEPHAS MAXIMUS (no subsp)           Accession #: 100479
Common Name: Asiatic elephant                         Female
Name: PUNCH                                           Birth: 29.Nov.1970 (Estimated)
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.....1991...

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9.Sep   BUN:8 MG/DL;
        Hemolysis

15.Oct  Blood sample: (EDTA) ( 9:30.0) Hematology/Chemistry/Serology results.
        WBC:14.90 *10^3/UL; HCT: 40.3%; BUN:11 MG/DL;

11.Nov  Blood sample: (EDTA) ( 9:30.0) Hematology/Chemistry/Serology results.
        WBC:14.70 *10^3/UL; HCT: 36.8%; BUN:12 MG/DL;

4.Dec   Parasitology examination: (ROUTINE EXAMINATION) Fecal sample.
        NEGATIVE

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.....1992...

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3.Feb  Blood sample: ( 9:30.0)
10.Feb Blood sample: ( 9:30.0)
17.Feb Blood sample: (10:30.0)
24.Feb Blood sample: ( 9:30.0)

2.Mar  Blood sample: ( 9:30.0)
9.Mar  Blood sample: (10:00.0)
        Hemolysis
16.Mar Blood sample: ( 9:30.0)
23.Mar Blood sample: ( 9:30.0) Chemistry results.
        BUN:9 MG/DL;
        Blood sample: ( 9:30.1)
30.Mar Blood sample: ( 9:30.0)
        Hemolysis

6.Apr  Blood sample: (11:00.0)
13.Apr Blood sample: (10:31.0)
21.Apr Blood sample: (11:01.0)
27.Apr Blood sample:
        Hemolysis

4.May  Blood sample:

9.Jun  Blood sample: (EDTA) Hematology results.
        WBC:13.70 *10^3/UL; HCT: 40.2%;
        Blood sample: ( : 0.1)
        Blood sample: ( 9:30.0) Chemistry results.
        BUN:9 MG/DL;
15.Jun Blood sample:
22.Jun Blood sample:

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=====
Scientific Name: ELEPHAS MAXIMUS (no subsp) Accession #: 100479
Common Name: Asiatic elephant Female
Name: PUNCH Birth: 29.Nov.1970 (Estimated)
=====

.....1992....

24.Jun Parasitology examination: (ROUTINE EXAMINATION) Fecal sample.
 COCCIDIA/
29.Jun Blood sample:

14.Jul Blood sample:
21.Jul Blood sample: (EDTA) (9:30.0) Hematology/Chemistry/Serology results.
 WBC:12.40 *10³/UL; HCT: 41.0%; BUN:8 MG/DL;
 Blood sample: (9:30.1)
27.Jul Blood sample:

4.Aug Blood sample:
11.Aug Blood sample:
17.Aug Blood sample:
24.Aug Blood sample:

1.Sep Blood sample:
8.Sep Blood sample:
14.Sep Blood sample:

3.Oct Parasitology examination: (ROUTINE EXAMINATION) Fecal sample.
 NEGATIVE

.....1993....

6.Jan Parasitology examination: (ROUTINE EXAMINATION) Fecal sample.
 NEGATIVE

20.Apr Parasitology examination: (ROUTINE EXAMINATION) Fecal sample.
 NEGATIVE

18.May Blood sample: (EDTA) Hematology/Chemistry/Serology results.
 WBC:12.70 *10³/UL; HCT: 40.0%;

22.Jun Blood sample: (EDTA) Hematology/Chemistry/Serology results.
 WBC:15.20 *10³/UL; HCT: 40.0%;

27.Jul Parasitology examination: (ROUTINE EXAMINATION) Fecal sample.
 NEGATIVE

9.Nov Parasitology examination: (ROUTINE EXAMINATION) Fecal sample.
 NEGATIVE

.....1994....

6.Jan Parasitology examination: (ROUTINE EXAMINATION) Fecal sample.

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Medical History Report - Summary for Individual Specimen
LOUISVILLE ZOOLOGICAL GARDEN

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Scientific Name: ELEPHAS MAXIMUS (no subsp) Accession #: 100479
Common Name: Asiatic elephant Female
Name: PUNCH Birth: 29.Nov.1970 (Estimated)
=====

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.....1994...
6.Jan NEGATIVE
13.Jun Blood sample: (EDTA) Hematology results.
11.Jul Parasitology examination: (ROUTINE EXAMINATION) Fecal sample.
NEGATIVE
25.Jul Blood sample: (EDTA) (9:30.0) Hematology results.
WBC:15.20 *10³/UL;
10.Aug Weight: 4855 Kg (10700 Lb)
10.Sep Sedated: AZAPERONE
Azaperone Trial: Anesthesia notes: 0854 - draped trunk over rail;
0907 - startled when keepers entered enclosure; 0909 - tail tied
with no problem; 0910 - big reaction when keeper pressed on perineal
area; 0914 - startled when hay thrown in enclosure.
5.Oct PROBLEM: lameness - leg, left rear (onset)
6.Oct Hx Keeper reports animal has been walking stiffly on left rear
leg for a few days.
S Elephant seems reluctant to flex left rear leg. Keepers report
the use of the left rear leg has improved over the last several
days.
O
A Lameness possible traumatic in origin.
P Monitor.
10.Oct Blood sample: Chemistry results.
BUN:11 MG/DL;
Blood sample: (EDTA) (: 0.1) Hematology results.
WBC:16.90 *10³/UL; HCT: 43.0%;
S Elephant is only slightly lame on the left rear leg.
O Blood collected by Keepers for CBC and chemistry. In-house CBC
normal.
A Significant improvement.
P Monitor.
11.Oct S
O Serum chemistries collected on 10/10 are normal.
A No systemic problem evidenced by serum chemistries.
P Monitor.
17.Oct PROBLEM: lameness - leg, left rear (resolved)
S Keepers report that animal is 98% normal.
O
A Initial lameness was likely due to trauma. Problem resolved.
P

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Medical History Report - Summary for Individual Specimen
LOUISVILLE ZOOLOGICAL GARDEN

Scientific Name: ELEPHAS MAXIMUS (no subsp) Accession #: 100479
Common Name: Asiatic elephant Female
Name: PUNCH Birth: 29.Nov.1970 (Estimated)

.....1994...

Health Records March 2005.txt

6.Nov Parasitology examination: (ROUTINE EXAMINATION) Fecal sample.
NEGATIVE

22.Dec S Keeper taste tested fenbendazole granules on elephants. All
elephants accepted a small amount.
O
A granules are palatable to elephants.
P Order granules & Rx next week. (RBB)

.....1995...

1.Jan Blood sample: (11:00.0)

2.Jan PROBLEM: anthelmintic treatment (onset)
Rx: FENBENDAZOLE 48.53gm PO SID for 3 days. (10 mg/kg)
Tradename of drug used: PANACUR GRANULES

4.Jan PROBLEM: anthelmintic treatment (resolved)

11.Jan S

O weight determined by scale a few months ago was 10,700 lb.
A Keepers expressed interest in adjusting vitamin E
supplementation to new body weight. Review of vitamin E literature
pertaining to elephants indicates that many zoos have had to
supplement at levels of 5.4 IU per kg. to achieve blood levels
similar to wild elephants. Our elephants have been supplemented at
the rate of 2 IU per kg.
P Collect blood for vitamin E determination. After results have
been evaluated, increase dosage. In the meantime, adjust vitamin E
dose so that elephants are receiving 2 IU per kg.

13.Jan Blood sample:

14.Jan Blood sample:

15.Jan Blood sample:

16.Jan Blood sample:

30.Jan Blood sample:

1.Feb Blood sample:

6.Feb Blood sample:

13.Feb Blood sample: (13:47.0)

20.Feb Blood sample:

28.Feb PROBLEM: anestrus

S

O It appears this elephant is no longer cycling as indicated by
flat-line serum progesterone.

A

P (RBB)

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Medical History Report - Summary for Individual Specimen
LOUISVILLE ZOOLOGICAL GARDEN

=====
Scientific Name: ELEPHAS MAXIMUS (no subsp)

Accession #: 100479

Common Name: Asiatic elephant

Female

Name: PUNCH

Birth: 29.Nov.1970 (Estimated)
=====

.....1995...

1.Mar Blood sample:

6.Mar Blood sample:

13.Mar Blood sample:

21.Mar Blood sample:

27.Mar Blood sample:
 1.Apr Blood sample:
 3.Apr Blood sample:
 11.Apr Blood sample: (10:30.0)
 Hemolysis
 17.Apr Blood sample:
 24.Apr Blood sample:
 1.May Blood sample:
 8.May Blood sample:
 15.May Blood sample:
 22.May Blood sample:
 29.May Blood sample:
 1.Jun Blood sample:
 5.Jun Blood sample:
 12.Jun Blood sample:
 19.Jun Blood sample:
 26.Jun Blood sample:
 1.Jul Blood sample:
 3.Jul Blood sample:
 10.Jul Blood sample:
 17.Jul Blood sample:
 24.Jul Blood sample: (EDTA) (9:00.0) Hematology results.
 WBC:13.70 *10³/UL; HCT: 41.0%;
 31.Jul Blood sample:
 1.Aug Blood sample:
 7.Aug Blood sample:
 14.Aug Blood sample:
 21.Aug Blood sample:
 28.Aug Blood sample:
 1.Sep Blood sample:
 4.Sep Blood sample:
 11.Sep Blood sample:
 18.Sep Blood sample:

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Medical History Report - Summary for Individual Specimen
 LOUISVILLE ZOOLOGICAL GARDEN

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=====
Scientific Name: ELEPHAS MAXIMUS (no subsp)           Accession #: 100479
Common Name: Asiatic elephant                         Female
Name: PUNCH                                           Birth: 29.Nov.1970 (Estimated)
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.....1995...
 25.Sep Blood sample:
 Hemolysis
 1.Oct Blood sample:
 9.Oct Blood sample:
 16.Oct Blood sample:
 23.Oct Blood sample:
 30.Oct Blood sample:

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1.Nov Blood sample:
6.Nov Blood sample:
20.Nov Blood sample:
27.Nov Blood sample:

1.Dec Blood sample:
4.Dec Blood sample:
11.Dec Blood sample:
14.Dec PROBLEM: vaccination
S
O
A

P Vaccinated with Tetanus toxoid (Super-Tet with Halvogen, 51085C) 2 ml IM in left triceps. Site surgically prepared before vaccination. (RBB)

18.Dec Blood sample:
26.Dec Blood sample:

.....1996...

2.Jan Blood sample:
8.Jan Blood sample:
15.Jan Blood sample:
29.Jan Parasitology examination: (ROUTINE EXAMINATION) Fecal sample.
NEGATIVE
31.Jan Blood sample:

5.Feb Blood sample:
12.Feb Blood sample:
19.Feb Blood sample:
26.Feb Blood sample:

4.Mar Blood sample:
11.Mar Blood sample:
18.Mar Blood sample:

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Medical History Report - Summary for Individual Specimen
LOUISVILLE ZOOLOGICAL GARDEN

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Scientific Name: ELEPHAS MAXIMUS (no subsp)           Accession #: 100479
Common Name: Asiatic elephant                         Female
Name: PUNCH                                           Birth: 29.Nov.1970 (Estimated)
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.....1996...

25.Mar Blood sample:

1.Apr Blood sample:
8.Apr Blood sample:
15.Apr Blood sample:
22.Apr Blood sample:
29.Apr Blood sample:

6.May Blood sample:
13.May Blood sample:
20.May Blood sample:
27.May Blood sample:

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3.Jun Blood sample:
Hemolysis
11.Jun Blood sample: (12:00.0)
17.Jun Blood sample:
24.Jun Blood sample:

1.Jul Blood sample: (EDTA) Hematology results.
WBC:12.10 *10³/UL; HCT: 45.0%;
Blood sample: (: 0.1)
3.Jul Parasitology examination: (ROUTINE EXAMINATION) Fecal sample.
NEGATIVE
8.Jul Blood sample:
15.Jul Blood sample:
22.Jul Blood sample:
29.Jul Blood sample:

5.Aug Blood sample:
12.Aug Blood sample:
19.Aug Blood sample: (9:30.0)
26.Aug Blood sample:

2.Sep Blood sample:
9.Sep Blood sample:
16.Sep Blood sample:
23.Sep Blood sample:
30.Sep Blood sample:

7.Oct Blood sample:
14.Oct Blood sample:
21.Oct Blood sample:
Hemolysis

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Medical History Report - Summary for Individual Specimen
LOUISVILLE ZOOLOGICAL GARDEN

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Scientific Name: ELEPHAS MAXIMUS (no subsp)           Accession #: 100479
Common Name: Asiatic elephant                         Female
Name: PUNCH                                           Birth: 29.Nov.1970 (Estimated)
=====

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.....1996....

28.Oct Blood sample:

4.Nov Blood sample:
5.Nov weight: 3025 Kg (6667 Lb)
11.Nov Blood sample:
18.Nov Blood sample:
25.Nov Blood sample:

1.Dec PROBLEM: vaccination - rabies (imrab) (onset)
2.Dec Blood sample:
7.Dec PROBLEM: vaccination - rabies (imrab) (resolved)
S Due for rabies vaccination.
O
A
P Left triceps scrubbed with betadine and alcohol. 2ml rabies
vaccine (Imrab serial# 660042 exp 6JAN97) IM given. (KJT)
9.Dec Blood sample:

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16.Dec Blood sample:
20.Dec PROBLEM: ingestion of foreign body (onset)
Purpose/Problem: abscess - perineum (Confirmed); foreign body ingestio
Rx: PSYLLIUM HYDROPHILIC MUCILLOID 52oz PO SID for 4 days.
CHARCOAL, ACTIVATED 16oz PO SID
Hx An exhibit mate elephant got into the service area and
dismantled and spread out equipment, appliances, and fixtures. A
lot of the debris including metal, plastic, and chemicals
(disinfectant A-33) were spread into the stall with this elephant.
S Elephant appears normal.
O
A Possible ingestion of foreign material or chemical.
P Treat prophylactically with Metamucil and activated charcoal.
(RBB)
22.Dec Blood sample:
Blood sample: (: 0.1)
23.Dec Blood sample:
26.Dec PROBLEM: ingestion of foreign body (resolved)
S Keepers report all elephants are doing well. Only a small
piece of plastic was found in feces.
O
A
P Resolve problem. (RBB)
30.Dec Blood sample:

.....1997...

6.Jan Blood sample:

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Medical History Report - Summary for Individual Specimen
LOUISVILLE ZOOLOGICAL GARDEN

=====
Scientific Name: ELEPHAS MAXIMUS (no subsp) Accession #: 100479
Common Name: Asiatic elephant Female
Name: PUNCH Birth: 29.Nov.1970 (Estimated)
=====

.....1997...

6.Jan Hemolysis
11.Jan S
O Blood copper level sent in to KY State Lab on 23 Dec is normal.
A Serum was submitted for CU analysis in response to a missing
lock which could have been ingested. Copper level is normal.
P (RBB)
13.Jan Blood sample: (13:20.0)
20.Jan Blood sample:
6.Feb Parasitology examination: (ROUTINE EXAMINATION) Fecal sample.
Parasitology examination: (ROUTINE EXAMINATION) Fecal sample.
NEGATIVE
NEGATIVE
17.Feb PROBLEM: tuberculin testing (onset)
18.Feb PROBLEM: tuberculin testing (resolved)
tuberculosis screening (onset)
Purpose/Problem: tuberculin testing
TB test: TUBERCULIN, PPD BOVIS 0.1ml ID SID - Suspect
Tuberculin tested in right caudal tail fold. Exp: 17 April 97.
S TB test performed in the right caudal tail fold. The skin
thickness was measured with calipers, the area was then scrubbed and
Page 68

prepped in sterile fashion. The site of injection had no pigment for identification purposes.

O Skin thickness 0.75cm.

A

P 0.1ml Tuberculin PPD Bovis (Serial #KD557, exp 17APR97) was injected intradermally in the caudal tail fold. (KJT)

19.Feb S Skin of TB test site is pink and palpably thicker than yesterday. No accurate measurements were taken.

O

A

P (KJT)

20.Feb S 48 hour TB check. Skin is still pink and thick.

O Caliper measurement is 1.28cm at site of injection.

A

P (KJT)

21.Feb PROBLEM: TB test responder (onset)

S 72 Hour TB test: Skin is no longer pink, but there is a palpable small, firm thickness in the skin at the injection site. Caliper measurement is 1.05cm thickness.

O

A The other elephants have no similar lesions. Cannot say this test is negative. TB suspect

P Call appropriate authorities to determine next diagnostic

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Medical History Report - Summary for Individual Specimen
LOUISVILLE ZOOLOGICAL GARDEN

Turned out okay.

Scientific Name: ELEPHAS MAXIMUS (no subsp)

Accession #: 100479

Common Name: Asiatic elephant

Female

Name: PUNCH

Birth: 29.Nov.1970 (Estimated)

.....1997...

21.Feb regiment. (KJT)

25.Mar PROBLEM: blood collection

Blood sample: (EDTA) (10:15.0) Hematology results.

WBC:11.70 *10³/UL; HCT: 42.0%;

Blood sample: (10:15.1) Chemistry results.

BUN:5 MG/DL;

S Blood was drawn for further TB testing, CBC and chemistry.

O

A

P (KJT)

28.Mar

S CBC/chem results show an elevated amylase per ISIS but normal for in house samples.

A

P (RBB)

8.Apr PROBLEM: culture

Clinical note recorded. (CUL)

S

O Swabbed oral cavity and flushed trunk (30 ml sterile saline) to collect samples for Mycobacterium culture at NVSL, Ames Iowa.

A

P

Information re P. Luvas necropsied elephant culture: M. avium

identified. Consult w/ USDA re continued testing of Louisville Zoo elephants. (RBB)

21.Apr PROBLEM: blood collection
Rebled for BTB test. Previous blood sample did not give a diagnostic sample. (RBB)

22.Apr Blood sample:

8.Jul PROBLEM: blood collection
Parasitology examination: (ROUTINE EXAMINATION) Fecal sample.
NEGATIVE
Blood collected for second BTB test. (RBB)

9.Jul Blood sample:
Blood sample: (: 0.1)

24.Jul S
O Results from second BTB test (drawn 8 July) are negative.
A
P (RBB)

7.Aug PROBLEM: tuberculosis screening (resolved)

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Medical History Report - Summary for Individual Specimen
LOUISVILLE ZOOLOGICAL GARDEN

Scientific Name: ELEPHAS MAXIMUS (no subsp)	Accession #: 100479
Common Name: Asiatic elephant	Female
Name: PUNCH	Birth: 29.Nov.1970 (Estimated)

.....1997....

7.Aug TB test responder (resolved)
Wrote letter to Dr. Binkley, USDA, with results and stated LZG veterinary staff interprets results as there is no active tuberculosis in our herd and we plan no further testing. (RBB)

22.Dec Parasitology examination: (ROUTINE EXAMINATION) Fecal sample.
NO PARASITES SEEN

.....1998....

26.Jan PROBLEM: trunk wash
Clinical note recorded. (CUL)
S Trunk wash performed to screen for tuberculosis per USDA Animal Welfare Act recommendation.
O 20+ ml of saline recovered.
A
P Sixty ml of saline flushed into trunk. A clean plastic bag placed around end of trunk and sample recovered when elephant exhaled. Subsequent washes scheduled for 1/27 and 1/28/98. (VRC)

27.Jan PROBLEM: culture - trunk
Blood sample:
Clinical note recorded. (CUL)
S Second trunk wash performed to screen for tuberculosis per USDA Animal Welfare Act recommendation.
O 20+ ml of saline recovered.
A
P Sixty ml of saline flushed into trunk. A clean plastic bag placed around end of trunk and sample recovered when elephant exhaled. (VRC)

- 28.Jan PROBLEM: culture - trunk
 Clinical note recorded. (CUL)
 S Third trunk wash performed to screen for tuberculosis per USDA
 Animal Welfare Act recommendation.
 O 20+ ml of saline recovered.
 A
 P Sixty ml of saline flushed into trunk. A clean plastic bag
 placed around end of trunk and sample recovered when elephant
 exhaled. Samples sent to National Veterinary Services Lab for
 analysis. (VRC)
- 2.Feb Blood sample:
 Hemolysis
- 10.Feb Blood sample:
- 11.Feb Blood sample:

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Medical History Report - Summary for Individual Specimen
 LOUISVILLE ZOOLOGICAL GARDEN

=====
 Scientific Name: ELEPHAS MAXIMUS (no subsp) Accession #: 100479
 Common Name: Asiatic elephant Female
 Name: PUNCH Birth: 29.Nov.1970 (Estimated)
 =====

-1998....
- 16.Feb Blood sample:
 23.Feb Blood sample:
- 2.Mar Blood sample:
 9.Mar Blood sample:
 16.Mar Blood sample:
 23.Mar Blood sample:
 30.Mar Blood sample:
- 6.Apr Blood sample:
 13.Apr Blood sample:
 20.Apr PROBLEM: culture - trunk
 Blood sample: (12:30.0)
 Clinical note recorded. (CUL)
 S
 O
 A
 P Begin 3 day trunk wash series as screen for tuberculosis per
 recent USDA guidelines. Technique #1 (Trunk wash with bag) used
 (placing 60 ml saline in trunk and allowing blow-out into plastic
 bag). (RBB)
- 21.Apr PROBLEM: culture - trunk
 Clinical note recorded. (CUL)
- 22.Apr PROBLEM: culture - trunk
 Clinical note recorded. (CUL)
- 27.Apr Blood sample:
 Blood sample: (: 0.1)
- 4.May Blood sample:
 11.May Blood sample: (13:10.0)
 14.May S
 O Vitamin e level from blood collected 27 April 98 was 1.56 ug/ml,
 at the high end of normal for this species.

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A Good E levels, YES!
 P Continue supplement. (RBB)
 18.May Blood sample: (15:00.0)
 26.May Blood sample: (14:00.0)

 1.Jun Blood sample: (13:00.0)
 8.Jun Blood sample: (11:30.0)
 Hemolysis
 15.Jun PROBLEM: blood collection
 Blood sample: (EDTA) (8:45.0) Hematology results.
 WBC:11.20 *10³/UL; HCT: 40.0%;

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Medical History Report - Summary for Individual Specimen
 LOUISVILLE ZOOLOGICAL GARDEN

Scientific Name: ELEPHAS MAXIMUS (no subsp)	Accession #: 100479
Common Name: Asiatic elephant	Female
Name: PUNCH	Birth: 29.Nov.1970 (Estimated)

.....1998...

15.Jun Blood sample: (8:45.1)
 Hemolysis
 S: Blood collected by vet tech externs.
 O: CBC was unremarkable.
 A:
 P: (DPW)
 22.Jun Blood sample: (13:45.0)
 29.Jun Blood sample: (11:00.0)

 6.Jul Blood sample: (14:30.0)
 7.Jul Parasitology examination: (ROUTINE EXAMINATION) Fecal sample.
 NO PARASITES SEEN
 13.Jul Blood sample: (11:00.0)
 20.Jul Blood sample: (13:00.0)
 22.Jul PROBLEM: ultrasound - uterus
 Hx Ultrasound examination of uterus and ovaries by Dr. Robert Hermes, working out of Indianapolis Zoo. Also present were Debbie Olson, Curator of the Plains and David Hagan, Head Plains keeper of Indianapolis Zoo. No sedation needed.
 S The uterus is enlarged and thickened throughout with multiple fluid filled cavities throughout the endometrium and myometrium. A 5 x 3 cm mass similar to a leiomyoma was observed. Ovaries are inactive.
 O
 A It is highly doubtful this elephant's uterus would support a pregnancy. If GNRH or HCG were used to attempt to stimulate ovaries, it would be best to follow the ovaries via ultrasound. However, due to the condition of the uterus, it is likely the animal could not become pregnant. Perhaps firming up the elephant's body condition would help. The Pittsburgh Zoo tried hormone stimulation of the ovaries and the elephant experienced abdominal pain and had difficulties. as a result. PGF2 alpha does not effect the uterus of elephants. Dr. Hermes has not seen the fluid filled cavity degeneration in many asian cows. He had seen it in 1 other cow which had borne offspring.
 P Continue freezing weekly serum samples. (RBB)
 27.Jul PROBLEM: culture - trunk (onset)

possibly by veterinary, determine stim. vial possible

Blood sample: (11:20.0)
Blood sample: (11:20.1)
Hemolysis
30.Jul PROBLEM: culture - trunk (resolved)
3.Aug Blood sample:
10.Aug Blood sample: (10:55.0)

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Medical History Report - Summary for Individual Specimen
LOUISVILLE ZOOLOGICAL GARDEN

Scientific Name: ELEPHAS MAXIMUS (no subsp)	Accession #: 100479
Common Name: Asiatic elephant	Female
Name: PUNCH	Birth: 29.Nov.1970 (Estimated)

.....1998....

17.Aug Blood sample:
24.Aug Blood sample:
Hemolysis
26.Aug Blood sample:
31.Aug Blood sample:

7.Sep Blood sample:
14.Sep Blood sample:
21.Sep Blood sample:
28.Sep Blood sample:

5.Oct Blood sample:
12.Oct Blood sample:
28.Oct Blood sample:

3.Nov Blood sample:
11.Nov Blood sample:
16.Nov PROBLEM: culture - trunk (onset)
Clinical note recorded. (CUL)
S Trunk wash performed to screen for tuberculosis per USDA Animal Welfare Act recommendation.
O 40+ ml of saline recovered.
A
P Sixty ml of saline flushed into trunk. A clean plastic bag was placed around end of trunk and sample recovered when elephant exhaled. Subsequent washes scheduled for 11/17 and 11/18. (JCT)

17.Nov Blood sample:
Hemolysis
Clinical note recorded. (CUL)
S Trunk wash performed to screen for tuberculosis per USDA Animal Welfare Act recommendation.
O 40+ ml of saline recovered.
A
P Sixty ml of saline flushed into trunk. A clean plastic bag was placed around end of trunk and sample recovered when elephant exhaled. Last wash scheduled for 11/18/98. (JCT)

18.Nov PROBLEM: culture - trunk (resolved)
Clinical note recorded. (CUL)
S Trunk wash performed to screen for tuberculosis per USDA Animal Welfare Act recommendation.
O 40+ ml of saline recovered.

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A
P Sixty ml of saline flushed into trunk. A clean plastic bag was placed around end of trunk and sample recovered when elephant

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Medical History Report - Summary for Individual Specimen
LOUISVILLE ZOOLOGICAL GARDEN

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=====
Scientific Name: ELEPHAS MAXIMUS (no subsp)           Accession #: 100479
Common Name: Asiatic elephant                         Female
Name: PUNCH                                           Birth: 29.Nov.1970 (Estimated)
=====
```

.....1998...

18.Nov exhaled. Today is the last of three washes. (JCT)
23.Nov Blood sample:
30.Nov Blood sample:

7.Dec Blood sample: (: 3.0)
14.Dec Blood sample:
Blood sample: (: 0.1)
19.Dec Blood sample:
21.Dec Blood sample:
28.Dec Blood sample:
29.Dec Parasitology examination: (ROUTINE EXAMINATION) Fecal sample.
NO PARASITES SEEN

.....1999...

4.Jan Blood sample:
11.Jan Blood sample:
19.Jan Blood sample:
25.Jan Blood sample:

1.Feb Blood sample:
8.Feb Blood sample:
10.Feb Hx: Trunk wash results.
S:
O: No mycobacterial organisms were isolated from 3 consecutive trunk washes submitted to NVSL. Washes were collected on 16-18 Nov 98.
A:
P: (MRB)
15.Feb Blood sample:
22.Feb Blood sample:

1.Mar Blood sample:
8.Mar Blood sample:
15.Mar Blood sample:
22.Mar Blood sample:
29.Mar Blood sample:
Hemolysis

5.Apr Blood sample:
12.Apr Blood sample:
19.Apr Blood sample:
20.Apr PROBLEM: mass - vulva (onset)
Hx: Staff (Dave) requested that AHC staff evaluate this animal's vulvar mass. Animal has had this mass for at least 5 years. The mass

Medical History Report - Summary for Individual Specimen
LOUISVILLE ZOOLOGICAL GARDEN

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=====
Scientific Name: ELEPHAS MAXIMUS (no subsp)           Accession #: 100479
Common Name: Asiatic elephant                         Female
Name: PUNCH                                           Birth: 29.Nov.1970 (Estimated)
=====

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.....1999...

- 20.Apr has slowly enlarged over time.
S: Examination performed in AM. A 2-inch diameter pedunculated mass was visualized along the left aspect of the vulva. The pedunculated stalk is approximately 1.5 inches in length and 1 cm in diameter. The stalk epithelium appears normal. The mass is whitish pink in color and has a "cauliflower-like" appearance. A few small "mole-like" white protrusions were also observed along the perimeter of the vulva. A large region (~5 in. x 4 in.) of the caudal vulvar epithelium was also whitish pink in color with a cauliflower-like surface. This affected epithelium was not pedunculated.
O:
A: Suspect vulvar mass is a papilloma. This is a benign neoplastic proliferation of epithelial cells that sometimes contains a connective tissue core. Definitive diagnosis requires histopathology.
P: Discuss treatment options with mammal curatorial staff at AHC/ Mammal Dept meeting tomorrow. (MRB)
- 26.Apr Blood sample:
- 3.May Blood sample:
- 10.May Blood sample:
Hemolysis
- 13.May S Recheck of pedunculated vulvar mass. Dimensions are 2 1/4" diameter and a 2" stalk.
O
A Lesion may be slowly growing. Discussed Rx range of options from surgical dissection to simply tying the pedunculated mass off at the base of the stalk and snipping it off as a biopsy to determine the etiology of it and the patch in the vulva. Due to staffing issues, Elephant Area will take a few days to get a plan.
P (RBB)
- 17.May Blood sample:
- 24.May Blood sample:
- 1.Jun Blood sample:
- 7.Jun Blood sample:
- 14.Jun Blood sample:
- 21.Jun Blood sample:
- 28.Jun PROBLEM: blood collection
Blood sample: (EDTA) (9:45.0) Hematology results.
WBC:9.40 *10³/UL; HCT: 46.0%;
Blood sample: (9:45.1)
- 1.Jul Hx: Opportunistic CBC from blood collected on 28 Jun 99.

Lump

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Medical History Report - Summary for Individual Specimen
LOUISVILLE ZOOLOGICAL GARDEN

=====
Scientific Name: ELEPHAS MAXIMUS (no subsp) Accession #: 100479
Common Name: Asiatic elephant Female
Name: PUNCH Birth: 29.Nov.1970 (Estimated)
=====

.....1999...

1.Jul S:
O: CBC results revealed a mild neutropenia. All other parameters
within ISIS norms.
A:
P: (MRB)
12.Jul PROBLEM: culture - trunk (onset)
Blood sample:
S Trunk washes performed 7/12, 7/13, 7/14 for annual tuberculosis
screen.
O
A
P Samples to be frozen until shipped to National Veterinary
Services Lab. (VRC)
14.Jul PROBLEM: culture - trunk (resolved)
19.Jul Blood sample:
26.Jul Blood sample:

2.Aug Blood sample:
9.Aug Blood sample:
16.Aug Blood sample:
23.Aug Blood sample:
Hx: Staff reported on daily report that a few abscesses on the right
rear leg were cleaned today. (MRB)
30.Aug Blood sample:

6.Sep Blood sample:
13.Sep Blood sample:
20.Sep Blood sample:
Hemolysis
28.Sep Blood sample:

4.Oct Blood sample:
11.Oct Blood sample:
18.Oct Blood sample:
21.Oct Clinical note recorded. (CUL)
25.Oct Blood sample:
28.Oct PROBLEM: surgical removal
Clinical note recorded. (CYT)
Vulvar mass removal.
Hx This elephant has had a very slow growing pedunculated mass
originating from the vulval folds.
S The mass has a cauliflower like surface. It measures approx
7cmx6cmx6cm and weighs 73 grams. In house cytology from impression

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Medical History Report - Summary for Individual Specimen
LOUISVILLE ZOOLOGICAL GARDEN

Scientific Name: ELEPHAS MAXIMUS (no subsp)
Common Name: Asiatic elephant
Name: PUNCH

Accession #: 100479
Female
Birth: 29.Nov.1970 (Estimated)

.....1999...

28.Oct smear reveals mass is not very cellular.

O
A Per Medical Management of the Elephant (Mikota et al), vaginal masses are not uncommon in the elephant. In those masses biopsied, histopathological diagnoses included lymphoid hyperplasia, chronic non-suppurative inflammation, and sarcoma. Two reports of surgical removal were listed. Of one (Munson in JAVMA 189:9, 1986), the polyp was accompanied by a region of the vaginal wall which had a similar appearance. This latter case is very similar to our elephant's presentation.

P EMLA topical anesthetic ointment was applied at approximately 9:45 AM to the stalk of the mass. At 10:05 or so, 2 ml of 2% lidocaine was injected into the peduncle of the mass. The elephant did not have an adverse reaction to the needle stick. At 10:20, two transfexion ligatures of #1 vicryl were placed at the mid body of the peduncle and the mass was cut away distal to the ligatures. Only a few drops of blood were produced at the site. The elephant did not show an adverse reaction to the cutting of the mass. The elephant did move about nearly constantly during the procedure which was interpreted as being anxious about having the urogenital area manipulated rather than pain associated with the procedure. (RBB)
Biopsy report: 1999-B35

29.Oct S: Keepers report that animal is doing well today. Area between ligatures appears a little inflamed but no discharge, swelling or blood is noted.

O:
A: as expected
P: pending histo results (MAJ)

S
O Culture results from annual trunk washes performed July 12, 13, and 14, 1999 at NVSL showed no isolation made.

A
P (RBB)

1.Nov Blood sample:

Hx Staff reports the stump where the mass was removed 28 Oct 99 is swollen.

S Exam shows the stump of the mass is swollen about twice the size it was when the mass was removed. Sutures are still in place. No redness or drainage present.

O
A Likely inflammation associated with procedure.
P Monitor. (RBB)

3.Nov Hx: Staff reports that stump of mass removal looks more swollen and

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Medical History Report - Summary for Individual Specimen
LOUISVILLE ZOOLOGICAL GARDEN

Scientific Name: ELEPHAS MAXIMUS (no subsp)
Common Name: Asiatic elephant
Name: PUNCH

Accession #: 100479
Female
Birth: 29.Nov.1970 (Estimated)

constantly -
anxious about be
touched

.....1999...

- 3.Nov appears to have pus associated with it.
S: Examination of stump reveals that the stump is significantly swollen and that the top ligature is cutting into the swollen tissue and has caused a severe ulcerated area around this ligature. There is white necrotic tissue in the area and it appears to be rather sensitive to manipulation. The distal ligature appears intact and the tissue around it is dark and dry as expected. There is no obvious or copious amount of purulent material
O: Removed top ligature. Scrubbed with Nolvasan solution and applied topical DMSO.
A: Stump does not appear to be infected at this time, however there is significant inflammation associated with the top ligature site. Removal of ligature and daily cleansing should suffice.
P: Instructed keepers to clean area with pressure spray from hose 1-2 times daily and remove necrotic tissue. Then swab or squirt with Betadine. Recheck tomorrow. (MAJ)
- 5.Nov S: examination of the surgical site reveals marked reduction in the amount of swelling and inflammation. There is less necrotic tissue and no evident puss. The top ligature is loose but still connected by the transfixation knot. The ulcerated lesion caused by the constriction is now open to heal.
O:
A: improved.
P; continue daily flushing with hose and betadine soak until further notice. (MAJ)
- 8.Nov Blood sample:
Hx Daily report from 7 Nov 99 indicates mass removal site is doing well. (RBB)
- 12.Nov Hx Opportunistic exam with Dr. Linhart, board certified theriogeniologist.
S Dr. linhart was able to see far up into the vaginal vault and observed not a plaque like thickening of the vaginal wall but an lining of many, many clusters of polyps.
O
A San Diego WAP had an elephant in which this was reported in in the '70's. They have been contacted to inquire of the long term effect on the elephant.
P Continue in correspondence efforts. (RBB)
- 15.Nov Blood sample:
- 18.Nov Telephone conversation with Dr. Jim Oosterhuis, San Diego wild Animal Park. This park held an elephant which had a similar condition as Punch reported in the early '70's literature. Dr. Oosterhuis remembers this elephant. Their elephant had a huge mass with an appearance of "the biggest clump of grapes you've ever seen" break

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Medical History Report - Summary for Individual Specimen
LOUISVILLE ZOOLOGICAL GARDEN

=====
Scientific Name: ELEPHAS MAXIMUS (no subsp) Accession #: 100479
Common Name: Asiatic elephant Female
Name: PUNCH Birth: 29.Nov.1970 (Estimated)
=====

.....1999...

- 18.Nov loose from and hang from the vulva. They removed it via general anesthesia and surgery. The mass removed was about 6 lbs. They did

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not remove the masses of similar polyps lining the vulva. The elephant lived at least 10 years after the surgery. The elephant never had a problem associated with the remaining vulvar masses. During this time, they could see the masses and palpate them. The elephant died of unrelated problems.

S

O

A

P Monitor. (RBB)

22.Nov Blood sample:
Urine sample analysis results: (: 0.1)

29.Nov Blood sample:

6.Dec Blood sample:

14.Dec Blood sample:
Blood sample: (: 0.1)

20.Dec Blood sample:

27.Dec Blood sample:
Parasitology examination: (ROUTINE EXAMINATION) Fecal sample.
NO PARASITES SEEN

.....2000...

3.Jan Blood sample:

10.Jan Blood sample:

17.Jan Blood sample:

18.Jan Blood sample:

24.Jan Blood sample:

Blood sample: (: 0.1)

31.Jan Blood sample:

Assay for encephalomyocarditis virus from sample #2 was negative (Dr. Soike, Tulane Primate Center, 504-892-2040, ext 230). Dr. Soike believes there was a non-specific inhibitor in sample #1. Dr. Soike reports samples from all 3 elephants are negative. (RBB)

7.Feb Blood sample:

14.Feb Blood sample:

Hx Serum Vit E analysis result

S

O Recent serum sample shows Vit e level of 2.19 ug/ml

A This is a normal and good value per Dr. Dierenfeld.

P Continue current supplement. (RBB)

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Medical History Report - Summary for Individual Specimen
LOUISVILLE ZOOLOGICAL GARDEN

=====
Scientific Name: ELEPHAS MAXIMUS (no subsp)

Accession #: 100479

Common Name: Asiatic elephant

Female

Name: PUNCH

Birth: 29.Nov.1970 (Estimated)

.....2000...

21.Feb Blood sample:

28.Feb Blood sample:

6.Mar Blood sample:

13.Mar Blood sample:

20.Mar Blood sample:

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Hemolysis

3.Apr Blood sample:
10.Apr Blood sample:
17.Apr Blood sample:
24.Apr Blood sample:

1.May Blood sample:
8.May PROBLEM: culture - trunk
Blood sample:
Hemolysis
S Trunk washes collected 5/8, 5/9, and 5/12 for annual tuberculosis screen.
O
A
P Samples are to remain frozen until sent to National Veterinary Services Lab on Monday May 15, 2000. (ERH)

9.May PROBLEM: culture - trunk
12.May PROBLEM: culture - trunk
15.May Blood sample:
22.May Blood sample:
30.May Blood sample:
31.May PROBLEM: JOHNE'S DISEASE SCREENING

6.Jun Blood sample:
12.Jun Blood sample: (EDTA) (9:30.0) Hematology results.
WBC:13.40 *10³/UL; HCT: 39.0%;
Blood sample: (9:30.1)
Hemolysis

19.Jun PROBLEM: vaccination
Blood sample:
Vaccination: RABIES VACCINE (KILLED) 2ml IM SID
expires 17 Sep 02
TETANUS TOXOID 1ml IM SID
S Elephant vaccinated with Imrab Bovine Plus (killed rabies) and tetanus toxoid in the left bicep. Area was cleaned with povodine-iodine and isopropyl alcohol before vaccinating.
O

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LOUISVILLE ZOOLOGICAL GARDEN

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=====
Scientific Name: ELEPHAS MAXIMUS (no subsp)           Accession #: 100479
Common Name: Asiatic elephant                         Female
Name: PUNCH                                           Birth: 29.Nov.1970 (Estimated)
=====

```

.....2000....

19.Jun A
P Revaccinated annually. (VRC)

26.Jun Blood sample:
28.Jun Parasitology examination: (ROUTINE EXAMINATION) Fecal sample.
NO PARASITES SEEN

3.Jul Blood sample:
10.Jul Blood sample:
13.Jul S: results of blood collected June 12
O: CBC is normal (MAJ)

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- 17.Jul Blood sample:
24.Jul Blood sample:
31.Jul Blood sample:
Hemolysis
- 3.Aug Clinical note recorded. (CUL)
7.Aug Blood sample:
14.Aug Blood sample:
21.Aug Blood sample:
- 22.Sep S
O Serum progesterone results recently run for blood collected 14
Feb 00 - 21 Aug 00 show elephant is still not cycling.
A
P (RBB)
- 17.Oct PROBLEM: mass - vulva (resolved)
Visual Inspection - vulva
S with punch lying in a left lateral position, the vulva was
inspected. The vulvar lips and mucosa still have an irregular,
"cauliflower-like" texture. There are a few small (1-2 cm)
pedunculated growths in this area. Digital images were taken to
document the way the vulva looks today. The elephant has not been
bothered by this region per keepers.
O
A
P Continue to monitor vulva for pathology. Resolve for records
purposes. (ZSG)
- 20.Nov Blood sample:
28.Nov Parasitology examination: (ROUTINE EXAMINATION) Fecal sample.
NO PARASITES SEEN
- 8.Dec S

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Medical History Report - Summary for Individual Specimen
LOUISVILLE ZOOLOGICAL GARDEN

=====
Scientific Name: ELEPHAS MAXIMUS (no subsp) Accession #: 100479
Common Name: Asiatic elephant Female
Name: PUNCH Birth: 29.Nov.1970 (Estimated)
=====

.....2000....

- 8.Dec O Serum alpha tocopherol (Vitamin E) concentration from blood
collected 20 Nov 00 is 1.945
A Level is normal (0.6 - 1.2 ug/ml) and vit E supplementation is
currently adequate.
P (RBB)

.....2001....

- 2.Apr Hx The elephants are due for their annual tetanus toxoid
vaccination this month. There has been some recent discussion on
the International Zoo Vet Forum regarding whether it is necessary to
vaccinate elephants yearly for tetanus for their entire life. On
the Forum, a contributor mentioned that Dr. Ramiro Isaza at Kansas
State University is doing some studies on tetanus vaccination titers

in elephants

S Telephone consultation with Dr. Isaza.

O

A Current recommendation is based on what is done in horses. An unpublished, anecdotal report suggests that titers in response to tetanus vaccination in elephants are short-lived and do not last longer than 6 months. There is question to where this information came from and how it was interpreted. Elephants do not require high titers, just protective titers. Dr. Isaza is currently looking at tetanus titers and is at the beginning stages. His working hypothesis is that annual vaccination in elephants is probably an overkill based on (1) high incidence of morbidity (lameness, abscesses) after vaccination, (2) in most species, including humans, yearly vaccination is not necessary, and (3) tetanus is not a common occurrence in elephants (2-3 reported cases). For now, until there is scientific justification to change, annual tetanus vaccination in elephants is the current standard of practice.

P Coordinate tetanus and rabies vaccination with elephant area. (ZSG)

- 1.May PROBLEM: vaccination - rabies
vaccination - Tetanus toxiod
Purpose/Problem: vaccination - rabies; vaccination - Tetanus toxiod
Vaccination: RABIES VACCINE (KILLED) 2ml IM SID
TETANUS TOXOID 1ml IM SID
Hx The elephants were scheduled for annual vaccinations today.
S Punch was vaccinated in the hamstring region with a 1.5 inch, 20 gauge needle while in sternal recumbency. The areas were washed with water and scrubbed with dilute chlorhexidine before vaccine administration.

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LOUISVILLE ZOOLOGICAL GARDEN

Scientific Name: ELEPHAS MAXIMUS (no subsp)	Accession #: 100479
Common Name: Asiatic elephant	Female
Name: PUNCH	Birth: 29.Nov.1970 (Estimated)

.....2001...

- 1.May O Vaccinated with Imrab on the right side, tetanus toxoid on the left side.
A
P Elephant staff will monitor for swelling, abscesses, or lameness.
Rx: RABIES VACCINE (KILLED) 2 ml IM SID for 1 day. (12380)
Rx: TETANUS TOXOID 1 ml IM SID for 1 day. (277318A) (ZSG)
- 12.Jun PROBLEM: culture - trunk (onset)
S Trunk wash collected today for annual tuberculosis screen per USDA Animal Welfare Act recommendation.
O 20+ mls were recovered and frozen.
A
P Repeat trunk wash for two more days. (ERH)
- 13.Jun S Second trunk wash collected today for annual tuberculosis screen per USDA Animal Welfare Act recommendation.
O 20+ mls were recovered and frozen.
A

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- 14.Jun P Repeat trunk wash tomorrow. (ERH)
PROBLEM: culture - trunk (resolved)
S Third trunk wash collected today for annual tuberculosis screen per USDA Animal Welfare Act recommendation.
O 20+ mls were recovered and sent with the previous two samples to NVSL for Mycobacterium culture with speciation, acid fast stains and nucleic acid amplification.
A
P Await results. (ERH)
- 3.Jul Parasitology examination: (ROUTINE EXAMINATION) Fecal sample.
NO PARASITES SEEN
- 14.Aug Clinical note recorded. (CUL)
22.Aug Clinical note recorded. (CUL)
- 19.Oct PROBLEM: Visual Inspection - vulva
S Elephant was asked to lie down to allow examination of the vulvar region. Mucosa still has a cauliflower-like appearance but there is no evidence of mass recurrence.
O
A
P Elephant area staff will monitor. (ZSG)
- 11.Dec Parasitology examination: (ROUTINE EXAMINATION) Fecal sample.
NO PARASITES SEEN

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Medical History Report - Summary for Individual Specimen
LOUISVILLE ZOOLOGICAL GARDEN

=====
Scientific Name: ELEPHAS MAXIMUS (no subsp) Accession #: 100479
Common Name: Asiatic elephant Female
Name: PUNCH Birth: 29.Nov.1970 (Estimated)
=====

.....2002....

- 4.Jan PROBLEM: THERMAL IMAGING
HX Dr. Vaughan Langman, professor at Louisiana State University, was in Louisville with his thermography equipment and imaged some of the zoos animals (to practice). His primary interest/expertise is mammalian megafauna (rhino, elephant, giraffe, etc.). His theory/hypothesis is that these animals should be maintained within their thermal neutral zone (TNZ) or thermal comfort zone. An animal's TNZ is when heat gain = heat loss. Dr. Langman hypothesizes that megafauna can compensate and be okay within 20% of this zone. If heat gain is >20% greater than heat loss, there is a high probability of hyperthermia. In cold conditions, if heat loss is >20% greater than heat gain, the animal may be in danger of hypothermia. Dr. Langman will be employed by the Wildlife Conservation Society in New York to study and quantify the comfort zones for captive exotics and indicate upper and lower levels of thermal stress. He hopes this data will have a wide range of applications including future exhibit design, husbandry, and establishment of regulatory standards.
S Dr. Langman imaged Punch in the yard on 31 December 2001.
O
A Dr. Langman's calculations determined that this elephant was at -8.0% (within the predicted safety range using the thermal neutral

zone assumptions).

P (ZSG)

14.Jan Blood sample:

4.Feb PROBLEM: radiograph - left front foot
radiograph - right front foot
Xrays of front feet.

S Exposures are very good. The 3 major digits (2 - 4) are imaged well on both front feet and appear normal.

O

A Normal front feet radiographically.

P Continue with rear feet in future. (RBB)

5.Feb

S

O Serum alphanatocopherol (vitamin E) from blood collected 14 Jan 02 is 2.239 ug/ml.

A Lab reports vitamin E level is high for the species. Low vitamin E has been a problem in captive elephants and rhinos. This level of vitamin E is likely good and healthy for this elephant.

P (RBB)

11.Mar PROBLEM: radiograph - left rear foot
radiograph - right rear foot

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Medical History Report - Summary for Individual Specimen
LOUISVILLE ZOOLOGICAL GARDEN

Scientific Name: ELEPHAS MAXIMUS (no subsp)	Accession #: 100479
Common Name: Asiatic elephant	Female
Name: PUNCH	Birth: 29.Nov.1970 (Estimated)

.....2002....

11.Mar S Obtained survey radiographs of rear feet this afternoon.

O

A Images are not bad and most of the weight bearing digits can be assessed, however it would be ideal to repeat some of the views before going on to the next elephant.

P Coordinate another session with elephant staff. (ZSG)

1.Apr Rx: RABIES VACCINE (KILLED) 2 ml IM SID for 1 day. (ZSG)

25.Apr

Summary of Ultrasound Exam by Dr. Dennis Schmitt
Punch - 32 year old female Asian Elephant. Unsatisfactory Potential Breeding Candidate. History includes a lack of luteal function for the past few years. Ultrasonographic examination was complete revealing a normal vagina, and cervix. The vaginal mucous was thin consistent with anestrus. The right and left ovaries were examined and found to be normal. Several large uterine cysts were noted on examination. While not often seen in Asian elephants they are considered pathologic and if present in a normally cycling would still result in classification of unsatisfactory potential breeding candidate. Since this individual is a 'flatliner' as well these two conditions preclude future consideration as a breeding candidate. (RBB)

9.May PROBLEM: vaccination

Purpose/Problem: Routine vaccination

Vaccination: RABIES VACCINE (KILLED) 2ml IM SID
TETANUS TOXOID 1ml IM SID

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S Vaccinated with Imrab 3 (killed rabies) and tetanus toxoid in the left tricep muscle. Skin was surgically scrubbed before vaccination.

O

A

P Revaccinate biannually in April. (VRC)

2.Jun Parasitology examination: (ROUTINE EXAMINATION) Fecal sample.
NO PARASITES SEEN

26.Jun S: Elephant was manually restrained for the first of 3 trunk washes to test for mycobacteria.

O: 60 ml of 0.9% sodium chloride was flushed into the elephant's trunk. The elephant then exhaled the solution into a large ziploc bag, and the solution was transferred into a sterile container.

A:

P: Complete the 2nd and 3rd trunk washes on 1JUL02 and 2JUL02. (STU)

1.Jul S Elephant manually restained for 2nd trunk wash.

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Medical History Report - Summary for Individual Specimen
LOUISVILLE ZOOLOGICAL GARDEN

=====
Scientific Name: ELEPHAS MAXIMUS (no subsp)

Accession #: 100479

Common Name: Asiatic elephant

Female

Name: PUNCH

Birth: 29.Nov.1970 (Estimated)
=====

.....2002...

1.Jul O

A

P (VRC)

2.Jul PROBLEM: culture - trunk

S Elephant was manually restrained for 3rd trunk wash.

O 60 mls of 0.9% sterile sodium chloride was instilled and 50 mls was recovered.

A

P Samples were immediately frozen until shipment to NVSL for Mycobacterium culture the week of July 8th 2002. Await results. (ERH)

5.Sep Clinical note recorded. (CUL)

9.Sep Clinical note recorded. (CUL)

5.Dec Parasitology examination: (ROUTINE EXAMINATION) Fecal sample.
NO PARASITES SEEN

.....2003...

14.Apr An asian and african elephant are being temporarily housed in the area. Elephants belong to an individual who is moving an elephant out of the Cincinnati Zoo. Louisville Zoo Staff is helping with the move by housing the elephant which is needed for the move and one other for about a week. The visiting elephants have a history of health. The elephants will be managed so there is no physical contact between them and collection elephants and they will not occupy the same space at the same time as collection elephants. (RBB)

Health Records March 2005.txt

9.Jun Parasitology examination: (ROUTINE EXAMINATION) Fecal sample.
NO PARASITES SEEN
17.Jun PROBLEM: trunk wash (onset)
S: Elephant was manually restrained for the first of 3 trunk washes
to test for mycobacteria.
O: 60ml of 0.9% sodium chloride was flushed into the elephant's
trunk. The elephant then exhaled the solution into a large ziplock
bag and the solution was transferred into a sterile container.
A:
P: Complete the 2nd and 3rd trunk washes on 18June2003 and
19June2003. (STU)
18.Jun S: Elephant was manually restrained for 2nd trunk wash.
O:

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Medical History Report - Summary for Individual Specimen
LOUISVILLE ZOOLOGICAL GARDEN

=====
Scientific Name: ELEPHAS MAXIMUS (no subsp) Accession #: 100479
Common Name: Asiatic elephant Female
Name: PUNCH Birth: 29.Nov.1970 (Estimated)
=====

.....2003...
18.Jun A:
P: Complete the 3rd trunk wash on 19June2003. (STU)
19.Jun PROBLEM: trunk wash (resolved)
S: Elephant was manually restrained for 3rd trunk wash.
O:
A:
P: Samples were immediately frozen until shipment to NVSL for
mycobacterium culture the week of 23June2003. Await results. (STU)
14.Aug Blood sample: (EDTA) (9:00.0) Hematology results.
WBC:11.40 *10³/UL; HCT: 47.0%;
Blood sample: (9:00.1) Chemistry results.
BUN:9 MG/DL;
Urine sample analysis results: (10:40.0)
Blood and urine collected by keepers in preparation for annual exam.
S
O CBC is normal. Urine is isosthenuric.
A
P (RBB)
15.Aug S
O CBC from blood collected 14 Aug 03 is normal.
A
P (RBB)
19.Aug Clinical note recorded. (CUL)
21.Aug PROBLEM: physical examination
cracked/broken nail
vesicular dermatitis - cuticles
100479
Annual Physical Exam
S Eyes, ears, teeth (only uppers visualized), skin, and rectum,
appear normal. There is a ping-pong ball sized polyp on the caudal
vulva with a cauliflower like surface. A cauliflower like surface
covers the vulva mucosa. This has been identified in the past.
There are cracks in the nails of several digits but none of these

Health Records March 2005.txt
annual examination
PHOTOGRAPH - WHOLE BODY
trunk wash (onset)
vaccination - rabies
vaccination - tetanus toxoid
Purpose/Problem: Routine vaccination

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Medical History Report - Summary for Individual Specimen
LOUISVILLE ZOOLOGICAL GARDEN

Scientific Name: ELEPHAS MAXIMUS (no subsp)	Accession #: 100479
Common Name: Asiatic elephant	Female
Name: PUNCH	Birth: 29.Nov.1970 (Estimated)

.....2004...

13.Jul Vaccination: RABIES VACCINE (KILLED) 2ml IM SID
TETANUS TOXOID 1ml IM SID

Clinical note recorded. (CUL)

S Elephant was manually restrained to collect the first of a series of three trunk washes for annual tuberculosis screen.

O 40+ mls were recovered and frozen.

A

P Repeat trunk wash on July 14th and July 15th. (ERH)

S Elephant was chained indoors for annual examination. Normal body condition and integument. Normal eyes, ears, and temporal glands. Normal respirations. Feet appear healthy. Some toenails have some superficial cracks but are clinically insignificant at this time. Pink mass on the dorsal aspect of the vulva is unchanged in size compared to last year. Teeth could not be visualized because elephant would keep cheeks tightly together when mouth was open. However hay size in fecal boluses is normal. A rectal swab was obtained (sample 1 in a series of 3 collections for Salmonella sp. culture). After disinfecting the skin, rabies and tetanus toxoid vaccination was administered in the right rear leg (hamstring region). Elephant was unchained and moved out to the yard. Photographs of the animal were obtained (front, right side, left side).

O Temperature of the center of a freshly passed fecal bolus - 96.6 F. Heart girth measurement (HG) - 175 inches = 444.5 cm. Length measurement (L) - 107 inches = 271.8 cm. Predicted weight (based on Hile ME, et al. 1997. Predicting body weight from body measurements in Asian elephants (*Elephas maximus*). JZWM, 28(4): 424-427) for a 29-39 year old elephant is 14.2 (HG) + 13.2 (L) - 4,662 = 5,238 kgs = 11,548 lbs.

A Elephant appears healthy.

P Blood and urine will be collected tomorrow.

Rx: RABIES VACCINE (KILLED) 2 ml IM SID for 1 day. (12465)

Rx: TETANUS TOXOID 1 ml IM SID for 1 day. (277333A) (ZSG)

15.Jul PROBLEM: abnormal urine - bacteria (onset)

ALKYLURIA (onset)

blood collection - ear vein

Serology - West Nile Virus

URINE COLLECTION

Urine sample analysis results: (8:20.0)

Blood sample: (EDTA) (8:15.0) Hematology results.

WBC:13.60 *10³/UL; HCT: 46.0%;

Blood sample: (8:15.1) Chemistry results.

new circles

BUN:6 MG/DL;
Blood sample: (8:15.2)

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Medical History Report - Summary for Individual Specimen
LOUISVILLE ZOOLOGICAL GARDEN

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=====
Scientific Name: ELEPHAS MAXIMUS (no subsp)           Accession #: 100479
Common Name: Asiatic elephant                         Female
Name: PUNCH                                           Birth: 29.Nov.1970 (Estimated)
=====

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.....2004...
15.Jul Blood sample: ( 8:15.3)
        Blood sample: ( 8:15.4)
        Blood sample: ( 8:15.5) Chemistry results.
        Blood sample: ( 8:15.6)
        Clinical note recorded. (CUL)
        S Elephant was manually restrained for 2nd trunk wash, blood and
        urine collection for annual exam.
        O
        A
16.Jul P Complete the 3rd trunk wash on 16 July 2004. (ERH)
        PROBLEM: culture - rectum (resolved)
                trunk wash (resolved)
        Clinical note recorded. (CUL)
        S Elephant was manually restrained for 3rd trunk wash.
        O
        A
        P Samples were immediately frozen until shipment to NVSL for
        mycobacterium culture the week of 18 July 2004. Await results. (ERH)
        CBC & chem results from blood collected 15 Jul 04 are normal.
        Urinalysis shows alkyluria (8.0) and abundant cocci. Elephant urine
        is normally slightly acidic. Presence of cocci in a free catch
        sample may not be of concern considering the length of the vulva.
        Consider repeat urinalysis to determine consistency of alkyluria and
        cocci in the urine. (RBB)
20.Jul Protein electrophoresis from blood collected 15 Jul 04 is normal per
        ISIS reference ranges except for slight elevation beta globulin but
        "N" is low and level is not likely clinically significant. (RBB)
22.Jul Lepto serology results.
        S
        O Blood sample collected 15 July 04 shows negative titers for L.
        pomona, icterohemorrhha, canicola, grippotyphosa, hardjo, bratislava.
        A
        P (RBB)
26.Jul S Encephalomyocarditis (EMC) virus serology results from blood
        collected 15 July 2004.
        O EMC virus neutralization = NEGATIVE (1:32)
        A
        P (ZSG)
27.Jul S Serial rectal culture results from samples collected 13, 15, and
        16 July 2004.
        O All three samples were NEGATIVE for Salmonella sp., bacterial
        pathogens, pathogenic anaerobes, and Campylobacter sp.
        A
        P (ZSG)

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Medical History Report - Summary for Individual Specimen
LOUISVILLE ZOOLOGICAL GARDEN

Scientific Name: ELEPHAS MAXIMUS (no subsp)	Accession #: 100479
Common Name: Asiatic elephant	Female
Name: PUNCH	Birth: 29.Nov.1970 (Estimated)

.....2004...

- 1.Aug PROBLEM: johne's disease screening (onset)
- 4.Aug Urine sample analysis results: (8:30.0)
Urine sample analysis results: (8:30.1)
S Urinalysis results from sample collected today.
O Urine is alkaline (pH=8), somewhat concentrated, and contains few calcium oxalate crystals and abundant cocci.
A Bacteria in a voided sample is expected. Although one reference states that elephants have slightly acidic urine, pH has historically been neutral to alkaline for urinalyses performed on Mikki and Punch. Acidic urine is intuitively unexpected since the pH of the urine in herbivores should be alkaline (>7.4).
P (ZSG)
- 9.Aug PROBLEM: abnormal urine - bacteria (resolved)
ALKYLURIA (resolved)
S Urine protein/creatinine ratio results from urine collected 5 August 2004.
O Normal.
A
P Resolve problems. (ZSG)
- 10.Aug S Serum vitamin E results from blood collected 15 July 2004.
O 1.34 mcg/ml
A Per 1999 Zoo Biology article (Circulating levels of alpha-tocopherol and retinol in free-ranging African elephants), wild African elephant (n=70) serum vitamin E was found to be 0.613 +/- 0.271 mcg/ml. Per consultation with Dr. Ellen Dierenfeld, acceptable range is between 0.5 - 1.5 mcg/ml, so current level is okay. Dr. Dierenfeld also says that MSU lab tends to report higher results compared to other labs.
P Continue with current dose of vitamin E supplementation. (ZSG)
- 16.Aug S west Nile virus serology results from blood collected 15 July 2004.
O POSITIVE at 1:40 (serum neutralization). Addendum shows that this positive titer is specific to WNV (POSITIVE at 1:320), not St. Louis encephalitis virus (NEGATIVE at 1:20).
A This positive titer is suggestive of historic exposure/infection. The elephants have not been vaccinated for WNV so this does not represent a vaccination titer. The Elephant SSP reports that a number of institutions have reported individual elephants with titers as high as 1:4000 or greater without any clinical signs. The SSP recommends that positive titers be followed at 2-4 week intervals to determine if they are increasing (usually indicates that the timing of the initial titer was taken around the time of exposure) or decreasing (exposure was prior to sample sometimes but

Common Name: Asiatic elephant
Name: PUNCH

Female
Birth: 29.Nov.1970 (Estimated)

.....2005....

24.Jan August and September 2004.

O Both samples are POSITIVE at 1:80 via WNV serum neutralization.
A E-mail correspondence with Dr. Amy Glaser (Virology Department, Cornell University). WNV titer from July 2004 sample was POSITIVE at 1:320. Dr. Glaser writes that the titer appears to be stable as the difference between 1:320 and 1:80 is within the expected variation of the test.

P Plan to recheck titer at time of annual physical exam. (ZSG)

1.Aug PROBLEM: johne's disease screening (onset)

Scientific Name: LILYPHAS MAXIMUS (no subsp)
Common Name: Asiatic elephant
Name: PUNCH
Birth:

.....2004....

16.Aug considerable time period).

P Monitor titer trend monthly. (ZSG)

17.Aug Blood sample:

PROBLEM: body weight monitoring

1.Sep PROBLEM: johne's disease screening (resolved)

Clinical note recorded. (CUL)

S Fecal sample was collected and submitted

O One tablespoon feces was collected and sent

University of Wisconsin John's Testing center

Culture(Radiometric).

A Await results (VRC)

17.Sep Blood sample:

S Mycobacterial culture results from trunk

O July, 15 July, and 16 July 2004.

O No isolation made.

A Repeat trunk washes annually. (ZSG)

2.Oct S Elephant endotheletropic herpesvirus (EEHV)

blood collected 15 July 2004.

O POSITIVE (antibody titer)

A The following paragraph was sent with the

ELISA is in the developmental stage. We are

concerned about the test, including storage conditions

of the test, including storage conditions, and

positive/negative titers. We will be using

next six to twelve months to help us determine

EEHV. Please keep in mind that your results

developmental process, and may not reflect the

EEHV status.

P Discuss results with elephant area and make

EEHV risks before artificial insemination of

negative. (RBB)

9.Nov Radiometric culture results from feces collected

negative. (RBB)

27.Dec Parasitology examination: (ROUTINE EXAMINATION)

NO PARASITES SEEN

.....2005....

24.Jan S Continued west Nile virus titer results from

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Handwritten notes:
S
D
E