

Rectal Swabs.Material used

tubes Series 1370 of 3/12/59 as attached sheet.

Procedure 0.4 ml of fluid inoculated into each of 3 tubes.

<u>Date of Rectal Swab</u>	<u>tubes</u> A.	3/20 2.	3/21 3.	3/23 5.	3/24 6.	3/25 7.	3/26 8.			
2/10/59 the	127	0	0	0-1	2-4 off.	}	Pooled Saved	✓		
	128	0	0	1-3	3-4 off.					
	129	?	0	1-3	3-4 off.					
2/12/59 2 days	130	0	0	1-2	2-3	}	Pooled Saved.			
	131	0	0	few	0-2				3-4 off.	
	132	0	0	0-1	1-3				4 off.	
2/14/59 4 days	133	few	0-1	2-4 off.	}	Pooled Saved	PF4.			
	134	?	0-1	2-4 off.						
	135	few	0-1	2-4 off.						
2/16/59 6 days	136	?	0-1	3-4 off.	}	Pooled Saved	PF4.	✓		
	137	few	0-1	2-4 off.						
	138	few	0-1	3-4 off.						
2/19/59 9 days	139	?	?	0	0	0-1	1-3.	}	Pooled	
	140	?	0	0	few	2-3.	3-4 off.			} Saved.
	141	0	?	0	0	few	2-3.			
2/23/59 13 days	142	0	few!	0	0	0	0			
	143	?	0	0	0	0	0			
	144	0	?	0	0	0	0			
3/3/59 21 days.	145	0	0	0	0	0	0			
	146	0	0	0	0	0	0			
	147	?	0	0	0	0	0			

Throat Swabs.Material used.

Tubes Series 1370 of 3/12/59 as overleaf.

Procedure 0.4 ml of fluid inoculated into each of 3 tubes.

<u>Date of Throat Swab</u>	<u>Tubes</u> A	3/20	3/21	3/23	3/24	3/25	3/26	<u>Passage 4/6/59</u>			
								4/7	4/8	4/9	4/10
		2	3	5	6	7	8	1	2	3	5
2/10/59	148	?	0	0	0	0	0				
149	?	?	0	0	0	0	0				
150	?	0	0	0	0	0	0				
2/12/59	151	*0-1	0	0	0	0	0				
2 days	152	?	0	0	0	0	0				
153	?	0	0	0	0	0	0				
2/14/59	154	?	0	0	0	0	?	154	0	0	0
4 days	155	?	0	0	0	0	?	155	0	0	0
156	?	0	0	0	0	0	?	156	0	0	0
2/16/59	157	?	0	0	0	0	0				
6 days	158	?	0	0	0	0	0				
159	*?	?	0	0	0	0	0				
2/19/59	160	*?	0	0	0	0	?	160	0	0	0
9 days	161	0	0	0	0	0	?	161	0	0	0
162	0	0	0	0	0	0	?	162	0	0	0
2/23/59	163	0	0	0	0	0	0				
13 days	164	0	?	0	0	0	0				
165	0	0	0	0	0	0	0				
3/3/59	166	0	0	0	0	0	0				
21 days	167	0	0	0	0	0	0				
168	0	0	0	0	0	0	0				

3/20 \* Areas of small refractile cells. May be due to death of tissue following stoppage of drum motor. during night

3/21. Tissue appears to have recovered from drying. but there are still large numbers of refractile cells which may be specific CPE.

type I group.

APR 6 1959

To identify the virus in the Pre Rectal Swab.

Material used MKP<sub>1</sub> of 3/24/59 of Pre Rectal Swab (tubes. A127-9 pooled, diluted  $10^{-4}$ )

Serum Polio I + II + III pooled antiserum as attached sheets

Tubes 1375 of 3/31/59 as attached sheets.

<u>Mixture</u>	<u>Tubes</u> A	4/7 1	4/8 2	4/9 3	4/10 4	4/11 5	4/13 7	4/14 8	4/15 9
$10^{-4}$ + equal vol. Serum.	21	0	0	0	0	0	0	0	0
Polio I + II + III.	22	0	0	0	0	0	0	0	0
	23	0	0	0	0	0	0	0	0
+ diluent -	$10^{-4.3}$ 24	0	0	0	0	few	0-1	2-3	2-3
	25	0	0	0	0-1	1-2	1-2	2-3	2-3
	$10^{-5.3}$ 26				0	0	0-1	2-3	2-3
	27				0	0	0-1	2-3	2-3
Identity?	$10^{-6.3}$ 28					0	few	0-2	1-3
$10^{-7.3}$ / 0.2ml.	29					0	few	0-2	1-3
	$10^{-7.3}$ 30						0	0	0
	31						0	few	0-2

4/13 the frequency of CPE is not typical of Polio. Retest in case this is nonspecific inhibition by serum or a technical error!

Repeated See test of 4/13/59.

To identify the virus in the Rectal Swab of 2/16/59 6 days

1) Material Original Rectal Swab of 2/16/59  
Serum Polio I antisera as attached sheets.

Tubes T375 of 3/31/59 as attached sheets.

		Tubes	4/7	4/8	4/9	4/10	4/11	4/13	4/14	
Original swab fluid + equal Vol: Serum.		A	1	2	3	4	5	7	8	
		32	0	0	0	0	0-1	2-3	2-3	Saved
		33	0	0	0	0	cont.? 0-1	2-3	2-3	cont. disc
		34	0	0	0	0	0-1	2-3	2-3	Saved
Fluid $10^{-1}$ + diluent	$10^{-1.3}$	35	0	0	0	0	few	2-3	2-3	Not Polio I
		36	0	0	0	0	few	2-3	2-3	
	$10^{-2}$	37					0	0	0	0
		38					0	few	0-2	2-3
	$10^{-3}$	39					0	0	0	0
		40					0	0	0	0
Fluid + diluent.	$10^{0.3}$	54	0	0	0	0-1	1-2	2-3	2-3	
		55	0	0	0	0-1	1-2	2-3	2-3	

Not Polio I  
 $10^{-2} / 0.2 \text{ ml}$   
 $10^{2.7} / \text{ml}$

2) Material MKP, of 3/23/59 of the above Rectal Swab. diluted  $10^{-4}$

			4/7	4/8	4/9	4/10	4/11	4/13	4/14	4/15	
$10^{-4}$ + equal Vol Serum.			1	2	3	4	5	7	8	9	
		41	0	0	0	0	0	0-1	2-3	2-3	
		42	0	0	0	0	0	few	0-2	2-3	
		43	0	0	0	0	0	few	2-3	2-3	Not
$10^{-4}$ + equal Vol diluent	$10^{-4.3}$	44	0	0	0	0	0	0-1	2-3	2-3	Polio I
		45	0	0	0	0	0	few	0-2	2-3	
	$10^{-5.3}$	46						0	0	0	
		47						0	0	0	
	$10^{-6.3}$	48						0	0-2	2-3	
		49						0	0	0	
	$10^{-7.3}$	50							0	0	
		51							0	0	

(Tubes A136-8 pooled)

APR 13 1959

To repeat Identification of virus in PRE Rectal Swab. 2/10/59

Material used Original fluid of Rectal Swab of 2/10/59  
 MRP, of above swab tubes A127-9 pooled. diluted  $10^{-4}$

Sera Polio I R 18 + 19 1:20  
 Polio II R 43 + 44 1:10  
 Polio III R 63 + 64 1:10

		4/15	4/16	4/17	4/18	4/20	4/22
	17.	2	3	4	5	7	9
Original fluid + Pooled	25	0	0	0	0	0	0
Polio sera	26	0	0	0	0	0	0
	27	0	0	0	0	0 vac	0
+ diluent	28	0	0	0	0	0-1	2-3
	29	0	0	0	0	1-2	2-4 off
	30	0	0	0	0	0	0
$10^{-1}$	31					0	0
	32					0	0
$10^{-2}$	33						
	34						
MRP, of Swab. diluted $10^{-4}$ + Polio I.	35	0	0	0	0	0-1	2-4 off
	36	0	0	0	few	1-3	2-4 off
	37	0	0	0	few	1-3	4 off and patches
+ Polio II	38	0	0	0	0	0	0
	39	0	0	0	0	0-1	2-3
	40	0	0	0	0	0-1 vac	2-3.
+ Polio III	41	0	0	0	0	0-1	2-4 off
	42	0	0	0	0	1-2	2-4 off
	43	0	0	0	few	1-3	2-4 off
+ diluent	44	0	0	0	0	1-2	2-4 off
	45	0	0	0	few	1-3	2-4 off
	46	0	0	0	few	1-3	4 off and patches

Polio II  
 + another  
 Polio

Led type I.

APR 28 1959

To identify the virus in the PRE. Rectal Swab of 2/10/59.

Results to date

Original swab fluid.	Titre $10^{1.5}/\text{ml.}$	Not Polio I.
Original swab fluid.		inhibited by Pooled Polio I+II+III.
MKP, of swab fluid.	Titre $10^{7.3}/0.2\text{ml.}$	$10^{-4}$ inhibited by Polio Pooled sera.
MKP, of swab fluid.		$10^{-4}$ delayed by Polio II.
		not inhibited by Polio I or III.

Therefore it is possible that the fluid contains Polio II and another virus or only non-polio-virus. nonspecifically inhibited by rabbit serum 1:4

Procedure MKP, of Pre rectal swab. diluted  $10^{-3}$  and  $10^{-5}$  mixed with equal volumes of

- 1) Polio Pooled sera. I+II+III
- 2) Polio II serum.
- 3) diluent and titrated out.

Tubes 1379 of 4/21/59

<u>Dilutions</u>	<u>Tubes</u>	4/30	5/1	5/2	5/4	5/6	
$10^{-3}$ + Polio I+II+III serum.	A	3	3	4	6	8	Kept.
	1	0	0	one	3-4	}	
	2	0	0	one	3-4		
	3	0	0	one	2-4		
$10^{-3} \times 10^{-5}$ + Polio II.	4	0	0	0?	2-4	}	Kept.
	5	0	0	0?	2-4		
	6	0	0	0?	2-4		
+ diluent	7						
	8						
	9						
$10^{-5}$ + Polio I, II, & III.	7 to	0	0	0	0	0	
	8 to	0	0	0	0	0	
$10^{-5} \times 10^{-5}$	9 to	0	0	0	0	0	Polio II +
+ Polio II	10 to	0	0	0	few	2-4 off.	Kept.
	11 to	0	0	0	0	0	
	12 to	0	0	0	0	0	
$10^{-3}$ + equal vol diluent							
	$10^{-3-3}$	13	0	few	one	2-4	
		14	0	few	one	4 off	
		15	0	few	one	4 off	
	$10^{-4-3}$	16		0	one few	4 off	
		17		0	one few	2-4 off	
		18		few	one	4 off	

	Tubes	5/1	5/2	4/4	5/6
	A	<u>3</u>	<u>4</u>	<u>6</u>	<u>8</u>
$10^{-5-3}$	19	0	off	1-3	4 off
	20	0	0	0-2	2-4 off
	21	0	0	0-2	4 off
$10^{-6-3}$	22		0	0	0
	23		0	0-1	4 off.
	24		0	0	0
$10^{-7-3}$	25		0	0	0
	26		0	0	0
	27		0	0	0
$10^{-8-3}$	28		0	0	0
	29		0	0	0
	30		0	0	0

(Keep.)

Concluded.  $10^{-3}$  of MKP, contains a non Polio virus; Test tubes A 1-3 against other enterovirus sera

$10^{-5}$  of MKP, (as  $10^{-4}$  in earlier tests) contains Polio II and another virus which could be Polio I or III.  
Test  $10^{-5}$  with all Polio sera mixtures.

To find the other virus in  $10^{-5}$  of MKP, of the Bre Rectal Swab.

Tubes.	T380	9/4/28/59	Tubes
			A
$10^{-5}$	+	Polio I 1:20	121
			122
			123
+	Polio II	126	
		127	
		128	
+	Polio III	129	
		130	
		131	
+	Polio I + II	132	
		133	
		134	
+	Polio II + III	135	
		136	
		137	

transferred to another sheet.

MAY 26 1959

To identify the viruses in the Per Rectal Swab of 2/10/59

Results to date  $10^{-3}$  dilution of MKP, broke thru Polio I + II + III serum with only slight delay. (tubes A1-3 of 5/4/59)

$10^{-4}$  &  $10^{-5}$  dilutions of MKP, are almost completely inhibited by Polio II, and completely inhibited by Polio I + II + III. (tube A10 of 5/6/59)

Decided. 1) to check the break thru against Polio I + II + III serum pool  
2) to check the break thru against Polio II serum.

tubes T384 of 5/19/59

1) Break thru against Polio I + II + III (tubes A1-3 of 5/4/59)

Tubes	5/29	5/30	5/31	6/1	6/2	6/3	6/5
A	3	4	5	6	7	8	10
Diluted $10^{-4}$ + equal vol Polio I + II + III	37	0	0	few	0-1	0-2	2-3 4off
	38	0	0	0	few	0-1	1-2 2-4off
	39	0	0	0	few	0-1	1-2 2-4off
+ equal vol diluent = $10^{-4.3}$	40	few	0-1	1-3	3-4off		
	41	0	few	0-2	3-4off		
	42	0	0	0	few	0-2	2-4off
$10^{-5.3}$	43	0	0	few	1-3	2-4off	
	44	0	few	0-2	2-4off		
$10^{-6.3}$	45		0	0	0	0	0
	46		0	0	0	0	0
$10^{-7.3}$	47			0	0	0	0
	48			0	0	0	0

2) Break thru against Polio II tube A10 of 5/6/59

Diluted $10^{-4}$ + equal vol Polio II	49	0	0	0-1	1-2	2-3	2-4off
	50	0	0	few	0-1	2-3	2-4off
	51	0	0	few	0-1	1-3	2-4off
+ equal vol diluent = $10^{-4.3}$	52	few	0-1	1-3	3-4off		
	53	0	0-1	2-3	3-4off		
	54	few	0-1	2-3	3-4off		

Intrusion overleaf

	A	5/29 3	5/30 4	5/31 5	6/1 6	6/2 7	6/3
10 <sup>-5.3</sup>	55 56	0 0	0 0-1	few 1-3	1-3 2-4 off	2-4 off	
10 <sup>-6.3</sup>	57 58		0 0	0 0	0 0	0 0	0 0
10 <sup>-7.3</sup>	59 60			0 0	0 0	0 0	0 0

10<sup>-5.8</sup>/0.2nd

5/28. 2 days. Controls negative.

JUN 3 1959

To identify the virus in the Rectal Swab of 2/10/59

Material used MKP, of 3/24/59 (tubes A 127-9) Diluted  $10^{-4}$ .

Previous results have been confused. Sera may be inhibiting nonspecifically.

Sera High Titer Polio Rabbit sera

Polio I. R 68-70 of 1/16/58 1:640 } singly and in combinations  
 II R 65-67 of 1/16/58 1:32 } listed below.  
 III R 71-73 of 1/16/58. 1:32 }

Normal rabbit serum. 1:124 = conc<sup>n</sup> equal to that in Polio I + II + III pooled sera.

tubes 1385 of 5/26/59.

<u>Virus</u>	<u>Serum</u>	<u>Tubes</u>	6/6 3	6/8 5	6/9 6	6/10 7	6/11 8
$10^{-4}$ + equal vol Polio I		A					
		1	few	2-3	3-4 off		
		2	0	2-3	3-4 off		
Polio II		3	few	2-3	3-4 off		
		4	0	0	0	few	1-3
		5	0	few	1-3	2-3	
Polio III		6	0	few	1-3	2-4 off	
		7	0	0-1 ext <sup>vac</sup>	0-1 degenerating due to vac <sup>ns</sup>		
		8	0? alk-degen	0 alk	0 alk	0 alk	
Polio I + II		9	few	0-1	2-3	2-4 off	
		10	0 ext <sup>vac</sup>	1-2 ext <sup>vac</sup>	disintegrated.		
		11	0	0-1	2-3	2-4 off	
Polio I + III		12	0 vac ext <sup>vac</sup>	0-1 vac	disintegrated.		
		13	0	0-1	2-3	3-4 off	
		14	few	0-1	2-3	3-4 off	
Polio II + III		15	0	0 ext <sup>vac</sup>	disintegrated		
		16	0	few	few	0-2	
		17	0	few	0-1	2-4 off	
Polio I + II + III		18	few ext <sup>vac</sup>	0-2 vac	disintegrated		
		19	few	0-2	3-4 off		
		20	few	0-2	3-4 off		
		21	few	0-2	3-4 off		

} kept.

<u>Virus</u>	<u>Serum</u>	<u>Tubes</u> <u>A</u>	<u>6/6</u> <u>3</u>	<u>6/8</u> <u>5</u>	<u>6/9</u> <u>6</u>	<u>6/10</u> <u>7</u>	<u>6/11</u> <u>8</u>
$10^{-4}$	+ N.R.S 1:14	22	few	2-3	3-4 cell		
		23	few	2-3	3-4 cell		
		24	0	0-1	1-3	3-4 cell	
+	diluent = $10^{4-3}$	25	few	2-3	3-4 cell		
		26	few	2-3	3-4 cell		
		27	0	2-3	3-4 cell		
$10^{5-3}$		28	0	few	2-3	3-4 cell	
		29	0	few	1-2	2-4 cell	
		30	0	0	0-1	2-4 cell	
<div style="border: 1px solid black; border-radius: 50%; padding: 5px; display: inline-block;"> <math>10^{6.5}</math> / <math>0.2 \mu l</math> </div>	$10^{6-3}$	31		0	0	0	
		32		0	0	few	
		33		0	0-1	1-3	2-4 cell
$10^{7-3}$		34			0	0	0
		35			0	0	0
		36			0	0	0

6/5 2 days. Controls negative.

JUN 16 1959

fed type I Polio

The Pre Rectal Swab contained Polio II and another nonpolio virus  
 to find if any type I Polio can be detected in the Rectal Swabs  
 of 2/12, 2/14, 2/16 and 2/19/59.

Procedure Use the MKP<sub>1</sub> of each rectal swab diluted  $10^{-4}$   
 and  $10^{-5}$ , mixed with an equal volume of the  
 listed polio sera.

tubes 1387 of 6/9/59.

Rectal Swab of 2/12/59	tubes	6/19	6/20	6/22	6/24
<u>Serum</u>	2	3	4	6	8
$10^{-4}$ + Polio I	1	few	1-3	2-3	3-4 off.
	2	few	1-3	2-3	4 off
	3	0-1	1-3	2-3	3-4 off
+ Polio II	4	few	0-1	2-4 off	4 off
	5	0	few	2-4 off	4 off
	6	few	1-2	2-3	4 off
+ Polio I + II	7	0-1	2-3	3-4 off	4 off
	8	0	0-1	2-3	4 off
	9	few	1-3	3-4 off	4 off
+ Polio I + II + III	10	few	0-2	2-4 off	4 off
	11	0	1-2	2-3	3-4 off
	12	0-1	1-3	2-4 off	4 off.
<del>10<sup>-4</sup></del> + Polio					
$10^{-4}$ + diluent	13	few	1-3	2-4 off	4 off
	14	few	2-3	2-4 off	4 off
	15	few	1-3	2-4 off	4 off.
$10^{-5}$ + Polio I	16	0	0	2-3	2 off.
	17	0	0	1-2	2-4 off
	18	0	0	0-1	2-4 off.
+ Polio II	19	0	0	0	0
	20	0	0	0	0
	21	0	0	0	0
+ Polio I + II	22	0	0	few!	0
	23	0	0	0	0
	24	0	few	2-3	2-4 off.

Polio II  
+ MKP

Polio II.

	L	6/19	6/20	6/22	6/24
		3	4	6	8
$10^{-5}$ + Polio I + II + III	25	0	0	0	0
	26	0	0	2-3	2-4 off
	27	0	0	0	0
$10^{-5}$ + diluent	28	0	few	2-3	3-4 off
	29	0	0	0	0
	30	0	0	1-3	2-4 off.

Rectal Swab of 2/14/59

$10^{-4}$ + Polio I	31	few	0-2	2-4 off	4 off
	32	few	0-2	2-4 off	4 off
	33	few	0-2	2-4 off	4 off
+ Polio II	34	few	0-1	2-3	4 off
	35	few	0-2	2-4 off	4 off
	36	few	0-2	2-3	3-4 off
+ Polio I + II	37	0	few	1-3	3-4 off
	38	few	0-1	2-4 off	4 off
	39	0	0-1	2-3	3-4 off
+ Polio I + II + III	40	few	0-2	2-3	3-4 off
	41	0	few	1-3	4 off
	42	0	few	2-3	3-4 off
+ diluent	43	0-1	2-3	2-4 off	4 off
	44	0-1	1-3	2-4 off	4 off
	45	few	2-3	2-4 off	4 off.
$10^{-5}$ + Polio I	46	0	0	0	0
	47	0	few	2-3	3-4 off
	48	0	0	2-3	4 off.
+ Polio II	49	0	0	0	0
	50	0	0	1-2	2-4 off
	51	0	0-1	2-3	3-4 off
+ Polio I + II	52	0	0	0	0
	53	0	0	2-4 off	4 off
	54	0	few	2-3	4 off
+ Polio I + II + III	55	0	0	1-2	4 off
	56	0	0	2-3	4 off.
	57	0	0	contaminated.	
+ diluent	58	0	0	1-3	3-4 off
	59	0-1	2-3	2-4 off	4 off
	60	0	0-1	2-3	3-4 off.

Polio I + II  
+ NP.

Rectal Swab 7/2/16/59

	L	6/19	6/20	6/22	6/24
		3	4	6	8
10 <sup>-4</sup> + Semum					
Polio I	61	few	1-3	2-4 off	4 off
	62	0	0-1	2-3	3-4 off
	63	few	1-3	2-3	4 off
+ Polio II	64	0	few	2-3	4 off
	65	0	0-1	2-4 off	4 off
	66	few	1-3	2-3	3-4 off
+ Polio I + II	67	few	1-2	2-3	3-4 off
	68	0-1	2-4	2-4 off	4 off
	69	few	0-1	2-3	4 off
+ Polio I + II + III	70	few	1-3	2-3	4 off
	71	0	0	1-3	3-4 off
	72	few	1-3	2-3	4 off.
+ diluent	73	1-2	4 off	residual patches.	
	74	few	1-3	4 off resid patches	
	75	few	1-3	2-4 off.	
10 <sup>-5</sup> + Polio I	76	0	0-1	2-3	3-4 off
	77	0	0	0-1	2-3
	78	0	0	0	0
+ Polio II	79	0	0-1	2-3	3-4 off
	80	0	0	0	0
	81	0	0	2-3	3-4 off
+ Polio I + II	82	0	0-1	2-3	4 off
	83	0	0	0	0
	84	0	0-1	2-3	4 off.
+ Polio I + II + III	85	0	0	<del>1-3</del>	0
	86	0	0	2-3	2-4 off.
	87	0	0	0	0
+ diluent	88	0	0	0-1	3-4 off
	89	0	0	0	few
	90	0	few	2-3	3-4 off.

Rectal Swab of 2/19/59

	L	6/19 3	6/20 4	6/22 6	6/24 8	
10 <sup>-4</sup> + Serum Polio I	91	0-1	1-3	2-4vll	4vll	
	92	0-1	1-2	2-3	3-4vll	
	93	0-1	1-3	2-4vll	4vll	
	+ Polio II	94	0-1	1-2	2-4vll	4vll
		95	few	1-3	2-4	4vll
		96	few	2-3	4vll	
	+ Polio I+II	97	few	2-3	4vll	
		98	few	2-3	4vll	
		99	few	1-3	2-4vll	4vll
	+ Polio I+II+III	100	few	1-3	3-4vll	4vll
		101	few	0-2	2-3	3-4vll
		102	few	1-3	2-3	3-4vll
+ diluent	103	0-1	1-3	2-3	3-4vll	
	104	0-1	0-2	2-3	3-4vll	
	105	0-1	0-2	2-4vll	4vll	
10 <sup>-5</sup> + Polio I	106	0	0-2	2-3	3-4vll	
	107	0	few	2-4vll	4vll	
	108	0	0	2-3	4vll	
	+ Polio II	109	0	0-1	2-3	4vll
		110	0	0-1	2-3	4vll
		111	0	0	0	0
	+ Polio I+II	112	0	0	2-3	3-4vll
		113	0	0	2-3	3-4vll
		114	0	0	0	0
	+ Polio I+II+III	115	0	2-3	2-4vll	4vll
		116	0	few	2-3	2-4vll
		117	0	0	0	0
+ diluent	118	0	0	2-3	3-4vll	
	119	0	0	2-3	4vll	
	120	0	0	0	0	

? N P

6/18 2 days Controls negative  
 6/19 all tubes badly vacuolized.