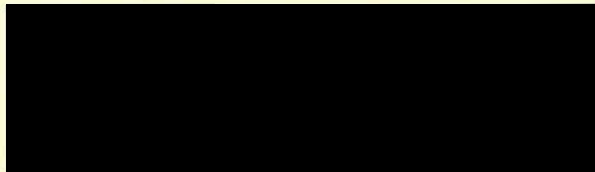


Polo. 1942



Cincinnati.

- white girl, age 8

ONSET - Aug. 16 - Headache and lowgrade fever

Subsided in 36 hours and then seemed well until A.M. of Aug. 20 when headache + vomiting appeared.

Aug. 20 - admitted to hospital - Temp 103°

No paralysis - slight rigidity of neck
 CSF - 734 WBC (588 Polys)
 Pandy# Protein - 76 mg %
 Sugar 64 mg % Cl - 716 mg.

Aug. 21 - Temp. still 102°; does not look acutely ill. Complaints of headache only on sitting up. Exhibits rigidity of spine. Otherwise neg.

Blood, throat swabs + saline enema obtained

8-30 - Perfectly well - Blood spec. II

DEC 1 1947

A. Stools:

Estimated Solids Present 45 gms.
Fluid Present 475 cc.

Blended for one minute at low speed. -

For Centrifugation ± 300 cc.
For Refreezing ± 180 cc. (Box "C")

First Supernatant = 160 cc.
Ether Added = 32 cc.

Sediment - (untreated) = 60 cc (For intranasal use)

12/2/47. - Final Amount Treated Stool Suspension = 125 cc

Cult: (Prior to Final Centrifugation) = * 1 large col. at edge. [see tracks, square ends]

(After Final Centrifugation) = ✓✓✓

DEC 1 1947

B. Pharyngeal Swab Material -

Fluid Expressed = 2.4 cc.
Distilled Water Added = 1.6 cc.

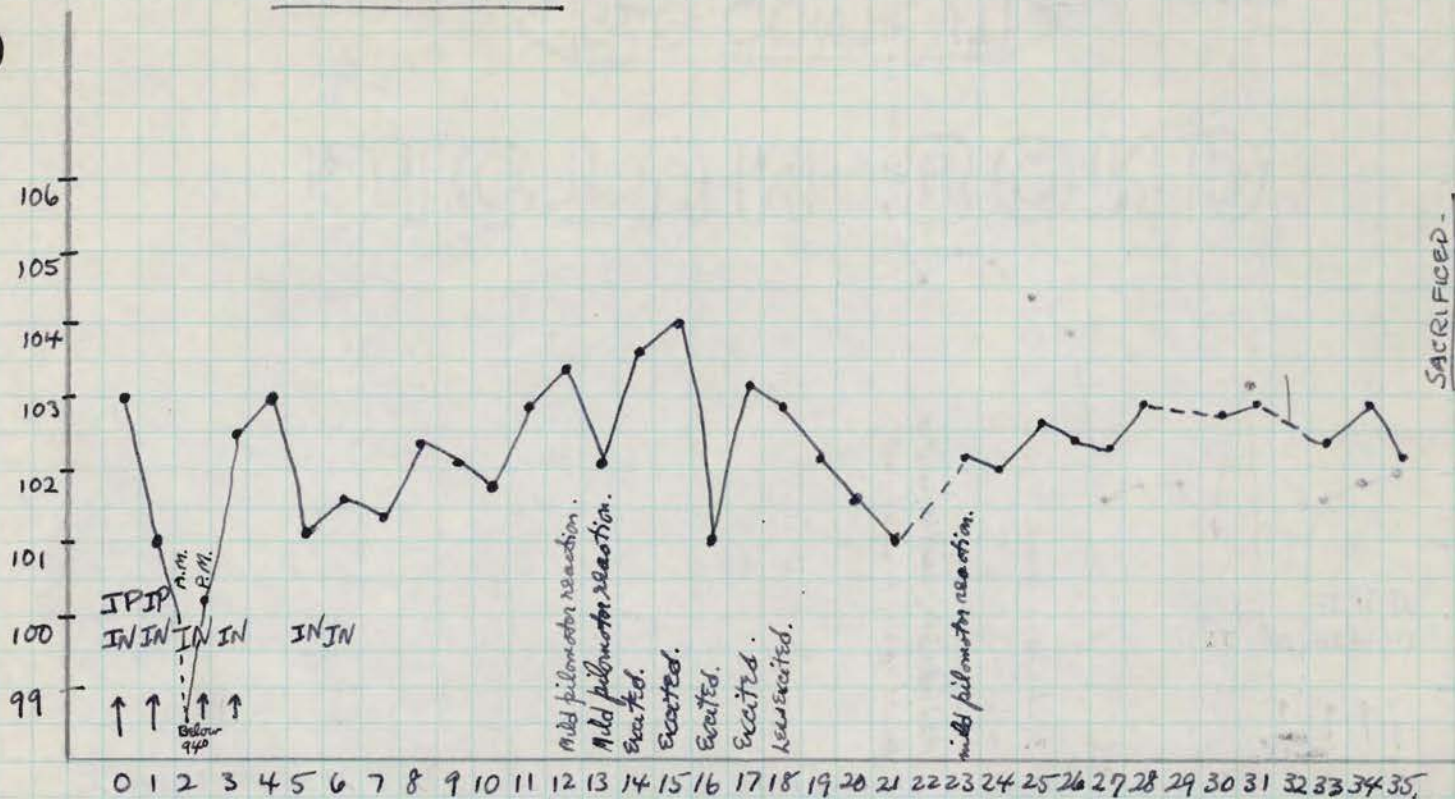
4.0 cc.
Ether Added = 1.5 cc.

12/2/47. - Graduated centrifuge tube broke; contents on table top; 1.4 cc. retrieved by Peter Schloss — material discarded.

DEC 3 1947

Treated Stools — IP. Cult: ✓✓✓
 Untreated Stools — IN.

Rhesus # 33-



12/3/47. Inoculated 20 cc IP; 100 IN per nostril.

12/5/47. - A.M. Temp. less than 94° F, monkey looks alert, has tense tender abdomen, marked lassitude but not prostrate (Temp. rechecked).

12:00 noon, given 100,000 µ aqueous Sod. Penicillin (Wyerth) IP. — at 4:00 pm, The temp. was 100.3; monkey looked better; abdomen tense; at 4:30 pm. given 100,000 µ. Sodium penicillin IP.

12/6/47. - Abdomen less tense, same tender. - Given 50,000 µ Sod. Penicillin IP at 10:00 AM, and at 4:30 P.M.

12/7/47. - Abdomen tender; given 100,000 µ Sod. Penicillin^{IP} - 2:30 P.M.,

12/8/47. Given 100,000 µ Sod. Penicillin IP, abdomen less tender.

1-8-48. - Sacrificed (chloroform - Exsanguination) for histopathology.

Autopsy: no gross tuberculosis.

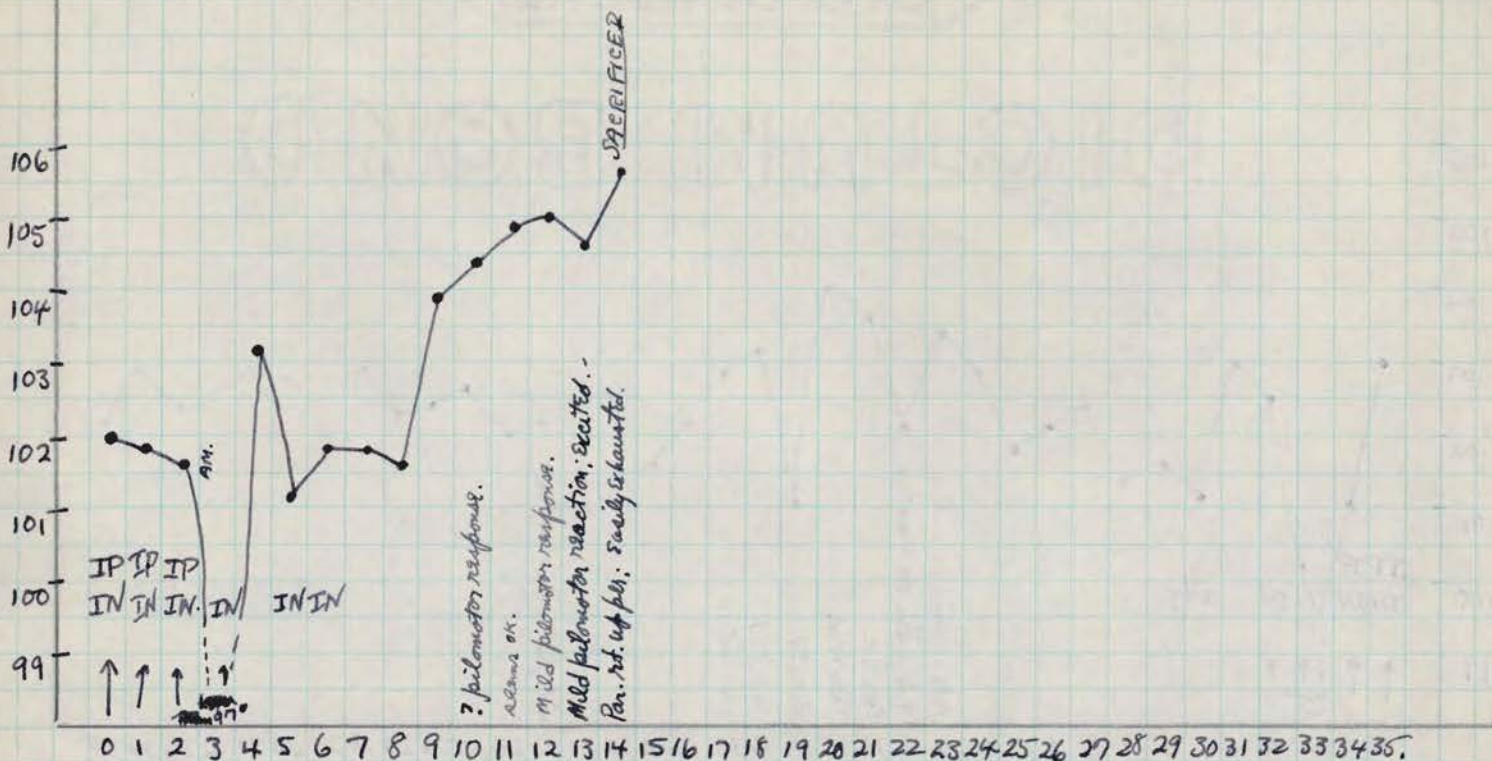
TISSUE FOR PATHOLOGY: cord levels; medulla; Thalamus; hypothalamus; olfactory bulbs. (Z-A.)

Histology - No Polio

DEC 3 1947

Treated Stools — IP.
 Untreated Stools — IN

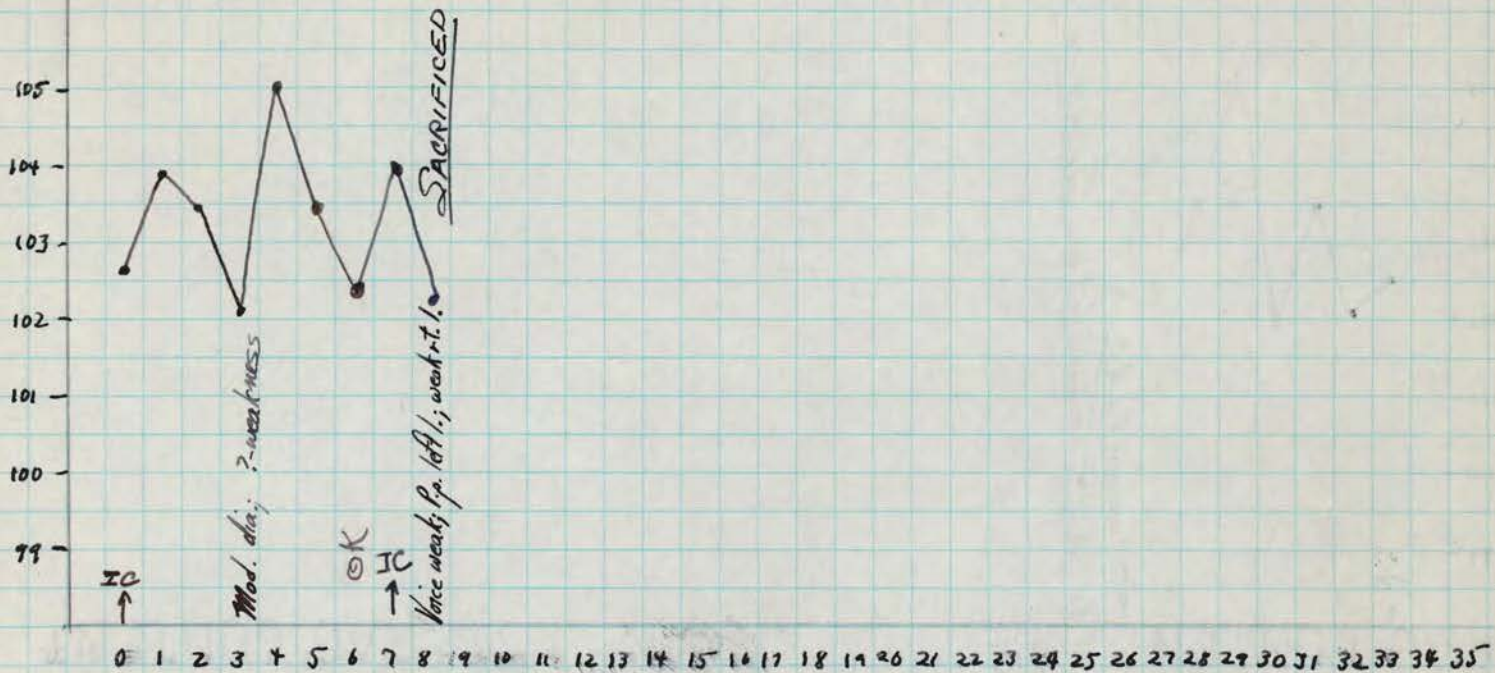
Rhesus #34



- 12/2/47. - Inoculated 20.0% IP. and 1% per nostril IN.
 12/5/47. - Escaped in operating room, jumped into tile conduit bet. 3rd + 4th floor where he spent half hour before magnificent retrieval by Scott.)
 12/6/47. - Given 200,000 μ Sod. Penicillin at 10⁰⁰ A.M.; Temp. is 97°; abdomen is tense and very tender to touch; - given 100,000 units at 4³⁰ P.M.
 12/7/47. Given 100,000 μ Sod. Penicillin IP - 2.30 P.M.; abdomen tender.
 12/8/47. Given 100,000 μ Sod. Penicillin IP - 12. noon; abdomen probably less tender.
 12/17/47. - Paralysis rt. upper extr.; otherwise OK; sacrificed with chloroform. Autopsy: no gross evidence of tuberculosis.
CORD CONTENTS - frozen in Lusteroid (Storage box #2)
HISTOPATHOLOGY: cord levels: medulla; Thalamus; olf. bulbs. (2A)
TISSUE FOR VIRUS - remainder of cord and medulla frozen. (b-2)
 12/23/47 - Cord-medulla thawed = 4.3gms; made up as a 20% suspension (17.2 cc. saline) centrifuged + frozen in a 20% and in a 10% vial (B-2-7) - ult.: 6 colonies (short dm. + rods)
 31/1/48 Material of 10% vial thawed and 2.0% removed for passage to RH #147 & AL #1754. Remainder stored & refrozen (B-2-7) Culture: ✓✓

Histology - Polio

MAR 1 1948

Rhesus #147 - normal

3-1-48: Inoc I.C. = 1.0cc. of 20% in saline, [redacted] strain - Gen i.

3-8-48 - Re-inoc. IC = 1.0cc of 20% in saline Vaughan strain Gen i

3-9-48: Voice weak. Par. par. left lower. Weakness right lower.

Sacrificed - (chloroform - exsanguination). No gross lcs.

HISTOPATH: Sections taken of lumbar & cervical cord (Z.A.).

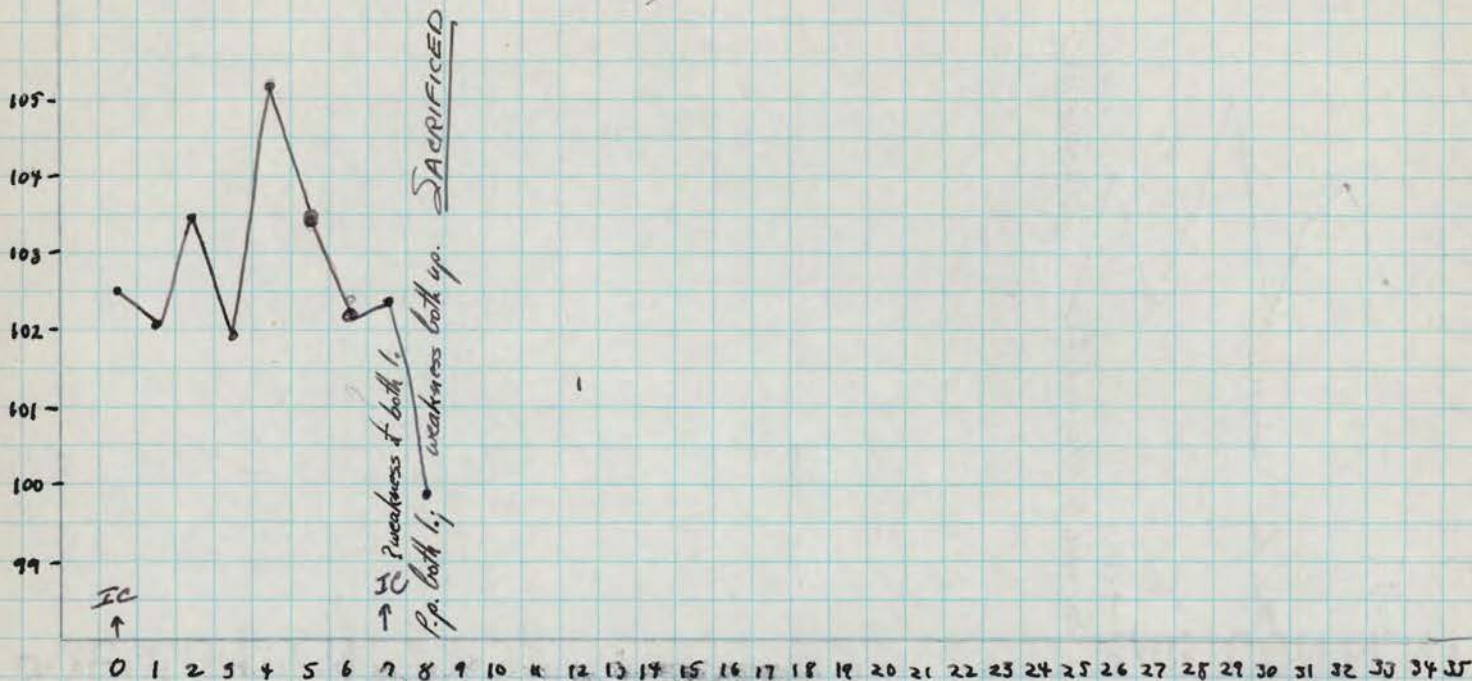
FOR VIRUS: Remainder of cord and medulla pooled with that of Rh #1754 (see overleaf) to make a 20% susp. in (40cc.) sterile saline. Wt. of pooled cords = 10 gms. ± 33cc frozen in 3-20cc. amps (and 1-10cc. amp, and stored. (B-4-2) Cult. ✓✓

Histology - Polio

MAR 1 1948

STRAIN - Generation ii

Rhesus #1754 - splenectomized.



3-1-48: Inoc. I.C. = 1.0cc. of 20% susp. in saline; strain - generation i.

3-8-48 - Re-inoc. I.C. with 1.0 cc of 20% Vaughan strain - gen i. P.M. - Showed ? weakness in both lowers.

3-9-48: Par. par. of both lowers; weakness of both up.

Sacrificed: (chlor.-exsanguination) The gross etc.

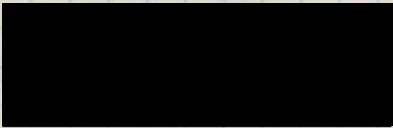
HISTOPATH: Sections taken of cervical & lumbar cord (2-A)

FOR VIRUS: Remainder of cord and medulla pooled with that of Rh #147 and made into a 20% susp. in sterile saline. (See overleaf)

Histology - Polio

TITRATION OF HUMAN POLIO STRAINS

5-14-48.



STRAIN (Gen. II)

Viruses used: [redacted] strain of polio (Generation II in monkeys); 20% in saline diluted in saline as below.

Monkeys: Normal rhesus (NFIP form - N.C. - Tuberculin tested)

Mixtures used: Dilutions as below made up in saline; kept at room temperature (76°F) for one hour; then refrigerator for 15 hours; then i.e. bath until inoculated on 5-15-48.

Inoculum: 0.5 cc I.e. per monkey.

<u>DILUTION</u>	<u>MONKEY#</u>	<u>CLINICAL FINDINGS</u>	<u>PATHOLOGICAL FINDINGS (POLIO)</u>	<u>RESULTS</u>
10 ⁻²	Rh. 447	P ₂₀		2/3
	448	O; K ₂₇	0	
	449	O; K ₂₇	★ "recent" polio	
10 ⁻³	450	O; K ₂₇	0	0/3
	451	O; K ₂₇	0	
	452	O; K ₂₇	0	
	453	O; K ₂₇	0	
10 ⁻⁴	454	O; K ₂₇	0	0/3
	455	O; K ₂₇	0	
10 ⁻⁵	456	6-11-48. - Given to Dr. H. Schmitt. - Christ Hospice		0/3
	457	" - " " " " " " "		
	458	" - " " " " " " "		

Rh # 447

10⁻²

Date	Day	Remarks
MAY 15 1948	0	✓
	1	✓
	2	✓
	3	✓
	4	✓
	5	✓
	6	✓
	7	✓
	8	✓
5-24-48	9	T=103 ^o . Head tremors; pilomotor t; excited.
5-25-48	10	T=102 ^o No change.
5-26-48	11	T=101 ^o " " " "
5-27-48	12	T=102 ^o Clumsy; weakness both lowers; pilomotor t; excited.
5-28-48	13	T=102 ^o " " " "
5-29-48	14	T=101 ^o " " " "
5-30-48	15	Weakness both lowers; excited; pilomotor t.
5-31-48	16	No change.
6-1-48	17	" " " "
6-2-48	18	" " " "
6-3-48	19	" " " "
6-4-48	20	Partial par. - left lower; weakness rt. lower. - (N.B. Decided not to sacrifice for yield of Virus (Gen. III) in view of long duration of symptoms prior to paralysis.)
6-5-48	21	Partial par - left lower; weakness rt. lower - weakness both uppers.
	22	No change.
6-7-48	23	Part par of both lowers. Weakness of uppers - aphonia
6-8-48	24	no change 6-8-48 - Bled for serum.
	25	" " 8-28-48 serum of 6-8-48 thawed and 4 cc removed for staining N.T.
	26	" " " "
	27	" " " "
6-12-48	28	" " 6-15-48 - Bled for serum.
6-17-48	33	Part. par. both lowers
7-6-48	57	Weak both lowers
7-22-48	68	O.K
8-5-48	82	✓
8-11-48		✓
<u>8-16-48</u>		Bled for 3 ml. serum. 8-28-48 serum of 8-16-48 thawed & 4 cc removed for staining N.T.

Animal expired suddenly after 25.0 cc of blood was withdrawn; could not be revived. - Therefore additional post-mortem blood was taken; total amt of serum = c.c.

Autopsy: No gross the
TISSUE FOR SECTION: Several segments of lumbar cervical cord
 single sections of thoracic medulla thalamus & midbrain (Z.A.)

HISTOLOGY: Moderate neuronal loss; root degeneration; PV cuffing; glial infiltration. The lumbar cord most involved than other segments. **DIAGNOSIS: POLIO ("old")**

Rh # 448

10^{-2}

Date Day Remarks

MAY 15 1948

0 ✓
 1 ✓
 2 ✓
 3 ✓
 4 ✓
 5 ✓
 6 ✓
 7 ✓
 8 ✓
 9 ✓
 10 ✓
 11 ✓
 12 ✓
 13 ✓
 14 ✓
 15 ✓
 16 ✓
 17 ✓
 18 ✓
 19 ✓
 20 ✓
 21 ✓
 22 ✓
 23 ✓
 24 ✓
 25 ✓
 26 ✓
 27 ✓

6-11-48

✓ SACRIFICED (chloroform-exsanguination)
TISSUE FOR SECTION Single segments of lumbar, thoracic
 and cervical cord, medulla, midbrain & thalamus (Z A)
AUTOPSY: No gross ltr

HISTOLOGY: These sections show no changes.

DIAGNOSIS: NO POLIO.

Rh # 44910⁻²

Date Day Remarks

MAY 15 1948

0 ✓
 1 ✓
 2 ✓
 3 ✓
 4 ✓
 5 ✓
 6 ✓
 7 ✓
 8 ✓
 9 ✓
 10 ✓
 11 ✓
 12 ✓
 13 ✓
 14 ✓
 15 ✓
 16 ✓
 17 ✓
 18 ✓
 19 ✓
 20 ✓
 21 ✓
 22 ✓
 23 ✓
 24 ✓
 25 ✓
 26 ✓
 27 ✓

6-11-48

✓ SACRIFICED (chloroform-exsanguination)

TISSUE FOR SECTION Single segments of lumbar, thoracic
 and cervical cord, medulla, midbrain & thalamus (2A)
AUTOPSY: No gross ltr (caudate)

HISTOLOGY: The spinal cord segments show mild but distinct
 neurophagia which seems to be fairly recent, (despite inc. 27
 days previously) and some areas have a few scattered polys. The
 medulla shows marked PV cuffing and moderate interstitial
 glial infiltration. - Midbrain has dense cuffing, interstitial
 glial infiltration ventral to aqueduct, and several rather
 dense glial nodules suggestive of a process not still in the earliest
 stage. - Med. (region of caudate nucleus) dense cuffing. - (There
 are no root changes in spinal cord.)

DIAGNOSIS: POLIO ("recent")

Rh # 450

10-3

Date	Day	Remarks
MAY 15 1948	0	✓
	1	✓
	2	✓
	3	✓
	4	✓
	5	✓
	6	✓
	7	✓
	8	✓
	9	✓
	10	✓
	11	✓
	12	✓
	13	✓
	14	✓
	15	✓
	16	✓
	17	✓
	18	✓
	19	✓
	20	✓
	21	✓
	22	✓
	23	✓
	24	✓
	25	✓
	26	✓
6-11-48	27	✓ SACRIFICED (chloroform exsanguination) TISSUE FOR SECTION Single segments of lumbar, thoracic and cervical cord, medulla, midbrain, & thalamus (2A) AUTOPSY: No gross etc

HISTOLOGY: Above sections have no pathological changes

DIAGNOSIS: NO POLIO.

Rh # 451

10-3

Date	Day	Remarks
MAY 15 1948	0	✓
	1	✓
	2	✓
	3	✓
	4	✓
	5	✓
	6	✓
	7	✓
	8	✓
	9	✓
	10	✓
	11	✓
	12	✓
	13	✓
	14	✓
	15	✓
	16	✓
	17	✓
	18	✓
	19	✓
20	✓	
6-5-48	21	? Excitement.
	22	? Excited; piloerect.
6-7-48	23	General Weakness - thin
6-8-48	24	T=101 " "
6-9-48	25	T=101 ² " "
	26	" "
6-11-48	27	No change - SACRIFICED (chloroform exsanguination) <u>TISSUE FOR SECTION</u> Single segments of lumbar, thoracic and cervical cord, medulla, midbrain & thalamus (LA) <u>AUTOPSY:</u> No gross etc

HISTOLOGY: Above sections show no pathological changes.

DIAGNOSIS: NO POLIO

Rh # 45210⁻³

Date	Day	Remarks
MAY 15 1948	0	✓
	1	✓
	2	✓
	3	✓
	4	✓
	5	✓
	6	✓
	7	✓
	8	✓
	9	✓
	10	✓
	11	✓
	12	✓
	13	✓
	14	✓
	15	✓
	16	✓
	17	✓
	18	✓
	19	✓
	20	✓
	21	✓
	22	✓
	23	✓
	24	✓
	25	✓
	26	✓
6-11-48	27	✓ SACRIFICED (chloroform-exsanguination)

TISSUE FOR SECTION Single segments of lumbar, thoracic and cervical cord, medulla, midbrain & thalamus (2A)
AUTOPSY: No gross lcs

HISTOLOGY: Above sections show no pathological changes

DIAGNOSIS: NO POLIO-

Rh # 45310-4

Date	Day	Remarks
MAY 15 1948	0	✓
	1	✓
	2	✓
	3	✓
	4	✓
	5	✓
	6	✓
	7	✓
	8	✓
	9	✓
	10	✓
	11	✓
	12	✓
	13	✓
	14	✓
	15	✓
	16	✓
	17	✓
	18	✓
	19	✓
	20	✓
	21	✓
	22	✓
	23	✓
	24	✓
	25	✓
	26	✓
6-11-48	27	✓

✓ SACRIFICED (chloroform-exsanguination)
 TISSUE FOR SECTION: ~~two~~ segments of lumbar, thoracic and
 2 cervical cord, medulla midbrain & thalamus (7A)
 Autopsy: No gross lbc

HISTOLOGY:

Above sections reveal no pathology.

DIAGNOSIS: NO POLIO.

Rh # 45410⁻⁴

Date	Day	Remarks
MAY 15 1948	0	✓
	1	✓
	2	✓
	3	✓
	4	✓
	5	✓
	6	✓
	7	✓
	8	✓
	9	✓
	10	✓
	11	✓
	12	✓
	13	✓
	14	✓
	15	✓
	16	✓
	17	✓
	18	✓
	19	✓
	20	✓
	21	✓
	22	✓
	23	✓
	24	✓
	25	✓
	26	✓
6-11-48	27	✓

✓ SACRIFICED (chloroform - 24 sanguination)

TISSUE FOR SECTION single segments of lumbar, thoracic and cervical cord, medulla, midbrain & thalamus (2A)

Autopsy: No gross lbc

HISTOROGY: Examination of above sections shows no pathological changes.

DIAGNOSIS: NO POLIO.

Rh # 455

10-4

Date	Day	Remarks
MAY 15 1948	0	✓
	1	✓
	2	✓
	3	✓
	4	✓
	5	✓
	6	✓
	7	mod. diarrhea.
	8	✓
	9	mod. diarrhea.
	10	✓
	11	✓
	12	✓
	13	✓
	14	✓
	15	✓
	16	✓
	17	✓
	18	✓
	19	✓
	20	✓
	21	✓
	22	✓
	23	✓
	24	✓
	25	✓
	26	✓
6-11-48	27	✓ SACRIFICED (chloroform-exsanguination) (2)

TISSUE FOR SECTION ~~single~~ segments of lumbar, thoracic and cervical
 cord, medulla, midbrain & thalamus (2A)

AUTOPSY: No gross lvs

HISTOLOGY: No pathological changes.

DIAGNOSIS: NO POLIO.

Rh # 456

10⁻⁵

Date	Day	Remarks
MAY 15 1948	0	✓
	1	✓
	2	✓
	3	✓
	4	✓
	5	✓
	6	✓
	7	✓
	8	✓
	9	✓
	10	✓
	11	✓
	12	✓
	13	✓
	14	✓
	15	✓
	16	✓
	17	✓
	18	✓
	19	✓
	20	✓
	21	✓
	22	✓
	23	✓
	24	✓
	25	✓
	26	✓
6-11-48.	27	✓
	Observation terminated: monkey given to Dr. H. Schmidt, Christ. Hospital.	

Rh # 457

10^{-5}

Date

Day

Remarks

MAY 15 1948

Day	Remarks
0	✓
1	✓
2	✓
3	✓
4	✓
5	✓
6	✓
7	✓
8	✓
9	✓
10	✓
11	✓
12	✓
13	✓
14	✓
15	✓
16	✓
17	✓
18	✓
19	✓
20	✓
21	✓
22	✓
23	✓
24	✓
25	✓
26	✓
27	✓

Observation Terminated; monkey given to Dr. H. Schmidt

Rh # 458

 10^{-5}

Date	Day	Remarks
MAY 15 1948	0	- mild diarrhea.
	1	✓
	2	✓
	3	✓
	4	✓
	5	✓
	6	✓
	7	✓
	8	✓
	9	✓
	10	✓
	11	✓
	12	✓
	13	✓
	14	✓
	15	✓
	16	✓
	17	✓
	18	✓
	19	✓
	20	✓
	21	✓
	22	✓
	23	✓
	24	✓
	25	✓
	26	✓
27	- Observation terminated; monkey given to Dr. H. Schmidt.	

POLIO - 1947 - MONKEY HISTOLOGY.

MK. #.	Lumbar.	Thoracic.	Cervical.	Medulla	Midbrain	Thalamus.	Hypothal.	Cef. Bulbs.	DIAGNOSIS
Rh. 33	0	0	0	0	-	one small focal with round cells.	-	0:0.	No polio
Rh. 34	NH; PH.	NH; PT.	NH; PH.	NH; PT.	-	-	-	N+; N+.	POLIO.
Rh. 147 -	NH; PT.	-	NH; PT.	-	-	-	-	-	POLIO.
Rh. 1754 -	NH; PT.	-	NH; PT.	-	-	-	-	-	POLIO.

PRIMARY ISOLATION:

GENERATION II

TITRATION OF GENERATION II

10^{-2}	Rh. 447
	448
	449
10^{-3}	450
	451
	452
10^{-4}	453
	454
	455