

PED-4 (ADM-44) Report of Fetal or Infant Death

Form PED-4 was used to report fetal death or the death of a study infant and certain additional information regarding the death. Its use was expanded to report the death of a study child at any age. First implemented in February 1959, the form underwent revision in July 1959, in February 1961, and again in October 1961. The first revision resulted in a layout change and in a renumbering of items; the 1961 revision resulted in minor changes only. The October 1961 revision resulted in an additional measurement of crown rump length (item 15) and in another reitemization of the form. Data from PED-4 were abstracted on to ADM-44 "Report of Non-Liveborn Termination of Pregnancy or Death of Study Child" by study personnel at NINDB for punching. Records of fetal, infant and child death are available on card 0844 of the master file, where information from ADM-44 was recorded (Table PED-4.1).

TABLE PED-4.1 Cards and Data Records by Revision for Form PED-4

CARD NAME	CARD NUMBER	REV. NO.	NUMBER RECORDS
PED-4: Report of Infant Death	0844	1	4,001
			<hr/> 4,001
	total for form		4,001

Data Items Referencing Form ADM-44, Report of Fetal or Infant Death

DATA ITEM ID	ITEM CN FORM	CARD NUM	FROM	TO	DATA ITEM NAME
4931.....		0844	1	5	Card number (sequence, form type, form number, revision number)
4932.....		0844	6	14	WINDB case number
4933.ADM-44		0844	15	16	Form ADM-44 date (mo)
4934.ADM-44		0844	17	18	Form ADM-44 date (day)
4935.ADM-44		0844	19	20	Form ADM-44 date (yr)
4936.ADM-44		0844	21	22	Date of; fetal or; infant; death (mo)
4937.ADM-44		0844	23	24	Date of; fetal or; infant; death (day)
4938.ADM-44		0844	25	26	Date of; fetal or; infant; death (yr)
4939.ADM-44		0844	27	28	Birth date (mo)
4940.ADM-44		0844	29	30	Birth date (day)
4941.ADM-44		0844	31	32	Birth date (yr)
4942.ADM-44		0844	33	33	Fetal or; infant; death; autopsy performed
4943.ADM-44		0844	34	35	Death, type
4944.ADM-44		0844	36	36	Death, place
4945.ADM-44		0844	37	40	Fetal death; weight (gms)
4946.ADM-44		0844	41	43	Fetal death; length, crown rump (cm)
4947.ADM-44		0844	44	45	Fetal death; destination (oks)
4948.ADM-44		0844	46	59	Name, last
4949.ADM-44		0844	60	60	Name, last, child or mother
4950.ADM-44		0844	61	61	Sex
4951.....		0844	62	76	Blank
4952.ADM-44		0844	77	78	Death, type, revised definition
4953.ADM-44		0844	79	80	Quarterly addition to file
5385.....VAR			553	553	Records present; pediatric
5386.....VAR			554	554	Sex
5915.....VAR	9		1091	1091	Infant death 0 to 12 months
5916.....VAR	6		1092	1093	Outcome of study pregnancy; deaths; survivors
5917.....VAR			1094	1094	Outcome of study pregnancy; deaths; survivors (grouped)
5918.....VAR	14		1095	1098	Birth; weight (gms)
5919.....VAR			1099	1100	Birth; weight (pounds)
5921.....VAR	11		1103	1108	Birth date; date of birth or delivery (mo/day/yr)

REPORT OF FETAL OR INFANT DEATH

2. NAME OF RECORDER			3. TITLE OR POSITION																																												
4. DATE OF RECORD Mo. Day Year			5. DO NOT WRITE IN THIS SPACE			6. TYPE OF RECORD <input type="checkbox"/> FETAL DEATH <input type="checkbox"/> INFANT DEATH			7. AUTOPSY NUMBER			8. OTHER RECORD NUMBER																																			
9. SEX <input type="checkbox"/> MALE <input type="checkbox"/> FEMALE <input type="checkbox"/> UNDETERMINED						10. AUTOPSY <input type="checkbox"/> NONE <input type="checkbox"/> YES <input type="checkbox"/> IN REPORTING HOSPITAL <input type="checkbox"/> OTHER (Specify)																																									
COMPLETE THESE ITEMS FOR FETAL DEATH ONLY						COMPLETE THESE ITEMS FOR INFANT DEATH ONLY																																									
11. DATE OF DELIVERY OF FETUS Mo. Day Year						12. DO NOT WRITE IN THIS SPACE						17. DATE OF DEATH Mo. Day Year			18. TIME OF DEATH (Use 24-hr. clock)																																
13. PLACE OF DELIVERY <input type="checkbox"/> REPORTING HOSPITAL <input type="checkbox"/> HOME <input type="checkbox"/> OTHER (Specify)						19. PLACE OF DEATH <input type="checkbox"/> REPORTING HOSPITAL <input type="checkbox"/> HOME <input type="checkbox"/> OTHER (Specify)																																									
14. WEIGHT OF FETUS Grams						15. CROWN RUMP LENGTH Cm.						20. BIRTH INJURIES PRESENT <input type="checkbox"/> NO <input type="checkbox"/> YES <input type="checkbox"/> UNKNOWN						22. DO NOT WRITE IN THIS SPACE																													
16. FETUS DIED <input type="checkbox"/> BEFORE LABOR <input type="checkbox"/> DURING LABOR OR DELIVERY <input type="checkbox"/> UNKNOWN						21. IF "YES", DESCRIBE																																									
COMPLETE THESE ITEMS FOR EACH DEATH																																															
23. CAUSE OF DEATH (Include associated illnesses and conditions. CIRCLE the number of the underlying cause of death.) (1) _____ (2) _____ (3) _____ (4) _____ (5) _____												24. DO NOT WRITE IN THIS SPACE												25. MALFORMATIONS PRESENT: <input type="checkbox"/> NO <input type="checkbox"/> YES <input type="checkbox"/> UNDETERMINED 26. IF "YES", DESCRIBE (1) _____ (2) _____ (3) _____												27. DO NOT WRITE IN THIS SPACE											
28. REMARKS																																															

IF MORE SPACE IS NEEDED, INDICATE ITEM NUMBER AND ATTACH CONTINUATION SHEET (FORM CP-5)

Collaborative Research
Perinatal Research Branch, NCHS, NIH
Bethesda 14, Md.

PED-4 (REV. 10-61)

Form Item Numbers linked to Data Items on ADM-44, Report of Fetal or Infant Death

ITEM ON FORM	DATA ITEM ID	CARD NUM	FROM	TO	DATA ITEM NAME
	4940.ADM-44	0R44	29	30	Birth date (day)
	4939.ADM-44	0R44	27	28	Birth date (mo)
	4941.ADM-44	0R44	31	32	Birth date (yr)
	5919....VAR		1099	1100	Birth; weight (pounds)
	4937.ADM-44	0R44	23	24	Date of; fetal or; infant; death (day)
	4936.ADM-44	0R44	21	22	Date of; fetal or; infant; death (mo)
	4938.ADM-44	0R44	25	26	Date of; fetal or; infant; death (yr)
	4944.ADM-44	0R44	36	36	Death, place
	4943.ADM-44	0R44	34	35	Death, type
	4952.ADM-44	0R44	77	78	Death, type, revised definition
	4947.ADM-44	0R44	44	45	Fetal death; gestation (wks)
	4946.ADM-44	0R44	41	43	Fetal death; length, crown rump (cm)
	4945.ADM-44	0R44	37	40	Fetal death; weight (gms)
	4942.ADM-44	0R44	33	33	Fetal or; infant; death; autopsy performed
	4934.ADM-44	0R44	17	18	Form ADM-44 date (day)
	4933.ADM-44	0R44	15	16	Form ADM-44 date (mo)
	4935.ADM-44	0R44	19	20	Form ADM-44 date (yr)
	4948.ADM-44	0R44	46	59	Name, last
	4940.ADM-44	0R44	60	60	Name, last, child or mother
	5917....VAR		1094	1094	Outcome of study pregnancy; deaths; survivors (grouped)
	4953.ADM-44	0R44	79	80	Outcome of study pregnancy; deaths; survivors (grouped)
	5385....VAR		553	553	Records present; pediatric
	4950.ADM-44	0R44	61	61	Sex
6	5916....VAR		1092	1093	Outcome of study pregnancy; deaths; survivors
9	5386....VAR		554	554	Sex
11	5921....VAR		1103	1108	Birth date; date of birth or delivery (mo/day/yr)
14	5918....VAR		1095	1098	Birth; weight (gms)
17	5921....VAR		1103	1108	Birth date; date of birth or delivery (mo/day/yr)

Definition of Codes
Cause of Fetal Death
Form PED-4 Card G4G4

<u>FIELD</u>	<u>CARD COLUMN</u>
1. <u>Card Number*</u> Code: 3	1
2. <u>Form Number</u> Code: 404	2-4
3. <u>Revision Number**</u> Code: 0 - Form dated: 2/59 1 - Forms dated: Rev. 7/59 or Rev. 2/61 2 - Forms dated: Rev. 10/61	5
4. <u>NINDB #</u> Nine-digit number for Patient Identification Code: As given	6-14
5. <u>Date of Delivery</u> Item 11 Six-digit code for: <u>Month</u> (cols. 15-16) <u>Day</u> (cols. 17-18) <u>Year</u> (cols. 19-20) Code: As given 99 - month, day or year unknown F and five blank - Fetal death	15-20
6. <u>Type of Fetal Death</u> Code: 01 - Abortion 02 - Ectopic Pregnancy 11 - Stillbirth, other 12 - Stillbirth, macerated 19 - Stillbirth, type unknown 29 - Fetal death, type unknown	21-22
7. <u>Place of Death</u> Code: 0 - Study Institution 1 - Home 2 - Other hospital 3 - Other place 8 - Elsewhere 9 - Unknown	23

* As many cards are required as causes of death reported.

** Item numbers refer to Form dated: Rev. 10/61.

Definition of Codes (Continued)

FORM PED-4
Card G-404

FIELD

CARD
COLUMN

8. Weight of Fetus
 Item 14
 Code: 0001-5999 - As given in grams
 9999 - Unknown
9. Fetus Died
 Item 16
 Code: 1 - Before labor
 2 - During labor and delivery
 9 - Unknown
10. Cause of Death
 Item 23
 Code: Alpha code as given
 Unk - Unknown

24-27

28

29-80

DEFINITION OF CODES
REPORT OF NON-LIVEBORN TERMINATION OF
PREGNANCY OR DEATH OF STUDY CHILD
FORM ADM-44 CARD 0844

<u>FIELD</u>		<u>CARD COLUMN</u>
1.	<u>Card Number</u> Code: 0	1
2.	<u>Form Number</u> Code: 844	2-4
3.	<u>Revision Number</u> Code: 1 Form Dated: Rev. 12/63	5
4.	<u>NINDB Number</u> Nine-digit number for Patient Identification Code: As given	6-14
5.	<u>Date of Report</u> Six-digit code for month (cols. 15-16), day (cols. 17-18) and year (cols. 19-20). Code: As given 079961 - Prior to July 1961	15-20
6.	<u>Date of Event</u> Six-digit code for month (cols. 21-22), day (cols. 23-24), and year (cols. 25-26) Code: As given 99 - Month, day and/or year unknown	21-26
7.	<u>Date of Birth</u> Code: Same as in Field 6, except F and five blanks - Fetal death	27-32
8.	<u>Autopsy</u> Code: 1 - Yes 2 - No 9 - Unknown	33
9.	<u>Type of Death</u> Code: 01 - Abortion 02 - Ectopic Pregnancy 11 - Stillbirth, Other 12 - Stillbirth, Macerated 19 - Stillbirth, Type Unknown 29 - Fetal Death, Type Unknown	34-35

DEFINITION OF CODES (Continued)

FORM ADM-44
Card 0844

FIELD

CARD
COLUMN

9. Type of Death (continued)

34-35

Code: 30 - Under 24 hours of age
31 - One day
32 - Two days
33 - Three days
34 - Four days
35 - Five days
36 - Six days
37 - Seven days
38 - 8 -- 27 days
39 - Neonatal Death, Time Unknown
40 - 28 days through one year
51 - Over one year -- two years
52 - Over two years -- three years
53 - Over three years -- four years
54 - Over four years -- five years
55 - Over five years years -- six years
56 - Over six years -- seven years
57 - Over seven years -- eight years
58 - Over 8 years
59 - Child death, time unknown
60 - Mole
99 - Unknown

10. Place of Death

36

Code: 0 - Study Institution
1 - Home
2 - Other Hospital
3 - Other Place
8 - Elsewhere, Unknown
9 - Unknown

11. Weight at Death (Fetal Death Only)

37-40

Code: X and three blanks - no fetal death - (-) dash &
0000 - Unknown 3 blanks
0001-5999 - As given in grams
9999 - Not reported

DEFINITION OF CODES (Continued)

FORM ADM-44
Card 0844

FIELD

CARD
COLUMN

12.	<u>Crown-Rump Length (Fetal Death only)</u> Code: Blank - No fetal death 001-550 - As given in cms. to tenths 999 - Not reported 000 - Unknown	41-43
13.	<u>Gestation (Fetal Death only)</u> Code: Blank - No fetal death 01-50 - Weeks as given 99 - Not reported 00 - Unknown	44-45
14.	<u>Last Name</u> Fourteen-digit code for name Code: As given	46-59
15.	<u>Mother or Child</u> Code: 0 - Mother's last name 1 - Child's last name 9 - Unknown	60
16.	<u>Sex</u> Code: 1 - Male 2 - Female 3 - Undetermined 9 - Unknown	61
17.	Blank	62-76
18.	<u>Type of Death: Revised Definition</u> Code: 01 - Abortion - weeks gestation \leq 19 02 - Abortion - PRB review 03 - Mole 11 - Stillbirth - weeks gestation \geq 20 12 - Stillbirth - PRB review 29 - Fetal Death - Type Unknown 30 - Under 24 hours of age 31 - One day 32 - Two days 33 - Three days 34 - Four days 35 - Five days 36 - Six days 37 - Seven days 38 - 8-27 days 39 - Neonatal Death, Time Unknown 40 - 28 days thru 1 year	77-78

DEFINITION OF CODES (Continued)

FORM ADM-44
Card 0844

FIELD

CARD
COLUMN

51 - Over 1 year - 2 years
52 - Over 2 years - 3 years
53 - Over 3 years - 4 years
54 - Over 4 years - 5 years
55 - Over 5 years - 6 years
56 - Over 6 years - 7 years
57 - Over 7 years - 8 years
58 - Over 8 years
59 - Child Death, Time Unknown
99 - Unknown

19.

Quarterly Addition to File

79-80

Two-digit code for:

Year (col. 79)

Code: Blank - Prior to July 1963

3-9 - 1963-1969 as given

0-2 - 1970-1972 as given

Quarter Case First Reported (col. 80)

Code: Blank - Prior to July 1963

1 - January - March

2 - April - June

3 - July - September

4 - October - December

ITEM #		NOT ON FORM	
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	28
29	30	31	32
33	34	35	36
37	38	39	40
41	42	43	44
45	46	47	48
49	50	51	52
53	54	55	56
57	58	59	60
61	62	63	64
65	66	67	68
69	70	71	72
73	74	75	76
77	78	79	80
81	82	83	84
85	86	87	88
89	90	91	92
93	94	95	96
97	98	99	100

ADM-44 - 5

REPORT OF FETAL OR INFANT DEATH (For Form PED-4, Revised 10-61)

I. INTRODUCTION

The PED-4 Form is to be used to report the fact of death of a Study product of conception and to report certain additional information regarding the death.

The fact of death need not be reported on a Form CP-1.

II. GENERAL INSTRUCTIONS

A PED-4 report is to be submitted on every Study product of conception that dies. This includes abortions and stillbirths (fetal deaths), deaths that occur in the nursery period, and deaths that occur after discharge from the nursery.

A. SCHEDULE OF REPORTING

1. **Fetal Deaths.** The PED-4 report is to be submitted within ten (10) days of the date of fetal death or the date the Study hospital becomes informed of the death. The report should not be delayed in anticipation of more detailed or complete information regarding the death.

2. **Deaths in the Nursery Period.** The PED-4 report is to be submitted together with other Nursery Study Records within three weeks after the infant's discharge from the hospital, as provided for in the PED-7 Manual. The report should not be delayed in anticipation of more detailed or complete information regarding the death.

3. **Deaths After Discharge from the Nursery.** The PED-4 report is to be submitted within ten (10) days after the Study hospital becomes informed of the death. The report should not be delayed in anticipation of more detailed or complete information regarding the death.

B. CONTENT OF REPORT

The report is to contain the required patient identification data and other requested data which are available. Be sure to indicate whether an autopsy has been done and include the provisional diagnoses from gross autopsy findings when available.

C. SUPPLEMENTARY INFORMATION

Detailed autopsy findings and any additional data regarding the death are to be reported on a CP-6 or other applicable Study forms, with patient identification of the PED record which is being supplemented. The supplementary report is to be submitted only after complete information has been obtained regarding the death.

D. TRANSMITTAL

The original and first carbon copy of completed Form PED-4 are to be sent to PRB.

III. SPECIFIC INSTRUCTIONS

Item 1, Patient Identification. For fetal deaths this item is to be completed by using the gravida's name and the NINDB number which would have been assigned to the live-born child. The suffix "FD" should be added to the NINDB number. For all other deaths this item is to be completed by using the infant's identification stamp which is to contain the following information: name, NINDB number, date of birth, time of birth, birth weight, sex, and race.

Item 2, Name of Recorder. Record the name of the person completing this record.

Item 3, Title or Position. Record the professional title or position of the person completing this record (i.e., pediatrician, obstetrician, pathologist, nurse, secretary, etc.).

Item 4, Date of Record. Record the month, day, and year on which this record was completed.

Item 5, Do Not Write in This Space. This space and spaces numbered 12, 22, 24, and 27 are reserved for coding purposes and require no entry by the recorder.

Item 6, Type of Record. Check the appropriate box to indicate whether this is a report of a fetal death (death of a product of conception prior to complete separation from the mother) or a report of an infant death (death of a live-born child occurring at any age, even beyond the period of infancy).

Item 7, Autopsy Number. If an autopsy has been done, record the identifying number here. Otherwise write "none" in this space.

Item 8, Other Record Number. Record here identification numbers, not included in Items 1 or 7, by which this case is known to other departments or other institutions.

Item 9, Sex. If this information is included in Item 1, it is not necessary to repeat it here. Otherwise check the appropriate box for sex.

Item 10, Autopsy. Record whether an autopsy was performed and, if so, where. If the autopsy was performed in another hospital (including morgue or coroner's laboratory), give the name and address of the other hospital and any other information in addition to Items 7 and 8 which may be necessary to identify the case in that hospital.

October 1961

Items 11 to 16. Complete These Items For Fetal

Death Only. These items are to be completed only in the case of a fetal death. Disregard these items in the case of an infant or child death.

Item 11, Date of Delivery Of Fetus. Record the month, day, and year of the delivery of the fetus.

Item 12, Do Not Write In This Space. Same as Item 5.

Item 13, Place of Delivery. Record whether the delivery occurred in the reporting hospital, home, or other place. If "other" place, specify where. If in another hospital, give the name and address of the institution and other identification data necessary to trace the case.

Item 14, Weight of Fetus. Record in grams the weight of the fetus at birth. If this weight is unknown, write "unknown" in this space.

Item 15, Crown Rump Length. To obtain this measurement, extend the measuring instrument on a flat table. Over the instrument place the fetus flat on its back with the head extended in the midline. Flex the thighs to a right angle with the body. Measure the distance from the outer-most extension of the crown to the outermost extension of the rump. Record this distance in centimeters.

Item 16, Fetus Died. Record whether the fetus died before onset of labor or during labor and delivery. If this information is not known, check the box "Unknown."

Item 17 to 21, Complete These Items For Infant Death Only. These items are to be completed only in the case of an infant death. Disregard these items in the case of a fetal death.

Item 17, Date of Death. Record month, day, and year on which death occurred.

Item 18, Time of Death. Record the time of death in 24-hour-clock time for all infant deaths under 7 days of age. Disregard this item for infant deaths occurring at age 7 days and over.

Item 19, Place of Death. Record whether the death occurred in the reporting hospital, home,

or other places. If "other" place, specify where. If in another hospital, give the name and address of the institution and other identification data necessary to trace the case.

Items 20 and 21, Birth Injuries Present. Record the absence or presence of birth injury in infant deaths under 28 days of age. If present, specify the type and location of the injuries. Disregard this item for infant deaths at age 28 days and over.

Item 22, Do Not Write In This Space. Same as Item 5.

Items 23 to 28, Complete These Items For Each Death. These items are to be completed for each fetal or infant death.

Item 23, Cause of Death. List in standard medical terms your clinical impressions of the medical condition initiating the sequence of events terminating in death and of any other medical conditions associated with the death. Circle the number of the underlying cause of death. Maternal factors which may have initiated or contributed to the death should be clearly identified as maternal factors. Gross autopsy findings are to be listed under Item 28, Remarks.

Item 24, Do Not Write In This Space. Same as Item 5.

Items 25 and 26, Malformations Present. Record the absence or presence of congenital malformations. If present, specify the type and location of each malformation.

Item 27, Do Not Write In This Space. Same as Item 5.

Item 28, Remarks. Use this space to record gross autopsy findings and to provide further information on any of the preceding items. Identify the remarks with the number of the item to which they refer. If more space is needed, continue on Form CP-5, Continuation Sheet.

REPORT OF FETAL OR INFANT DEATH

*Supervised by
COLR-3004-4
Mr. 10-61*

2. NAME OF EXAMINER			3. TITLE OR POSITION												
4. DATE OF RECORD Mo. Day Year		5. DO NOT WRITE IN THIS SPACE		6. TYPE OF RECORD <input type="checkbox"/> FETAL DEATH <input type="checkbox"/> INFANT DEATH		7. AUTOPSY NUMBER		8. OTHER RECORD NUMBER							
9. SEX <input type="checkbox"/> MALE <input type="checkbox"/> FEMALE <input type="checkbox"/> UNDETERMINED				10. AUTOPSY <input type="checkbox"/> NONE YES <input type="checkbox"/> IN REPORTING HOSPITAL <input type="checkbox"/> OTHER (Specify)											
COMPLETE THESE ITEMS FOR FETAL DEATH ONLY					COMPLETE THESE ITEMS FOR INFANT DEATH ONLY										
11. DATE OF DELIVERY OF FETUS Mo. Day Year			12. DO NOT WRITE IN THIS SPACE		16. DATE OF DEATH Mo. Day Year			17. TIME OF DEATH (Use 24-hr clock)							
13. PLACE OF DELIVERY <input type="checkbox"/> REPORTING HOSPITAL <input type="checkbox"/> HOME <input type="checkbox"/> OTHER (Specify)					18. PLACE OF DEATH <input type="checkbox"/> REPORTING HOSPITAL <input type="checkbox"/> HOME <input type="checkbox"/> OTHER (Specify)										
14. WEIGHT OF FETUS _____ GRAMS CHECK HERE IF WEIGHT UNKNOWN <input type="checkbox"/>					19. BIRTH INJURIES PRESENT <input type="checkbox"/> NO <input type="checkbox"/> YES <input type="checkbox"/> UNKNOWN				21. DO NOT WRITE IN THIS SPACE						
15. FETUS DIED <input type="checkbox"/> BEFORE LABOR <input type="checkbox"/> DURING LABOR OR DELIVERY <input type="checkbox"/> UNKNOWN					20. IF "YES", DESCRIBE										
22. CAUSE OF DEATH (Include antenatal illnesses and conditions. CIRCLE the number of the underlying cause of death.) (1.) _____ (2.) _____ (3.) _____ (4.) _____ (5.) _____ (6.) _____ (7.) _____ (8.) _____ (9.) _____ (10.) _____					23. DO NOT WRITE IN THIS SPACE		24. REMARKS (Also use this space to describe circumstances associated with death)								
									IF MORE SPACE IS NEEDED INDICATE ITEM NUMBER AND ATTACH CONTINUATION SHEET (FORM CP-5)						
									25. MALFORMATIONS PRESENT: <input type="checkbox"/> NO <input type="checkbox"/> YES <input type="checkbox"/> NOT DETERMINED					27. DO NOT WRITE IN THIS SPACE	
									26. IF "YES", LIST AND DESCRIBE MALFORMATIONS HERE (1.) _____ (2.) _____ (3.) _____ (4.) _____ (5.) _____ (6.) _____ (7.) _____ (8.) _____ (9.) _____						

REPORT OF FETAL OR INFANT DEATH

1. PATIENT IDENTIFICATION

*Supervised by
COL R-3004-4
net. 3-61*

2. NAME OF EXAMINER

3. TITLE OR POSITION

4. DATE

MO

DAY

YEAR

5. TIME RECORDED

(Use 24-hr clock)

6. TYPE OF RECORD

☐ FETAL DEATH

☐ INFANT DEATH

RECORD NUMBERS

7. HOSPITAL

8. OTHER

9. SEX

☐ MALE

☐ FEMALE

☐ UNDETERMINED

10. AUTOPSY

☐ NONE

YES

☐ IN REPORTING HOSPITAL

☐ OTHER (Specify)

COMPLETE THESE ITEMS FOR FETAL DEATH ONLY

11. DATE OF DELIVERY OF FETUS

MO

DAY

YEAR

12. TIME OF DELIVERY

(Use 24-hr clock)

COMPLETE THESE ITEMS FOR INFANT DEATH ONLY

16. DATE OF DEATH

MO

DAY

YEAR

17. TIME OF DEATH

(Use 24-hr clock)

13. PLACE OF DELIVERY

☐ REPORTING
HOSPITAL

☐ HOME

☐ OTHER
(Specify)

18. PLACE OF DEATH

☐ REPORTING
HOSPITAL

☐ HOME

☐ OTHER
(Specify)

14. WEIGHT OF FETUS

GRAMS

CHECK HERE IF WEIGHT UNKNOWN ☐

19. BIRTH INJURIES PRESENT

☐ NO

☐ YES

☐ UNKNOWN

21. DO NOT USE

15. FETUS DIED

☐ BEFORE
LABOR

☐ DURING LABOR
OR DELIVERY

☐ UNKNOWN

20. IF "YES", DESCRIBE

22. CAUSE OF DEATH (Indicate associated illness and conditions. CIRCLE the number of the underlying cause of death.)

(1.)

(2.)

(3.)

(4.)

(5.)

(6.)

(7.)

(8.)

(9.)

(10.)

23. DO NOT WRITE IN THIS SPACE

24. REMARKS (Use any extra space to describe circumstances associated with death.)

IF MORE SPACE IS NEEDED INDICATE ITEM NUMBER AND ATTACH CONTINUATION SHEET (FORM ADM-5)

25. MALFORMATIONS PRESENT

☐ NO

☐ YES

☐ NOT DETERMINED

26. IF "YES", LIST AND DESCRIBE MALFORMATIONS HERE

(1.)

(2.)

(3.)

(4.)

(5.)

(6.)

(7.)

(8.)

(9.)

27. DO NOT USE

REPORT OF FETAL OR INFANT DEATH

white

*Supplemented by
nr. 7-59*

1. NAME OF EXAMINER		2. TITLE OR POSITION	
3. DATE (Mo-Day-Yr)	4. TIME RECORDED (Use 24-hr clock)	5. TYPE OF RECORD <input type="checkbox"/> FETAL DEATH <input type="checkbox"/> INFANT DEATH	6. HOSPITAL RECORD NUMBERS 7. OTHER
8. SEX <input type="checkbox"/> MALE <input type="checkbox"/> FEMALE <input type="checkbox"/> UNDETERMINED		9. AUTOPSY <input type="checkbox"/> NONE <input type="checkbox"/> YES <input type="checkbox"/> IN REPORTING HOSPITAL <input type="checkbox"/> OTHER (Specify)	
COMPLETE THESE ITEMS FOR FETAL DEATH ONLY		COMPLETE THESE ITEMS FOR INFANT DEATH ONLY	
10. DATE OF DELIVERY OF FETUS (Mo-Day-Yr)	11. TIME OF DELIVERY (Use 24-hr clock)	12. DATE OF DEATH (Mo-Day-Yr)	13. TIME OF DEATH (Use 24-hr clock)
14. PLACE OF DELIVERY <input type="checkbox"/> REPORTING HOSPITAL <input type="checkbox"/> HOME <input type="checkbox"/> OTHER (Specify)		15. PLACE OF DEATH <input type="checkbox"/> REPORTING HOSPITAL <input type="checkbox"/> HOME <input type="checkbox"/> OTHER (Specify)	
16. WEIGHT OF FETUS GRAMS CHECK HERE IF WEIGHT UNKNOWN <input type="checkbox"/>		17. BIRTH INJURIES PRESENT <input type="checkbox"/> NO <input type="checkbox"/> YES <input type="checkbox"/> UNKNOWN IF "YES", DESCRIBE	
18. FETUS DEAD <input type="checkbox"/> BEFORE LABOR <input type="checkbox"/> DURING LABOR OR DELIVERY <input type="checkbox"/> UNKNOWN			
19. CAUSE OF DEATH (Include associated illnesses and conditions. CIRCLE the number of the underlying cause of death.)		20. DO NOT WRITE IN THIS SPACE	REMARKS (Also use this space to describe circumstances associated with death.)
1. _____ 2. _____ 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____			
IF MORE SPACE IS NEEDED USE REVERSE OF FORM			
21. MALFORMATIONS PRESENT: <input type="checkbox"/> NO <input type="checkbox"/> YES <input type="checkbox"/> NOT DETERMINED			
IF "YES", LIST AND DESCRIBE MALFORMATIONS HERE			
1. _____			
2. _____			
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			
8. _____			
9. _____			
10. _____			

PED-5 Results of Tests and Procedures Done on the Neonate

Form PED-5 was used to provide a record of the results of all tests and procedures performed on the neonate. Implemented in May 1960, the form was not revised. Data from PED-5 were punched onto card 0405 Revision 0 of the master file (Table PED-5.1). Prior to May 1960, results from tests and procedures were included on the January 1959 version of PED-7 "Summary of the Hospital Course of the Neonate, Record of Examination." These data are also included in the master data file on card 0405 Revision No. 1 (see Table PED-5.1).

TABLE PED-5.1 Cards and Data Records by Revision for Form PED-5

Card Name	Card Number	Rev. No.	Number Records
PED-5: Serum Bilirubin, Hemoglobin and Hematocrit, etc.	0405	0	47,094
PED-7: Serum Bilirubin, Hemoglobin and Hematocrit	0405	1	6,109
	total for form		53,203

Data Items Referencing Form PFD-5, Result of Test and Procedures done on the Neonate

DATA ITEM TO	ITEM ON FORM	CARD NUM	FROM	TO	DATA ITEM NAME
4106.....		0405	1	5	Card number (sequence, form type, form number, revision number)
4107.....		0405	6	14	NINDS case number
4108...PEN-5	1	0405	15	16	Birth date (mo)
4109...PEN-5	1	0405	17	18	Birth day (day)
4110...PEN-5	1	0405	19	20	Birth day (yr)
4111...PEN-5	3	0405	21	21	Blood type
4112...PEN-5	4	0405	22	22	Rh type
4113...PEN-5	4	0405	23	23	Rh type, additional information
4114...PEN-5	5	0405	24	24	Coombs' test, direct
4115...PEN-5	6	0405	25	25	Cord; blood
4116...PEN-5	12	0405	26	26	Blood for neonate characterization, source
4117...PEN-5	14	0405	27	29	Bilirubin, serum, first, age (hrs)
4118...PEN-5	16	0405	30	31	Bilirubin, serum, first, direct (mg %)
4119...PEN-5	17	0405	32	33	Bilirubin, serum, first, total (mg %)
4120...PEN-5	14	0405	34	36	Bilirubin, serum, 48 hr, age (hrs)
4121...PEN-5	16	0405	37	38	Bilirubin, serum, 48 hr, direct (mg %)
4122...PEN-5	17	0405	39	40	Bilirubin, serum, 48 hr, total (mg %)
4123...PEN-5	14	0405	41	43	Bilirubin, serum, highest, age (hrs)
4124...PEN-5	16	0405	44	45	Bilirubin, serum, highest, direct (hrs)
4125...PEN-5	17	0405	46	47	Bilirubin, serum, highest, total (hrs)
4126...PEN-5	15	0405	48	48	Bilirubin, serum, number
4127...PEN-5	18	0405	49	51	Hemoglobin, 48 hr, age (hrs)
4128...PEN-5	18	0405	52	53	Hemoglobin, 48 hr, age (hrs)
4129...PEN-5	18	0405	54	56	Hemoglobin, lowest, age (hrs)
4130...PEN-5	18	0405	57	58	Hemoglobin, lowest (gm %)
4131...PEN-5	19	0405	59	61	Hematocrit, 48 hr, age (hrs)
4132...PEN-5	19	0405	62	63	Hematocrit, 48 hr (percent)
4133...PEN-5	19	0405	64	66	Hematocrit, lowest, age (hrs)
4134...PEN-5	19	0405	67	68	Hematocrit, lowest (percent)
4135...PEN-5	20,21	0405	69	69	Proteins albumin; serum, performed
4136...PEN-5	22	0405	70	70	Laboratory tests, other
4137.....		0405	71	80	Blank
5416.....VAR	5		586	586	Coombs' test, direct
5417.....VAR	17		587	588	Bilirubin, serum, first, total (mg %)
5418.....VAR	19		589	590	Hematocrit, lowest (mg %)
5419.....VAR	18		591	592	Hemoglobin, lowest (mg %)
5420.....VAR			593	594	Bilirubin, serum, maximum (mg %)
5421.....VAR			595	595	Bilirubin, serum, maximum (coded)
5941.....VAR	3		1129	1129	Blood type
5942.....VAR	4		1130	1130	Rh type
5943.....VAR	18		1131	1133	Hemoglobin, lowest, age (hrs)
5944.....VAR	19		1134	1136	Hematocrit, lowest, age (hrs)

Data Items Referencing Form PED-5, Result of Test and Procedures Done on the Neonate

DATA ITEM ID	ITEM ON FORM	CARD NUM	FROM TO	DATA ITEM NAME
5991.....VAR 1R			1227 1228	Hemoglobin 48 hrs (Hgb)
5992.....VAR 1R			1229 1230	Hematocrit 48 hrs (Hct)

RESULTS OF TESTS AND PROCEDURES DONE ON THE NEONATE

1. PATIENT'S IDENTIFICATION

2. CORD BLOOD - REQUIRED

3. ABO BLOOD TYPE

☐ O ☐ AB
☐ A ☐ Not Done (Explain)
☐ B

4. Rh BLOOD TYPE

☐ Pos. ☐ Not Done (Explain)
☐ Neg.

5. DIRECT COOMBS' TEST

☐ Pos. ☐ Not Done (Explain)
☐ Neg.

6. CORD BLOOD - OPTIONAL

7. BILIRUBIN

8. DIRECT

Mg. %

9. TOTAL

Mg. %

10. HEMOGLOBIN

Gm. %

11. HEMATOCRIT

%

12. BLOOD (Check one) ☐ Capillary or ☐ Venous

13. DATE DRAWN (Month, day, year)

14. TIME DRAWN (24 hour clock)

15. SERUM BILIRUBIN -

16. DIRECT
(Mg. %)

17. TOTAL
(Mg. %)

18. HEMOGLOBIN (Gm. %)

19. HEMATOCRIT (%)

20. TOTAL SERUM PROTEIN (Gm. %)

21. SERUM ALBUMIN (Gm. %)

22. OTHER TESTS AND PROCEDURES (Histological and Viral Cultures, Blood and CSF Chemistry, X-rays, etc.)

(1) DATE

(2) TIME

(3) TEST OR PROCEDURE

(4) RESULTS

23.			
24.			
25.			
26.			
27.			
28.			
29.			
30.			
31.			
32.			
33.			
34.			

35. COMMENTS

Form Item Numbers linked to Data Items on PFD-5, Result of Test and Procedures done on the Neonate

ITEM ON FORM	DATA ITEM ID	CARD NUM	FROM	TO	DATA ITEM NAME
1	5421....VAR	595	595	595	Bilirubin, serum, maximum (coded)
1	5420....VAR	593	594	594	Bilirubin, serum, maximum (mg%)
1	4108..PED-5	0405	15	16	Birth date (mo)
1	4109..PED-5	0405	17	18	Birth day (day)
3	4110..PED-5	0405	19	20	Birth day (yr)
3	4111..PFD-5	0405	21	21	Blood type
3	5941....VAR	1129	1129	1129	Blood type
4	5942....VAR	1130	1130	1130	Rh type
4	4112..PED-5	0405	22	22	Rh type
4	4113..PED-5	0405	23	23	Rh type, additional information
5	4114..PED-5	0405	24	24	Coombs' test, direct
5	5416....VAR	586	586	586	Coombs' test, direct
6	4115..PED-5	0405	25	25	Cord, blood
12	4116..PED-5	0405	26	26	Blood for neonate characterization, source
14	4120..PED-5	0405	34	36	Bilirubin, serum, 48 hr, age (hrs)
14	4117..PED-5	0405	27	29	Bilirubin, serum, first, age (hrs)
14	4123..PED-5	0405	41	43	Bilirubin, serum, highest, age (hrs)
15	4126..PED-5	0405	48	48	Bilirubin, serum, number
16	4121..PED-5	0405	37	38	Bilirubin, serum, 48 hr, direct (mg %)
16	4118..PED-5	0405	30	31	Bilirubin, serum, first, direct (mg %)
16	4124..PED-5	0405	44	45	Bilirubin, serum, highest, direct (hrs)
17	4122..PED-5	0405	39	40	Bilirubin, serum, 48 hr, total (mg %)
17	4119..PED-5	0405	32	33	Bilirubin, serum, first, total (mg %)
17	5417....VAR	587	588	588	Bilirubin, serum, first, total (mg %)
17	4125..PED-5	0405	46	47	Bilirubin, serum, highest, total (hrs)
18	5991....VAR	1227	1228	1228	Hemoglobin 48 hrs (gm %)
18	4128..PED-5	0405	52	53	Hemoglobin, 48 hr, (gm %)
18	4127..PED-5	0405	49	51	Hemoglobin, 48 hr, age (hrs)
18	4130..PED-5	0405	57	58	Hemoglobin, lowest (gm %)
18	5419....VAR	591	592	592	Hemoglobin, lowest (mg %)
18	4129..PED-5	0405	54	56	Hemoglobin, lowest, age (hrs)
18	5943....VAR	1131	1133	1133	Hemoglobin, lowest, age (hrs)
19	5992....VAR	1229	1230	1230	Hematocrit 48 hrs (gm %)
19	4132..PED-5	0405	62	63	Hematocrit, 48 hr (percent)
19	4131..PED-5	0405	59	61	Hematocrit, 48 hr, age (hrs)
19	5418....VAR	599	590	590	Hematocrit, lowest (mg %)
19	4134..PED-5	0405	67	68	Hematocrit, lowest (percent)
19	4133..PED-5	0405	64	66	Hematocrit, lowest, age (hrs)
19	5944....VAR	1134	1136	1136	Hematocrit, lowest, age (hrs)
20,21	4135..PED-5	0405	69	69	Protein; albumin; serum, performed
22	4136..PED-5	0405	70	70	Laboratory tests, other

DEFINITION OF CODES
RESULTS OF TESTS AND PROCEDURES
DONE ON THE NEONATE
FORM PED-5 CARD 0405

<u>FIELD</u>		<u>CARD COLUMN</u>
1.	<u>Card Number</u> Code: 0	1
2.	<u>Form Number</u> Code: 405	2-4
3.	<u>Revision Number *</u> Code: 0 - PED-5- Form Dated: 5/60 1 - PED-7- Form Dated: 1/59	5
4.	<u>MINDB Number</u> Nine-digit number for Patient Identification Code: As given	6-14
5.	<u>Date of Birth</u> Six-digit code for month (cols. 15-16), day (cols. 17-18), and year 19-20). Code: As given	15-20
6.	<u>Blood Type</u> Item 3 Code: 1 - O 2 - A 3 - B 4 - AB 9 - Unknown	21
7.	<u>RR Blood Type</u> Item 4 <u>Type</u> (column 22) Code: 1 - Positive 2 - Negative 9 - Unknown <u>Additional Information</u> (column 23) Code: 1 - Type and Additional Information 2 - Type and No Additional Information 3 - No Type but Additional Information 9 - Type and additional information unknown	22-23

* Unless specified, Fields, Codes and Card Columns refer to Revision Numbers "0" and "1". Item Numbers refer to Form Dated: 5/60

Revised September 1965

DEFINITION OF CODES (Continued)

FORM PED-5
Card 0405

FIELD

CARD
COLUMN

- | | | |
|-----|--|-------|
| 8. | <u>Direct Coomb's Test</u>
Item 5
Code: 1 - Positive
2 - Negative
9 - Unknown | 24 |
| 9. | <u>Cord Blood</u>
Item 6
Code: 0 - Bilirubin only
1 - Hemoglobin only
2 - Hematocrit only
3 - Combination of codes 0 and 1
4 - Combination of codes 0 and 2
5 - Combination of codes 0, 1 and 2
6 - Combination of codes 1 and 2
9 - Unknown | 25 |
| 10. | <u>Capillary or Venous (Rev. "0" only)</u>
Item 12
Code: Blank - Not on Rev. "1"
1 - Capillary
2 - Venous
3 - Capillary and Venous
9 - Unknown | 26 |
| 11. | <u>First Serum Bilirubin</u>
Seven-digit code for:
<u>Age</u> (cols. 27-29)
Code: 000 - Less than one hour
001-997 - As given in hours
998 - 998 hours or more
999 - Unknown
<u>Direct Value</u> (cols. 30-31)
Code: 00 - Less than 1
01-08 - As given in mgms. %
99 - Unknown
<u>Total Value</u> (cols. 32-33)
Code: 00 - Less than 1
01-25 - As given in mgms. %
99 - Unknown

Additional codes reviewed and approved (cols. 32-33):
26, 29, 35 | 27-33 |

Revised September 1967

DEFINITION OF CODES (Continued)

FORM PED-5
Card 0405

FIELD

CARD
COLUMN

12. 48 Hour Serum Bilirubin 34-40
Seven-digit code for:
 Age (cols. 34-36)
 Code: Same as in Field 11, cols. 27-29
 Direct Value (cols. 37-38)
 Code: Same as in Field 11, cols. 30-31 except additional
 codes reviewed and approved: 10, 16, 22
 Total Value (cols. 39-40)
 Code: Same as in Field 11, cols. 32-33 except
 additional codes reviewed and approved: 26-29, 35, 43
13. Highest Serum Bilirubin 41-47
Seven-digit code for:
 Age (cols. 41-43)
 Code: Same as in Field 11, cols. 27-29
 Direct Value (cols. 44-45)
 Code: Same as in Field 11, cols. 30-31 except
 additional codes reviewed and approved: 09, 10, 16, 21, 35
 Total Value (cols. 46-47)
 Code: Same as in Field 11, cols. 32-33 except
 additional codes reviewed and approved: 26-38, 53
14. Number of Bilirubins 43
Code: 0 - 1 bilirubin
 1 - 2 bilirubins
 2 - 3 bilirubins
 3 - 4 or more bilirubins
 9 - Not reported
15. 48 Hour Hemoglobin 49-53
Item 18
Five-digit code for:
 Age (cols. 49-51)
 Code: Same as in Field 11, cols. 27-29
 Value (cols. 52-53)
 Code: 00-30 - As given in gms. %
 99 - Unknown

Additional codes reviewed and approved: 50, 52, 55, 57, 59,
60, 62

DEFINITION OF CODES (Continued)

FORM PED-5
Card 0405

FIELD

CARD
COLUMN

- | | | |
|-----|---|-------|
| 16. | <u>Lowest Hemoglobin</u>
Item 18
Five-digit code for:
<u>Age</u> (cols. 54-56)
Code: Same as in Field 11, cols. 27-29
<u>Value</u> (cols. 57-58)
Code: Same as in Field 15, cols. 52-53 except
additional codes reviewed and approved: 02-04,
50, 55, 57, 59, 60, 62. | 54-58 |
| 17. | <u>48 Hour Hematocrit</u>
Item 19
Five-digit code for:
<u>Age</u> (cols. 59-61)
Code: Same as in Field 11, cols. 27-29
<u>Value</u> (cols. 62-63)
Code: 25-85 - As given in %
99 - Unknown

Additional codes reviewed and approved: 19, 22-24,
86-90 | 59-63 |
| 18. | <u>Lowest Hematocrit</u>
Item 19
Five-digit code for:
<u>Age in Hours</u> (cols. 64-66)
Code: Same as in Field 11, cols. 27-29
<u>Value</u> (cols. 67-68)
Code: 10-85 - As given
99 - Unknown

Additional codes reviewed and approved: 86-90 | 64-68 |
| 19. | <u>Protein and/or Albumin</u>
Code: 0 - Serum protein and/or albumin reported
9 - Not reported | 69 |
| 20. | <u>Other Tests</u>
Code: 0 - Other tests and/or procedures reported
9 - Not reported | 70 |

RESULTS OF TESTS AND PROCEDURES DONE ON THE NEAUTE
FORM PED-5, PED-7*

ITEM # ON FORM	1	1	3 4 5 6	SERUM BILIRUBIN				HEMATOCRIT				HEMATOCRIT			
DATE OF BIRTH	1	1	3 4 5 6	1st 40hr 48hr 72hr				48hr 72hr				48hr 72hr			
AGE	1	1	3 4 5 6	AGE				AGE				AGE			
SEX	1	1	3 4 5 6	SEX				SEX				SEX			
WEIGHT	1	1	3 4 5 6	WEIGHT				WEIGHT				WEIGHT			
HEIGHT	1	1	3 4 5 6	HEIGHT				HEIGHT				HEIGHT			
TEMP	1	1	3 4 5 6	TEMP				TEMP				TEMP			
PULSE	1	1	3 4 5 6	PULSE				PULSE				PULSE			
BLOOD PRESSURE	1	1	3 4 5 6	BLOOD PRESSURE				BLOOD PRESSURE				BLOOD PRESSURE			
RESPIRATORY RATE	1	1	3 4 5 6	RESPIRATORY RATE				RESPIRATORY RATE				RESPIRATORY RATE			
HEART RATE	1	1	3 4 5 6	HEART RATE				HEART RATE				HEART RATE			
ECG	1	1	3 4 5 6	ECG				ECG				ECG			
PHYSICAL EXAMINATION	1	1	3 4 5 6	PHYSICAL EXAMINATION				PHYSICAL EXAMINATION				PHYSICAL EXAMINATION			
LABORATORY TESTS	1	1	3 4 5 6	LABORATORY TESTS				LABORATORY TESTS				LABORATORY TESTS			
DIAGNOSIS	1	1	3 4 5 6	DIAGNOSIS				DIAGNOSIS				DIAGNOSIS			
TREATMENT	1	1	3 4 5 6	TREATMENT				TREATMENT				TREATMENT			
PROGNOSIS	1	1	3 4 5 6	PROGNOSIS				PROGNOSIS				PROGNOSIS			
REMARKS	1	1	3 4 5 6	REMARKS				REMARKS				REMARKS			

* Item numbers refer to form dated: 5/60

PED-5 - 5

PEDIATRICS MANUAL
RESULTS OF TESTS AND PROCEDURES DONE ON THE NEONATE
(For Form PED-5, 5-60)

A. INTRODUCTION. The purpose of Form PED-5 is to provide a record of the results of all tests and procedures performed on the neonate. This manual has been prepared for use as a guide in reporting this information. Specific instructions for performing the laboratory tests and procedures are not included in this manual.

B. GENERAL INSTRUCTIONS. The form is arranged for convenience in reporting the required laboratory tests. Space is also provided for easy reporting of other frequently performed tests. A large portion of the form is left for detailed reporting of other laboratory tests and special procedures performed as part of another research study or for the care of the infant.

Local policy shall determine when and by whom the results of laboratory tests and procedures are transferred from the hospital record to the study record PED-5. It is desirable that this be done and forwarded to NIH as soon as possible after the child is discharged from the hospital. If certain studies, such as viral cultures which may take several weeks or months to complete, are in progress, PED-5, containing the routine data should be sent in promptly with an indication that the results of other tests (specify) will be sent later.

C. INSTRUCTIONS AND DEFINITIONS FOR COMPLETING ITEMS ON FORM PED-5.

Item 1, Patient Identification. This item is to be completed using the patient's name plate.

Cord Blood-Required. The following three items are the tests on cord blood the Study requires for every infant. If the cord blood is lost and venous blood is used for the tests, record the

results in these spaces, but indicate the source of the blood.

Item 3, ABO Blood Type. Report as "A", "B", "O", or "AB" as minimum data. Subtypes may also be reported but should not confuse the report of the major type.

Item 4, Rh Blood Type. Report as "Rh positive," or "Rh negative" as minimum data. If further typing is done, this data should also be reported, but should not confuse the report of the major (big D) type.

Item 5, Direct Coombs' Test. Report as "negative" or "positive."

Cord Blood-Optional. The following three items are tests which are not required, but are frequently done on cord blood. Space is provided for recording these separate from the tests done on capillary or venous blood, both to simplify editing and coding of the required tests, and because they may be of special interest.

Items 7-9, Bilirubin—Direct, Total. Record the values in mg.% in the appropriate spaces.

Item 10, Hemoglobin. Report as grams percent.

Item 11, Hematocrit. Report as percent.

Item 12, Blood (check one) Capillary ☐ or Venous ☐. Check one of the two boxes to indicate the type of blood used for the tests reported in Items 13-21. It is assumed that the single check-mark will apply to all determinations reported in this section. Please clearly indicate if there are exceptions to this in "comments," Item 35.

May 1960

Item 13, Date Drawn. This information should appear at the head of each column in which determinations are reported. Do not record the results of tests done on blood drawn at different times in the same column.

Item 14, Time Drawn. Indicate in each column the approximate (nearest hour) time that the blood was drawn for the determinations reported in that column.

Items 15-17, Serum Bilirubin—Direct, Total. Record the values in mg. percent in the appropriate spaces.

The Study requires that a serum bilirubin determination be done on every infant between 36 and 60 hours of age, centering about 48 hours of age. If the total bilirubin on the first determination is 10 mg.% or over, the test should be repeated in 24 hours, and if still over 10 mg.%, a third determination should be done at 4-5 days of age.

In the case of infants weighing 2250 grams (5 pounds) or less at birth, the minimum requirement will be three bilirubin determinations: one at 36 to 60 hours of age centering about 48 hours of age, a second 24 hours after the first, and a third at 4-5 days of age. If on the third determination the value is 10 mg.% or higher, the test should be repeated at intervals until the value falls below 10 mg.%.

If bilirubin determinations are done in excess of those required by the Study, or in laboratories different from that in which the routine Study bilirubins are done, these should be reported under Item 22.

Item 18, Hemoglobin. Report as grams percent.

The Study requires that a hemoglobin determination be done on every infant between 36 and 60 hours of age, centering about 48 hours of age.

Item 19, Hematocrit. Record as percent.

This is not required, but since it is frequently done, a space is provided for reporting the value here rather than under Item 22.

Item 20, Total Serum Proteins. This is not required, but since it is frequently done, a space is provided for reporting the value here rather than under Item 22.

Item 21, Serum Albumin. This is not required, but since it is frequently done, a space is provided for reporting the value here rather than under Item 22.

Items 22-24, Other Tests and Procedures. Report here the results of all special tests and procedures such as bacterial and viral cultures, blood and CSF chemistries, X-rays, surgical procedures and biopsies, urinalysis, EEG, sub-dural tap, etc.

Indicate the date and approximate time the specimen was obtained or the procedure performed, clearly identify the test or procedure, and record the results with the units or other qualifications clearly stated.

Item 25, Comments. Use this space for any appropriate notes or comments.

PED-6 Neonatal Neurological Examination

Form PED-6 was used to evaluate by physical examination techniques, the function of the child's central nervous system in the first few days of life. Introduced into the study in January 1959, the form was revised in November 1959 and again in June 1961. Both revisions resulted in a reitemization of the form and some changes in wording. New items were added on the last revision (1961). This examination could be administered on a repetitive basis, however only the first two examinations were coded. Data from form PED-6 were recorded on four cards in the master file (Table PED-6.1).

TABLE PED-6.1 Cards and Data Records by Revision for Form PED-6

Card Name	Card Number	Rev. No.	Number Records
PED-6: Motor Activity, Moro, Labyrinthine (1st exam)	1406	0	11,134
		1	2,033
		3	<u>39,012</u>
			52,179
PED-6: Tone and Eye Observation (1st exam)	2406	0	11,133
		1	2,033
		3	<u>39,007</u>
			52,173
PED-6: Motor Activity, Moro, Labyrinthine (2nd exam)	3406	0	1,093
		1	531
		3	<u>5,417</u>
			7,041
PED-6: Tone and Eye Observation (2nd exam)	4406	0	1,093
		1	530
		3	<u>5,416</u>
			7,039
total for form			118,432

Data Items Referencing Form PED-6, Neonatal Neurological Exam

DATA ITEM ID	ITEM DW FORM	CARD NUM	FROM	TO	DATA ITEM NAME
4138.....		1406	1	5	Card number, (sequence, form type, form number, revision number)
4139.....		1406	6	14	NRNB case number
4140...PED-6	1	1406	15	16	Birth date (mo)
4141...PED-6	1	1406	17	18	Birth date (day)
4142...PED-6	7	1406	19	20	Birth date (yr)
4143...PED-6	7	1406	21	23	Age at examination (hrs)
4144...PED-6	8	1406	24	25	Feeding, time since last (hrs)
4145...PED-6		1406	26	26	Neurological exam, number
4146...PED-6		1406	27	28	Eyes, position at rest
4147...PED-6		1406	29	29	Reflex; blink
4148...PED-6	12	1406	30	30	Movements; face
4149...PED-6	13	1406	31	31	Motor activity; tremulous; jittery
4150...PED-6	14	1406	32	32	Motor activity; jerky; myoclonic
4151...PED-6	14	1406	33	33	Motor activity; writhing
4152...PED-6	14	1406	34	34	Motor activity; asymmetrical
4153...PED-6	14	1406	35	35	Motor activity; convulsions, local
4154...PED-6	14	1406	36	36	Motor activity; convulsions, generalized
4155...PED-6	14	1406	37	37	Motor activity; other
4156...PED-6	15	1406	38	38	Movements; extensibility
4157...PED-6	15	1406	39	39	Cry
4158...PED-6	19	1406	40	40	Grasp; palmar
4159...PED-6	20	1406	41	41	Grasp; plantar
4160...PED-6	21	1406	42	42	Reflex; patellar/knee jerk
4161...PED-6	23	1406	43	43	Clonus; ankle, right
4162...PED-6	24	1406	44	44	Clonus; ankle, left
4163...PED-6	25	1406	45	45	Suck
4164...PED-6	26	1406	46	46	Rooting response
4165...PED-6	27	1406	47	47	Prone position
4166...PED-6	28	1406	48	48	Traction response
4167...PED-6	31	1406	49	49	Reflex; withdrawal
4168...PED-6	32	1406	50	50	Trunk; incurvation response
4169...PED-6	33	1406	51	51	Stepping response
4170...PED-6	34	1406	52	52	Placing response
4171...PED-6	36	1406	53	53	Moro response, general
4172...PED-6	37	1406	54	54	Moro response, arms
4173...PED-6	38	1406	55	55	Moro response, legs
4174...PED-6		1406	56	56	Traction response
4175...PED-6		1406	57	57	Palpebral tissue
4176...PED-6		1406	58	58	Auditory response
4177...PED-6		1406	59	59	Reflex; labyrinthine, deviation during right rotation
4178...PED-6		1406	60	60	Reflex; labyrinthine, nystagmus during right rotation
4179...PED-6		1406	61	61	Reflex; labyrinthine, deviation after right rotation

Data Items Referencing Form PED-6, Neonatal Neurological Exam

DATA ITEM ID	ITEM CN FORM	CARD NUM	FROM	TO	DATA ITEM NAME
4180..PED-6		1406	62	62	Reflex; labyrinthine, nystagmus after right rotation
4181..PED-6		1406	63	63	Reflex; labyrinthine, deviation during left rotation
4182..PED-6		1406	64	64	Reflex; labyrinthine, nystagmus during left rotation
4183..PED-6		1406	65	65	Reflex; labyrinthine, deviation after left rotation
4184..PED-6		1406	66	66	Reflex; labyrinthine, nystagmus after left rotation
4185..PED-6		1406	67	67	Reflex; labyrinthine, deviation during right rotation
4186..PED-6		1406	68	68	Reflex; labyrinthine, deviation after right rotation
4187..PED-6		1406	69	69	Reflex; labyrinthine, deviation during left rotation
4188..PED-6		1406	70	70	Reflex; labyrinthine, deviation after left rotation
4189.....		1406	71	80	Blank
4190.....		2406	1	5	Card number (sequence, form type, form number, revision number)
4191.....		2406	6	14	MIND case number
4192..PED-6	1	2406	15	16	Birth date (mo)
4193..PED-6	1	2406	17	18	Birth date (day)
4194..PED-6	1	2406	19	20	Birth date (yr)
4195..PED-6	7	2406	21	23	Age at examination
4196..PED-6	8	2406	24	25	Feeding, time since last feeding
4197..PED-6	41	2406	26	26	Eyes; movements
4198..PED-6	42	2406	27	27	Eyes; pupils, size
4199..PED-6	43	2406	28	28	Eyes; external exam
4200..PED-6	44	2406	29	29	Eyes; ophthalmoscopic exam
4201..PED-6	49	2406	30	30	Tone; extremity, upper
4202..PED-6	51	2406	31	32	Tone; extremity, lower
4203..PED-6	52	2406	33	34	Tone; neck flexor
4204..PED-6	53	2406	35	36	Tone; neck extensor
4205..PED-6	54	2406	37	38	Tone; trunk
4206..PED-6	55	2406	39	40	Transillumination
4207..PED-6	58	2406	41	41	Reflex; tonic neck
4208..PED-6	59	2406	42	43	Reflex; tonic neck, right jaw arm
4209..PED-6	64	2406	44	44	Reflex; tonic neck, right jaw leg
4210..PED-6	65	2406	45	45	Reflex; tonic neck, right occiput arm
4211..PED-6	66	2406	46	46	Reflex; tonic neck, right occiput leg
4212..PED-6	67	2406	47	47	Reflex; tonic neck, left jaw arm
4213..PED-6	68	2406	48	48	Reflex; tonic neck, left jaw leg
4214..PED-6	70	2406	49	49	Reflex; tonic neck, left occiput arm
4215..PED-6	71	2406	50	50	Reflex; tonic neck, left occiput leg
4216..PED-6	72	2406	51	51	Reflex; tonic neck, signs, other
4217..PED-6	73	2406	52	52	Neurological; abnormalities
4218..PED-6	73	2406	53	53	Neurological; abnormalities
4219..PED-6	75	2406	54	54	Non neurological; abnormalities
4220..PED-6	76	2406	55	55	Examination conditions
4221..PED-6		2406	56	56	Neurological; diagnosis (rev 0 only)
4222..PED-6		2406	57	57	Tone; neck

Data Items Referencing Form PFD-6, Neonatal Neurological Exam

DATA ITEM ID	ITEM JN FORM	CARD NUM	FROM	TO	DATA ITEM NAME
4223..PED-6		2406	58	58	Tone; trunk
4224..PED-6		2406	59	59	Tone; extremity, upper
4225..PED-6		2406	60	60	Tone; extremity, lower
4226..PED-6		2406	61	62	Eyes; cornea
4227..PED-6		2406	63	64	Eyes; anterior chamber
4228..PED-6		2406	65	66	Eyes; iris
4229..PED-6		2406	67	68	Eyes; lens
4230..PED-6		2406	69	70	Eyes; vitreous
4231..PED-6		2406	71	72	Eyes; disc
4232..PED-6		2406	73	74	Eyes; fundus
4233..PED-6		2406	75	76	Eyes; pupil and other
4234.....		2406	77	80	Blank
4235..PED-6	1-38	3406	1	80	Neurological re-examination (if given), repeat of card 1406
4236..PED-6	41-76	4406	1	80	Neurological re-examination (if given), repeat of card 2406
5936....VAR	74		1123	1123	Neurological abnormalities, neonatal

NEONATAL NEUROLOGICAL EXAMINATION

1. PATIENT IDENTIFICATION

2. NAME OF EXAMINER

3. TITLE OR POSITION

4. DATE OF EXAM.
Mo. | Day | Year

5. TIME EXAMINATION STARTED
(24 hour clock)

15. TIME LAST FEEDINGS STARTED
(24 hour clock)

7. AGE OF CHILD (Hours completed if less than 72 hours, days completed, if 72 hours [3 days] or more)

8. TIME SINCE LAST FEEDING
(Time 5 minus item 6 to nearest
15 minutes.)

17 COMMENTS

9. EYES—POSITION AT REST
(Draw Position of Pupils)

☐ Unable to evaluate (give reason)

10. RIGHT		11. LEFT	
2	12	1	

12. BLINK REFLEX (light stimulus)

- ☐ Present and symmetrical
- ☐ Questionable response symmetrical (describe)
- ☐ Absent bilaterally
- ☐ Asymmetrical response (describe)
- ☐ Other (describe)

13. MOVEMENTS OF FACE

- ☐ Normal, symmetrical
☐ Absent or diminished, symmetrical
☐ Asymmetrical (describe)
☐ Other (describe)

14. MOTOR ACTIVITY

- | 0 | Normal | 1 | Slight | 2 | Moderate | 3 | Marked |
|---|---|----------------------------|----------------------------|----------------------------|----------|---|--------|
| 1 | <input type="checkbox"/> Tremulous or Jittery | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | | | |
| 2 | <input type="checkbox"/> Jerky or Myoclonic Movements | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | | | |
| 3 | <input type="checkbox"/> Withering Movements | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | | | |
| 4 | <input type="checkbox"/> Asymmetrical Movements | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | | | |
| 5 | <input type="checkbox"/> Local Convulsions | | | | | | |
| 6 | <input type="checkbox"/> Generalized Convulsions | | | | | | |
| 7 | <input type="checkbox"/> Other (describe) | | | | | | |

15. EXTREMITY MOVEMENTS (intensity and range)

- ☐ Normal
0
- ☐ Questionable abnormality (describe)
1
- ☐ Abnormal (describe)
2

16. CRY (quantity)

- ```

graph TD
 Q[Questionable abnormality (describe)] -- 1 --> A[Abnormal (describe)]
 A -- 2 --> N[Not heard]

```

# NEONATAL NEUROLOGICAL EXAMINATION

## 19. PALMAR GRASP (With head in midline. Stimulus - Finger applied to inner side of palm.)

- ☐ Response present, symmetrical and consistent (3 out of 3)  
0  
☐ Response present, symmetrical, but not consistent  
1  
☐ Absent bilaterally  
2  
☐ Asymmetrical response (describe) ☐ Other (describe)  
3

## 20. PLANTAR GRASP (With head in midline. Stimulus - Finger applied to medial side of sole.)

- ☐ Symmetrical response present  
0  
☐ Absent bilaterally  
1  
☐ Asymmetrical response (describe) ☐ Other (describe)  
2

## 21. PATELLAR JERK (With head in midline)

- ☐ Symmetrical response present  
0  
☐ Absent bilaterally  
1  
☐ Asymmetrical response (describe) ☐ Other (describe)  
2

## 22. ANKLE CLONUS (With knee flexed at 45°, count number of clonic movements.)

- |                                         |                                         |
|-----------------------------------------|-----------------------------------------|
| 23. RIGHT                               | 24. LEFT                                |
| <input type="checkbox"/> None<br>0      | <input type="checkbox"/> None<br>0      |
| <input type="checkbox"/> Under 8<br>1   | <input type="checkbox"/> Under 8<br>1   |
| <input type="checkbox"/> 8 or more<br>2 | <input type="checkbox"/> 8 or more<br>2 |

## 25. SUCK (Evaluate with sterile nipple)

- ☐ Strong  
0  
☐ Weak  
1  
☐ Absent  
2

## 26. ROOTING RESPONSE (Stimulus - Touch a corner of lip. Record movement toward stimulus)

- ☐ Movement toward stimulus, symmetrical  
0  
☐ No movement  
1  
☐ Asymmetrical response (describe)  
2  
☐ Other (describe)  
3

## 27. PRONE POSITION

- ☐ Normal (Child lifts chin up or turns head to side or makes  
crawling movements)  
0  
☐ Questionable abnormality (describe)  
1  
☐ Abnormal (No chin up, no head to side, no crawl)  
2  
☐ Other (describe)  
3

## 28. TRACTION RESPONSE (Elicit by lifting child from supine position by pulling arms)

- ☐ Normal (Neck flexes, head controlled and shoulder muscles  
assist movement)  
0  
☐ Questionable (describe)  
1  
☐ Abnormal (Check all that apply below)  
2  
☐ No head control  
3  
☐ No neck flexion  
4  
☐ No shoulder muscle assistance  
5

## 29. PATIENT IDENTIFICATION

## 29. COMMENTS



# NEONATAL NEUROLOGICAL EXAMINATION

## 31. WITHDRAWAL REFLEX (Stimulus - Pinprick to both soles.)

- ☐ Withdrawal of stimulated extremity elicited bilaterally  
0
- ☐ Response other than withdrawal of stimulated extremity elicited bilaterally  
1
- ☐ No response bilaterally  
2
- ☐ Asymmetrical (describe) ☐ Other (describe)  
3 4

## 32. INCURVATION OF TRUNK (Child prone, stroke or tap paravertebral areas)

- ☐ Normal, symmetrical  
0
- ☐ Questionable response (describe)  
1
- ☐ Absent bilaterally  
2
- ☐ Asymmetrical (describe) ☐ Other (describe)  
3 4

## 33. STEPPING (Child erect, sole of foot on surface, and trunk and head inclined forward)

- ☐ Present bilaterally and symmetrically  
0
- ☐ Questionable response (describe)  
1
- ☐ Absent bilaterally  
2
- ☐ Asymmetrical (describe) ☐ Other (describe)  
3 4

## 34. PLACING (Child held erect and dorsum of feet drawn under lower edge of surface)

- ☐ Present bilaterally and symmetrically  
0
- ☐ Questionable response (describe)  
1
- ☐ Absent bilaterally  
2
- ☐ Asymmetrical (describe) ☐ Other (describe)  
3 4

## 35. MORO (Support child under back and head - let child's head drop back about 30° and note pattern of response on three successive attempts. If no constant pattern or no response, repeat series of three attempts once again later in the examination before completing the item.)

### 36. RESPONSE - GENERAL

- ☐ Obtained with ease  
1
- ☐ Obtained with difficulty  
2
- ☐ No constant pattern (skip to item 41)  
3X
- ☐ No response (skip to item 41)  
4X

### 37. RESPONSE OF ARMS

- ☐ Normal (Extensor and flexor components symmetrically present)  
0
- ☐ Flexor component absent with anterior extension  
1
- ☐ Flexor component absent with lateral extension  
2
- ☐ Asymmetrical  
3
- ☐ Other (Specify)  
4

### 38. RESPONSE OF LEGS

- ☐ Movement  
0
- ☐ No movement  
1

## 39. PATIENT IDENTIFICATION

## 39. COMMENTS

# NEONATAL NEUROLOGICAL EXAMINATION

41. EYE MOVEMENTS (Stimulus: lateral translation of child in frontal plane, both left and right.)

- ☐ 0 Normal (horizontal)  
☐ 1 Questionable abnormality (describe)  
☐ 2 Abnormal (describe)

42. PUPILS—DIRECT REACTION TO LIGHT

- ☐ 0 Present and rapid bilaterally  
☐ 1 Present but sluggish bilaterally  
☐ 2 Absent bilaterally  
☐ 3 Asymmetrical response (describe) ☐ 4 Unable to evaluate (give reason)

43. PUPIL—SIZE

- ☐ 0 Normal and equal bilaterally  
☐ 1 Questionable abnormality (describe)  
☐ 2 Abnormal bilaterally (describe in detail with drawing)  
☐ 3 Asymmetrical (describe) ☐ 4 Unable to evaluate (give reason)

44. EYES—STRUCTURE—EXTERNAL EXAMINATION

- ☐ 0 Normal  
☐ 1 Hemorrhage—scleral or conjunctival  
☐ 2 Other (describe)

NOTE: If ophthalmoscopic exam is done separately, complete items 45-48, otherwise skip them.

45. NAME OF EXAMINER

46. DATE OF EXAM.  
Mo. Day Year

47. TITLE OR POSITION

48. TIME EXAM. STARTED  
(24 hour clock)

49. EYES—STRUCTURE—OPHTHALMOSCOPIC EXAMINATION

- ☐ 0 Normal ☐ 6 Unable to evaluate (give reason)  
☐ 1 Hemorrhage—retinal  
☐ 2 Other (describe) ☐ 9 Not done

50. TONE—Use the following code which will indicate a gradation from flaccid to rigid. Describe any asymmetry in right hand column.

1. Hypotonic 4. Questionable Hypertonicity  
2. Questionable Hypotonicity 5. Hypertonic  
3. Normal 6. Unable to evaluate (give reason)

|                     | Bilateral | Right | Left  |
|---------------------|-----------|-------|-------|
| 51. Upper Extremity | _____     | _____ | _____ |
| 52. Lower Extremity | _____     | _____ | _____ |
| 53. Neck Flexor     | _____     | _____ | _____ |
| 54. Neck Extensor   | _____     | _____ | _____ |
| 55. Trunk           | _____     | _____ | _____ |

COLLABORATIVE RESEARCH  
PERINATAL RESEARCH BRANCH, NINDS, NIH  
BETHESDA 14, MD.

40. PATIENT IDENTIFICATION

56. COMMENTS

# NEONATAL NEUROLOGICAL EXAMINATION

## 58. TRANSLUMINATION

- ☐ Absent (normal)  
0
- ☐ Doubtful or questionable (describe)  
1
- ☐ Present (describe in detail)  
2
- ☐ Unable to evaluate (give reason)  
3

## 59. TONIC NECK REFLEX (Optional)

|                          | 60. BILATERAL               | 61. RIGHT                   | 62. LEFT                    |
|--------------------------|-----------------------------|-----------------------------|-----------------------------|
| Obtained with ease       | <input type="checkbox"/> 1  | <input type="checkbox"/> 1  | <input type="checkbox"/> 1  |
| Obtained with difficulty | <input type="checkbox"/> 2  | <input type="checkbox"/> 2  | <input type="checkbox"/> 2  |
| No constant pattern      | <input type="checkbox"/> 3X | <input type="checkbox"/> 3X | <input type="checkbox"/> 3X |
| No response              | <input type="checkbox"/> 4X | <input type="checkbox"/> 4X | <input type="checkbox"/> 4X |

## 63. HEAD ROTATED TO RIGHT

|                 | Fl.                        | Ext.                       | O.                         |
|-----------------|----------------------------|----------------------------|----------------------------|
| 64. Jaw Arm     | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 0 |
| 65. Jaw Leg     | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 0 |
| 66. Occiput Arm | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 0 |
| 67. Occiput Leg | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 0 |

## 68. HEAD ROTATED TO LEFT

|                 | Fl.                        | Ext.                       | O.                         |
|-----------------|----------------------------|----------------------------|----------------------------|
| 69. Jaw Arm     | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 0 |
| 70. Jaw Leg     | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 0 |
| 71. Occiput Arm | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 0 |
| 72. Occiput Leg | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 0 |

## 73. OTHER SIGNS, REFLEXES, TESTS, ETC.

- ☐ No  
0
- ☐ Yes (Specify)  
1

## IMPRESSION

### 74. NEUROLOGICAL ABNORMALITIES

- ☐ None  
0
- ☐ Neurologically suspicious but no definite abnormalities (describe reason for this statement in detail)  
1
- ☐ Neurologically abnormal child (describe fully and give reasons)  
2

### 75. NON-NEUROLOGICAL ABNORMALITIES (Check all that apply.)

- ☐ None  
0
- ☐ Minor abnormalities or deviations (describe)  
1
- ☐ Questionable abnormalities (describe)  
2
- ☐ Definite abnormalities (describe)  
3

### 76. UNSATISFACTORY CONDITIONS FOR EXAMINATION

- ☐ Absent  
0
- ☐ Present (specify)  
1

### 77. REPEAT EXAMINATION SCHEDULED FOR VERIFICATION OF ABNORMALITY

- ☐ No  
0
- ☐ Yes  
1

## 78. PATIENT IDENTIFICATION

## 79. COMMENTS

Form Item Numbers linked to Data Items on PED-6, Neonatal Neurological Exam

| ITEM<br>ON<br>FORM | DATA<br>ITEM<br>ID | CARD<br>NUM | FROM | TO | DATA ITEM NAME                                                 |
|--------------------|--------------------|-------------|------|----|----------------------------------------------------------------|
|                    | 4176..PED-6 1406   | 58          |      |    | 58 Auditory response                                           |
|                    | 4227..PED-6 2406   | 63          |      |    | 64 Eyes; anterior chamber                                      |
|                    | 4226..PED-6 2406   | 61          |      |    | 62 Eyes; cornea                                                |
|                    | 4231..PED-6 2406   | 71          |      |    | 72 Eyes; disc                                                  |
|                    | 4232..PED-6 2406   | 73          |      |    | 74 Eyes; fundus                                                |
|                    | 4228..PED-6 2406   | 65          |      |    | 66 Eyes; iris                                                  |
|                    | 4229..PED-6 2406   | 67          |      |    | 68 Eyes; lens                                                  |
|                    | 4233..PED-6 2406   | 75          |      |    | 76 Eyes; pupil and other                                       |
|                    | 4230..PED-6 2406   | 69          |      |    | 70 Eyes; vitreous                                              |
|                    | 4145..PED-6 1406   | 26          |      |    | 26 Neurological exams, number                                  |
|                    | 4221..PED-6 2406   | 56          |      |    | 56 Neurological; diagnosis (rev 0 only)                        |
|                    | 4175..PED-6 1406   | 57          |      |    | 57 Palpebral tissue                                            |
|                    | 4188..PED-6 1406   | 70          |      |    | 70 Reflex; labyrinthine, deviation after left rotation         |
|                    | 4183..PED-6 1406   | 65          |      |    | 65 Reflex; labyrinthine, deviation after left rotation         |
|                    | 4179..PED-6 1406   | 61          |      |    | 61 Reflex; labyrinthine, deviation after right rotation        |
|                    | 4186..PED-6 1406   | 68          |      |    | 68 Reflex; labyrinthine, deviation after right rotation        |
|                    | 4181..PED-6 1406   | 63          |      |    | 63 Reflex; labyrinthine, deviation during left rotation        |
|                    | 4187..PED-6 1406   | 69          |      |    | 69 Reflex; labyrinthine, deviation during left rotation        |
|                    | 4177..PED-6 1406   | 59          |      |    | 59 Reflex; labyrinthine, deviation during right rotation       |
|                    | 4185..PED-6 1406   | 67          |      |    | 67 Reflex; labyrinthine, deviation during right rotation       |
|                    | 4184..PED-6 1406   | 66          |      |    | 66 Reflex; labyrinthine, nystagmus after left rotation         |
|                    | 4180..PED-6 1406   | 62          |      |    | 62 Reflex; labyrinthine, nystagmus after right rotation        |
|                    | 4182..PED-6 1406   | 64          |      |    | 64 Reflex; labyrinthine, nystagmus during left rotation        |
|                    | 4178..PED-6 1406   | 60          |      |    | 60 Reflex; labyrinthine, nystagmus during right rotation       |
|                    | 4225..PED-6 2406   | 60          |      |    | 60 Tone; extremity, lower                                      |
|                    | 4224..PED-6 2406   | 59          |      |    | 59 Tone; extremity, upper                                      |
|                    | 4222..PED-6 2406   | 57          |      |    | 57 Tone; neck                                                  |
|                    | 4223..PED-6 2406   | 58          |      |    | 58 Tone; trunk                                                 |
| 1                  | 4174..PED-6 1406   | 56          |      |    | 56 Traction response                                           |
| 1                  | 4141..PED-6 1406   | 17          |      |    | 18 Birth date (day)                                            |
| 1                  | 4193..PED-6 2406   | 17          |      |    | 18 Birth date (day)                                            |
| 1                  | 4140..PED-6 1406   | 15          |      |    | 16 Birth date (mo)                                             |
| 1                  | 4192..PED-6 2406   | 15          |      |    | 16 Birth date (mo)                                             |
| 1                  | 4194..PED-6 2406   | 19          |      |    | 20 Birth date (yr)                                             |
| 1-38               | 4235..PED-6 3406   | 1           |      |    | 80 Neurological re-examination (if given), repeat of card 1406 |
| 7                  | 4195..PED-6 2406   | 21          |      |    | 23 Age at examination                                          |
| 7                  | 4143..PED-6 1406   | 21          |      |    | 23 Age at examination (hrs)                                    |
| 7                  | 4142..PED-6 1406   | 19          |      |    | 20 Birth date (yr)                                             |
| R                  | 4144..PED-6 1406   | 24          |      |    | 25 Feeding, time since last (hrs)                              |
| 8                  | 4196..PED-6 2406   | 24          |      |    | 25 Feeding, time since last feeding                            |
| 9                  | 4146..PED-6 1406   | 27          |      |    | 28 Eyes, position at rest                                      |
| 12                 | 4147..PED-6 1406   | 29          |      |    | 29 Reflex; blink                                               |

Form Item Numbers linked to Data Items on PED-6, Neonatal Neurological Exam

| ITEM<br>ON<br>FORM | DATA<br>ITEM<br>ID | CARD<br>NUM | FROM | TO | DATA ITEM NAME                                              |
|--------------------|--------------------|-------------|------|----|-------------------------------------------------------------|
| 13                 | 4148..PED-6        | 1406        | 30   | 30 | Movements; face                                             |
| 14                 | 4155..PED-6        | 1406        | 37   | 37 | Motor activity; other                                       |
| 14                 | 4152..PED-6        | 1406        | 34   | 34 | Motor activity; asymmetrical                                |
| 14                 | 4154..PED-6        | 1406        | 36   | 36 | Motor activity; convulsions, generalized                    |
| 14                 | 4153..PED-6        | 1406        | 35   | 35 | Motor activity; convulsions, local                          |
| 14                 | 4150..PED-6        | 1406        | 32   | 32 | Motor activity; jerky; myoclonic                            |
| 14                 | 4149..PED-6        | 1406        | 31   | 31 | Motor activity; tremulous; jittery                          |
| 14                 | 4151..PED-6        | 1406        | 33   | 33 | Motor activity; writhing                                    |
| 15                 | 4156..PED-6        | 1406        | 38   | 38 | Movements; extremity                                        |
| 16                 | 4157..PED-6        | 1406        | 39   | 39 | Cry                                                         |
| 19                 | 4158..PED-6        | 1406        | 40   | 40 | Grasp; palmar                                               |
| 20                 | 4159..PED-6        | 1406        | 41   | 41 | Grasp; plantar                                              |
| 21                 | 4160..PED-6        | 1406        | 42   | 42 | Reflex; patellar/knee jerk                                  |
| 23                 | 4161..PED-6        | 1406        | 43   | 43 | Clonus; ankle, right                                        |
| 24                 | 4162..PED-6        | 1406        | 44   | 44 | Clonus; ankle, left                                         |
| 25                 | 4163..PED-6        | 1406        | 45   | 45 | Suck                                                        |
| 26                 | 4164..PED-6        | 1406        | 46   | 46 | Rooting response                                            |
| 27                 | 4165..PED-6        | 1406        | 47   | 47 | Prone position                                              |
| 28                 | 4166..PED-6        | 1406        | 48   | 48 | Traction response                                           |
| 31                 | 4167..PED-6        | 1406        | 49   | 49 | Reflex; withdrawal                                          |
| 32                 | 4168..PED-6        | 1406        | 50   | 50 | Trunk; incurvation response                                 |
| 33                 | 4169..PED-6        | 1406        | 51   | 51 | Stepping response                                           |
| 34                 | 4170..PED-6        | 1406        | 52   | 52 | Placing response                                            |
| 36                 | 4171..PED-6        | 1406        | 53   | 53 | Moro response, general                                      |
| 37                 | 4172..PED-6        | 1406        | 54   | 54 | Moro response, arms                                         |
| 38                 | 4173..PED-6        | 1406        | 55   | 55 | Moro response, legs                                         |
| 41                 | 4197..PED-6        | 2406        | 26   | 26 | Eyes; movements                                             |
| 41-76              | 4236..PED-6        | 4406        | 1    | 80 | Neurological re-examination (if given), repeat of card 2406 |
| 42                 | 4198..PED-6        | 2406        | 27   | 27 | Eyes; pupils, direct reaction                               |
| 43                 | 4199..PED-6        | 2406        | 28   | 28 | Eyes; pupils, size                                          |
| 44                 | 4200..PED-6        | 2406        | 29   | 29 | Eyes; external exam                                         |
| 49                 | 4201..PED-6        | 2406        | 30   | 30 | Eyes; ophthalmoscopic exam                                  |
| 51                 | 4202..PED-6        | 2406        | 31   | 32 | Tone; extremity, upper                                      |
| 52                 | 4203..PED-6        | 2406        | 33   | 34 | Tone; extremity, lower                                      |
| 53                 | 4204..PED-6        | 2406        | 35   | 36 | Tone; neck flexor                                           |
| 54                 | 4205..PED-6        | 2406        | 37   | 38 | Tone; neck extensor                                         |
| 55                 | 4206..PED-6        | 2406        | 39   | 40 | Tone; trunk                                                 |
| 58                 | 4207..PED-6        | 2406        | 41   | 41 | Transillumination                                           |
| 59                 | 4208..PED-6        | 2406        | 42   | 43 | Reflex; tonic neck                                          |
| 64                 | 4209..PED-6        | 2406        | 44   | 44 | Reflex; tonic neck, right jaw arm                           |
| 65                 | 4210..PED-6        | 2406        | 45   | 45 | Reflex; tonic neck, right jaw leg                           |
| 66                 | 4211..PED-6        | 2406        | 46   | 46 | Reflex; tonic neck, right occiput arm                       |
| 67                 | 4212..PED-6        | 2406        | 47   | 47 | Reflex; tonic neck, right occiput leg                       |

Form Item Numbers linked to Data Items on PFD-6, Neonatal Neurological Exam

| ITEM<br>ON<br>FORM | DATA<br>ITEM<br>ID | CARD<br>NUM | FROM | TO   | DATA ITEM NAME                                         |
|--------------------|--------------------|-------------|------|------|--------------------------------------------------------|
| 68                 | 4213..PED-6        | 2406        | 48   | 48   | Reflex; tonic neck, left jaw arm                       |
| 70                 | 4214..PED-6        | 2406        | 49   | 49   | Reflex; tonic neck, left jaw leg                       |
| 71                 | 4215..PED-6        | 2406        | 50   | 50   | Reflex; tonic neck, left occiput arm                   |
| 72                 | 4216..PED-6        | 2406        | 51   | 51   | Reflex; tonic neck, left occiput leg                   |
| 73                 | 4217..PED-6        | 2406        | 52   | 52   | Neurological; abnormalities                            |
| 74                 | 5936....VAR        |             | 1123 | 1123 | Neurological; signs, other                             |
| 75                 | 4219..PED-6        | 2406        | 54   | 54   | Non neurological abnormalities, neonatal               |
| 76                 | 4720..PED-6        | 2406        | 55   | 55   | Non neurological; abnormalities examination conditions |

DEFINITION OF CODES  
NEONATAL NEUROLOGICAL EXAMINATION  
FORM PED-6      CARD-1406 and 3406

| <u>FIELD</u> |                                                                                                                                                                                 | <u>CARD<br/>COLUMN</u> |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| 1.           | <u>Card Number</u><br>Code: 1 - First card for infant's<br>initial examination<br>3 - First card for infant's<br>second examination, if any                                     | 1                      |
| 2.           | <u>Form Number</u><br>Code: 406                                                                                                                                                 | 2-4                    |
|              | <u>Revision Number *</u><br>Code: 0 - Form Dated: 1/59<br>1 - Form Dated: 11/59<br>3 - Form Dated: 6/61                                                                         | 5                      |
| 4.           | <u>NINDE Number</u><br>Item 1<br>Nine-digit number for Patient Identification<br>Code: As given                                                                                 | 6-14                   |
| 5.           | <u>Date of Birth</u><br>Item 1<br>Six-digit code for month (cols. 15-16),<br>day (cols. 17-18), and year (cols. 19-20)<br>Code: As given                                        | 15-20                  |
| 6.           | <u>Age</u> (Computed from time of birth to time of exam)<br>Item 7<br>Code: 000 - Less than one hour<br>001-997 - As given in hours<br>998 - 998 hours or more<br>999 - Unknown | 21-23                  |
| 7.           | <u>Time Since Last Feeding</u><br>Item 8<br>Code: 00 - Less than one hour<br>01-72 - As given in hours<br>99 - Not reported, not on Rev. "0"                                    | 24-25                  |

\* Unless specified, Fields, Codes and Cards Columns refer to  
Revision Number "0", "1" and "3". Item numbers refer to Form Dated 6/61.

DEFINITION OF CODES (Continued)

FORM FED-6  
Card 1406 a  
3406  
CARD  
COLUMN

FIELD

8. Number of Examinations 26  
Code: 1-7 - As given  
8 - 8 or more exams
9. Eyes - Position at Rest 27-28  
Item 9  
Two-digit code for:  
Pupil Position of Right Eye (col. 27)  
Pupil Position of Left Eye (col. 28)  
Code for each column:  
0 - Central position  
1 - Position 1  
2 - Position 2  
3 - Position 3  
4 - Position 4  
5 - Combination of codes 1 and 2  
6 - Combination of codes 1 and 4  
7 - Combination of codes 2 and 3  
8 - Combination of codes 3 and 4  
9 - Not evaluated or not reported
10. Blink Reflex 29  
Item 12  
Code: 0 - Present and symmetrical  
1 - Questionable response symmetrical  
2 - Absent bilaterally  
3 - Asymmetrical response  
7 - Other on Rev. "0"  
Includes questionable response  
which is not reported separately  
on this revision  
8 - Other on Revisions "1" and "3"  
9 - No report
11. Movements of Face 30  
Item 13  
Code: 0 - Normal, symmetrical  
1 - Absent or diminished, symmetrical  
2 - Asymmetrical  
3 - Absent on Revisions "0" and "1",  
does not include diminished  
7 - Other on Revisions "0" and "1",  
includes diminished  
8 - Other on Revision "3"  
9 - No report



DEFINITION OF CODES (Continued)

FORM PED-6  
Card 1406 and  
3406

FIELD

CARD  
COLUMN

- |     |                                                                                                                                                                                                                                 |    |
|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| 12. | <u>Motor Activity - Tremulous or Jittery</u><br>Item 14<br>Code: 0 - Normal<br>1 - Slight<br>2 - Moderate<br>3 - Marked<br>4 - Tremulous on Revision "0"<br>5 - Rapid, jittery movements on<br>Revision "1"<br>9 - No report    | 31 |
| 13. | <u>Motor Activity - Jerky or Myoclonic</u><br>(Rev. "0" and "3" only)<br>Item 14<br>Code: 0 - Normal<br>1 - Slight<br>2 - Moderate<br>3 - Marked<br>4 - Rapid, jerky movements on<br>Rev. "0"<br>9 - No report, not on Rev. "1" | 32 |
| 14. | <u>Motor Activity - Writhing</u><br>Item 14<br>Code: 0 - Normal<br>1 - Slight<br>2 - Moderate<br>3 - Marked<br>4 - Writhing on Rev. "0", "1"<br>9 - No report                                                                   | 33 |
| 15. | <u>Motor Activity - Asymmetrical (Rev. "3" only)</u><br>Item 14<br>Code: 0 - Normal<br>1 - Slight<br>2 - Moderate<br>3 - Marked<br>9 - No report, Not on Rev. "0" or "1"                                                        | 34 |
| 16. | <u>Motor Activity - Local Convulsions</u><br>Item 14<br>Code: 0 - No local convulsions<br>1 - Local convulsions<br>9 - No report                                                                                                | 35 |

DEFINITION OF CODES (Continued)

FORM PED-6  
Card 1406 a  
3406

FIELD

CARD  
COLUMN

- |     |                                                                                                                                                                                                                                                                                                                 |    |
|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| 17. | <u>Motor Activity - Generalized Convulsions</u><br>Item 14<br>Code: 0 - No generalized convulsions<br>1 - Generalized convulsions<br>9 - No report                                                                                                                                                              | 36 |
| 18. | <u>Motor Activity - Other</u><br>Item 14<br>Code: 0 - None<br>1 - "Other" on Rev. "3"<br>2 - "Other" on Rev. "0"<br>3 - "Other" on Rev. "1" includes<br>questionable abnormalities<br>9 - No report                                                                                                             | 37 |
| 19. | <u>Extremity Movements</u><br>Item 15<br>Code: 0 - Normal<br>1 - Questionable abnormality<br>2 - Abnormal on Revisions "1" and "3"<br>3 - Abnormal on Revision "0", includes<br>questionable abnormality<br>9 - No report                                                                                       | 38 |
| 20. | <u>Cry (Rev. "1" and "3" only)</u><br>Item 16<br>Code: 0 - Normal<br>1 - Questionable abnormality<br>2 - Abnormal<br>3 - Not heard<br>9 - Not reported, not on Rev. "0"                                                                                                                                         | 39 |
| 21. | <u>Palmar Grasp</u><br>Item 19<br>Code: 0 - Response present, symmetrical<br>and consistent (or strong<br>symmetrical response)<br>1 - Response present, symmetrical<br>but not consistent (or weak<br>symmetrical response) on Rev.<br>"1" and "3" only<br>2 - Absent bilaterally<br>3 - Asymmetrical response | 40 |

DEFINITION OF CODES (Continued)

FORM PED-6  
Card 1406 and  
3406

FIELD

CARD  
COLUMN

- |     |                                                                                                                                                                                                                        |    |
|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| 21. | <u>Palmar Grasp (continued)</u><br>Code: 7 - "Other" on Rev. "0"<br>8 - "Other" on Rev. "1" and "3" only<br>9 - No report                                                                                              | 40 |
| 22. | <u>Plantar Grasp</u><br><u>Item 20</u><br>Code: 0 - Symmetrical response present<br>1 - Absent bilaterally<br>2 - Asymmetrical response<br>7 - "Other" on Rev. "0"<br>8 - "Other" on Rev. "1" and "3"<br>9 - No report | 41 |
| 23. | <u>Patellar Jerk</u><br><u>Item 21</u><br>Code: 0 - Symmetrical response present<br>1 - Absent bilaterally<br>2 - Asymmetrical response<br>7 - "Other" on Rev. "0"<br>8 - "Other" on Rev. "1" and "3"<br>9 - No report | 42 |
| 24. | <u>Ankle Clonus - Right</u><br><u>Item 23</u><br>Code: 0 - None<br>1 - Under 8<br>2 - 8 or more<br>9 - No report                                                                                                       | 43 |
| 25. | <u>Ankle Clonus - Left</u><br><u>Item 24</u><br>Code: Same as in Field 24                                                                                                                                              | 44 |
| 26. | <u>Suck</u><br><u>Item 25</u><br>Code: 0 - Strong<br>1 - Weak<br>2 - Absent<br>9 - No report                                                                                                                           | 45 |

DEFINITION OF CODES (Continued)

FORM PED-6  
Card 1406 and  
3406

FIELD

CARD  
COLUMN

- |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                        |    |
|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| 27. | <p><u>Rooting Response</u><br/>Item 26</p> <p>Code: 0 - Movement towards stimulus,<br/>          symmetrical<br/>      1 - No movement<br/>      2 - Asymmetrical response<br/>      7 - "Other" on Rev. "0", includes<br/>          asymmetrical<br/>      8 - "Other" on Rev. "1" and "3"<br/>      9 - No report</p>                                                                                                                                | 46 |
| 28. | <p><u>Prone Position</u><br/>Item 27</p> <p>Code: 0 - Normal<br/>      1 - Questionable abnormality<br/>      2 - Abnormal<br/>      3 - Abnormal on Rev. "0", includes<br/>          questionable and "other"<br/>      8 - Other<br/>      9 - No report</p>                                                                                                                                                                                         | 47 |
| 29. | <p><u>Traction Response (Rev. "1" and "3" only</u><br/>Item 28</p> <p>Code: 0 - Normal<br/>      1 - Questionable<br/>      2 - No head control<br/>      3 - No neck flexion<br/>      4 - No shoulder muscle assistance<br/>      5 - Combination of codes 2 and 3<br/>      6 - Combination of codes 2 and 4<br/>      7 - Combination of codes 3 and 4<br/>      8 - Combination of codes 2, 3, and 4<br/>      9 - No report, not on Rev. "0"</p> | 48 |
| 30. | <p><u>Withdrawal Reflex</u><br/>Item 31</p> <p>Code: 0 - Withdrawal of stimulated<br/>          extremity elicited bilaterally<br/>      1 - Response other than withdrawal of<br/>          stimulated extremity elicited<br/>          bilaterally<br/>      2 - No response bilaterally</p>                                                                                                                                                         | 49 |
-

DEFINITION OF CODES (Continued)

FORM PED-6  
Card 1406 and  
3406

FIELD

CARD  
COLUMN

- |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |    |
|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| 30. | <p><u>Withdrawal Reflex (continued)</u></p> <p>Code: 3 - Asymmetrical</p> <p style="padding-left: 20px;">7 - "Other" on Rev. "0" (includes codes 1 and 3)</p> <p style="padding-left: 20px;">8 - "Other" on Rev. "1" and "3"</p> <p style="padding-left: 20px;">9 - No report</p>                                                                                                                                                                                                                                                                  | 49 |
| 31. | <p><u>Incurvation of Trunk</u></p> <p>Item 32</p> <p>Code: 0 - Normal, symmetrical</p> <p style="padding-left: 20px;">1 - Questionable response</p> <p style="padding-left: 20px;">2 - Absent bilaterally</p> <p style="padding-left: 20px;">3 - Asymmetrical</p> <p style="padding-left: 20px;">6 - "Other" on Rev. "1" (includes code 3)</p> <p style="padding-left: 20px;">7 - "Other" on Rev. "0" (includes codes 1 and 3)</p> <p style="padding-left: 20px;">8 - "Other" on Revision "3"</p> <p style="padding-left: 20px;">9 - No report</p> | 50 |
| 32. | <p><u>Stepping</u></p> <p>Item 33</p> <p>Code: 0 - Present bilaterally and symmetrically</p> <p style="padding-left: 20px;">1 - Questionable response</p> <p style="padding-left: 20px;">2 - Absent bilaterally</p> <p style="padding-left: 20px;">3 - Asymmetrical</p> <p style="padding-left: 20px;">7 - "Other" on Rev. "0" (includes codes 1 and 3)</p> <p style="padding-left: 20px;">8 - "Other" on Rev. "1" and "3"</p> <p style="padding-left: 20px;">9 - No report</p>                                                                    | 51 |
| 33. | <p><u>Placing</u></p> <p>Item 34</p> <p>Code: 0 - Present bilaterally and symmetrically</p> <p style="padding-left: 20px;">1 - Questionable response</p> <p style="padding-left: 20px;">2 - Absent bilaterally</p> <p style="padding-left: 20px;">3 - Asymmetrical</p> <p style="padding-left: 20px;">7 - "Other" on Rev. "0" (includes codes 1 and 3)</p> <p style="padding-left: 20px;">8 - "Other" on Rev. "1" and "3"</p> <p style="padding-left: 20px;">9 - No report</p>                                                                     | 52 |

DEFINITION OF CODES (Continued)

FORM PED-6  
Card 1406 and  
3406

FIELD

CARD  
COLUMN

|     |                                                                                                                                                                                                                                                                                                                                                                                                                                               |    |
|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| 34. | <u>Moro - General Response</u><br><u>Item 36</u><br>Code: 1 - Obtained with ease<br>2 - Obtained with difficulty<br>3 - No constant pattern<br>4 - No response (Rev. "1" and "3" only)<br>9 - No report                                                                                                                                                                                                                                       | 53 |
| 35. | <u>Moro - Response of Arms</u><br><u>Item 37</u><br>Code: 0 - Normal<br>1 - Flexor component absent with<br>anterior extension<br>2 - Flexor component absent with<br>lateral extension<br>3 - Asymmetrical<br>4 - Combination of codes 1 or 2 and<br>"other"<br>5 - Flexor component absent (Rev.<br>"0" and "1" only)<br>6 - Combination of codes "3" and "other"<br>7 - Combination of codes "5" and "other"<br>8 - Other<br>9 - No report | 54 |
| 36. | <u>Moro - Response of Legs</u><br><u>Item 38</u><br>Code: 0 - Movement<br>1 - No movement<br>9 - No report                                                                                                                                                                                                                                                                                                                                    | 55 |
| 37. | <u>Traction Response (Rev. "0" only)</u><br>Code: Blank - not on Rev. "3"<br>0 - Normal<br>1 - No assistance from shoulder muscles<br>2 - No flexor action of neck muscles<br>9 - No report, not on Rev. "1"                                                                                                                                                                                                                                  | 56 |

DEFINITION OF CODES (Continued)

FORM PED-6  
Card 1406 and  
3406

FIELD

CARD  
COLUMN

38. Palpebral Tissue (Rev. "0" only)

57

Code: Blank - Not on Rev. "3"  
0 - Equal  
1 - Unequal  
9 - No report, not on Rev. "1"

39. Auditory Response (Rev. "0" only)

58

Code: Blank - Not on Rev. "3"  
0 - Present  
1 - Absent bilaterally  
2 - Asymmetrical  
8 - Other  
9 - No report, not on Rev. "1"

40. Labyrinthine (Rev. "1" only)

59. 66

Eight-digit code for:

Right Rotation - During rotation  
Deviation (col. 59)  
Nystagmus (col. 60)  
- After rotation  
Deviation (col. 61)  
Nystagmus (col. 62)  
Left Rotation - During rotation  
Deviation (col. 63)  
Nystagmus (col. 64)  
- After rotation  
Deviation (col. 65)  
Nystagmus (col. 66)

Code for each column:

Blank - Not on Rev. "3"  
0 - None  
1 - Right  
2 - Left  
3 - Asymmetrical  
9 - No report, not on Rev. "0"

DEFINITION OF CODES (Continued)

FORM FED-6  
Card 1406 and  
3406  
CARD  
COLUMN

FIELD

41. Labyrinthine Reflex(Rev. "0" only)

67-70

Four-digit code for:

Rotation to Child's Right

Deviation of eyes during rotation (col. 67)

Deviation of eyes after stopping (col. 68)

Rotation to Child's Left

Deviation of eyes during rotation (col. 69)

Deviation of eyes after stopping (col. 70)

Code for each column:

Blank - Not on Rev. "3"

0 - No movement

1 - To right

2 - To left

8 - Other

9 - No report, not on Rev. "1"



DEFINITION OF CODES (Continued)

FORM PED-6  
Card 2406 and  
4406

FIELD

CARD  
COLUMN

1. Card Number 1  
Code: 2 - Second card for infant's  
initial examination  
4 - Second card for infant's  
second examination
2. Basic Data\* 2-25  
Code: Same as in columns 2-25 of Card 1
3. Eye Movements 26  
Item 41  
Code: 0 - Normal  
1 - Questionable  
2 - Abnormal  
3 - Abnormal on Rev. "0", includes  
questionable  
9 - No report
4. Pupils - Direct Reaction 27  
Item 42  
Code: 0 - Present and rapid bilaterally  
1 - Present but sluggish bilaterally  
2 - Absent bilaterally  
3 - Asymmetrical response  
8 - Unable to evaluate (Rev. "3" only)  
9 - No report
5. Pupil - Size (Rev. "1" and "3" only) 28  
Item 43  
Code: 0 - Normal and equal bilaterally  
1 - Questionable abnormality  
3 - Asymmetrical  
8 - Unable to evaluate (Rev. "3" only)  
9 - No report, not on Rev. "0"

\* Unless specified, Fields, Codes and Card Columns refer to  
Revision Number "0", "1" and "3". Item numbers refer to  
Form Dated: 6/61.

DEFINITION OF CODES (Continued)

FORM PED-6  
Card 2406 and  
4406

| <u>FIELD</u>                                                                                                                                                                                                                                                                                                                                                                                                                    | <u>CARD</u><br><u>COLUMN</u> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|
| 6. <u>Eyes - External Exam</u> (Rev. "3" only)<br>Item 44<br>Code: 0 - Normal<br>1 - Hemorrhage - scleral<br>2 - Other<br>3 - Combination of codes 1 and 2<br>9 - No report, not on Rev. "0" and "1"                                                                                                                                                                                                                            | 29                           |
| 7. <u>Eyes - Ophthalmoscopic Exam</u> (Rev. "3" only)<br>Item 49<br>Code: 0 - Normal<br>1 - Hemorrhage - retinal<br>2 - Other<br>3 - Combination of codes 1 and 2<br>8 - Unable to evaluate<br>9 - Not done, not on Rev. "0" and "1"                                                                                                                                                                                            | 30                           |
| 8. <u>Tone - Upper Extremity</u> (Rev. "3" only)<br>Item 51<br>Two-digit code for:<br><u>Right</u> (col. 31)<br>Code: 0 - Bilateral<br>1 - Hypotonic<br>2 - Questionable hypotonicity<br>3 - Normal<br>4 - Questionable hypertonicity<br>5 - Hypertonic<br>6 - Unable to evaluate<br>9 - No report, not on Rev. "0" and "1"<br><u>Left or Bilateral</u> (col. 32)<br>Code: Same as in col. 31 except<br>code "0" does not apply | 31-32                        |
| 9. <u>Tone - Lower Extremity</u><br>Item 52<br>Code: Same as in Field 8                                                                                                                                                                                                                                                                                                                                                         | 33-34                        |
| 10. <u>Tone - Neck Flexor</u><br>Item 53<br>Code: Same as in Field 8                                                                                                                                                                                                                                                                                                                                                            | 35-36                        |

# DEFINITION OF CODES (Continued)

FORM FED-6  
Card 2406 and  
4406

## FIELD

## CARD COLUMN

- |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                |       |
|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| 11. | <u>Tone - Neck Extensor</u><br>Item 54<br>Code: Same as in Field 8                                                                                                                                                                                                                                                                                                                                                                             | 37-38 |
| 12. | <u>Tone - Trunk</u><br>Item 55<br>Code: Same as in Field 8                                                                                                                                                                                                                                                                                                                                                                                     | 39-40 |
| 13. | <u>Transillumination</u><br>Item 58<br>Code: 0 - Absent<br>1 - Doubtful or questionable<br>(Rev. "1" and "3")<br>2 - Present (Rev. "1" and "3")<br>3 - Supratentorial (Rev. "0" only)<br>4 - Infratentorial (Rev. "0" only)<br>5 - Comb. of codes 3 & 4 (Rev. "0" only)<br>8 - Unable to evaluate (Rev. "3")<br>9 - No report                                                                                                                  | 41    |
| 14. | <u>Tonic Neck Reflex</u><br>Item 59<br>Two-digit code for:<br><u>Right</u> (col. 42)<br>Code: 0 - Bilateral<br>1 - Obtained with ease<br>2 - Obtained with difficulty<br>3 - No constant pattern<br>4 - No response (Rev. "1" and "3")<br>8 - No distinction as to right, left<br>or bilateral on Rev. "0" and "1"<br>9 - No report<br><u>Left or Bilateral</u> (col. 43)<br>Code: Same as in col. 42 except<br>codes "0" and "8" do not apply | 42-43 |
| 15. | <u>Jaw Arm - Right</u><br>Item 64<br>Code: 0 - No movement or no movement<br>(Rev. "3")<br>1 - Flexion<br>2 - Extension<br>3 - "Absent" on Rev. "1" and "0"<br>9 - No constant pattern, no response<br>or no report                                                                                                                                                                                                                            | 44    |

## DEFINITION OF CODES (Continued)

FORM PED-6  
Card 2406 and  
4406

| <u>FIELD</u> |                                                                                                                                                                                             | <u>CARD<br/>COLUMN</u> |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| 16.          | <u>Jaw Leg - Right</u><br>Item 65<br>Code: Same as in Field 15                                                                                                                              | 45                     |
| 17.          | <u>Occiput Arm - Right</u><br>Item 66<br>Code: Same as in Field 15                                                                                                                          | 46                     |
| 18.          | <u>Occiput Leg - Right</u><br>Item 67<br>Code: Same as in Field 15                                                                                                                          | 47                     |
| 19.          | <u>Jaw Arm - Left</u><br>Item 68<br>Code: Same as in Field 15                                                                                                                               | 48                     |
| 20.          | <u>Jaw Leg - Left</u><br>Item 70<br>Code: Same as in Field 15                                                                                                                               | 49                     |
| 21.          | <u>Occiput Arm - Left</u><br>Item 71<br>Code: Same as in Field 15                                                                                                                           | 50                     |
| 22.          | <u>Occiput Leg - Left</u><br>Item 72<br>Code: Same as in Field 15                                                                                                                           | 51                     |
| 23.          | <u>Other Signs (Rev. "3" only)</u><br>Item 73<br>Code: 0 - No<br>1 - Yes<br>9 - No report, not on Rev. "0" and "1"                                                                          | 52                     |
| 24.          | <u>Neurological Abnormalities</u><br>(Rev. "1" and "3" only)<br>Item 74<br>Code: 0 - None<br>1 - Neurologically suspicious<br>2 - Neurologically abnormal<br>9 - No report, not on Rev. "0" | 53                     |

---

DEFINITION OF CODES (Continued)

FORM PED-6  
Card 2406 and  
4406

FIELD

CARD  
COLUMN

25.      Non-Neurological Abnormalities      54  
            (Rev. "1" and "3" only)  
            Item 75  
            Code: 0 - None  
                  1 - Minor abnormalities  
                  2 - Questionable abnormalities  
                      (Rev. "3")  
                  3 - Definite major abnormalities  
                      (Rev. "3")  
                  4 - Abnormalities (Rev. "1")  
                  9 - No report, not on Rev. "0"
26.      Examination Conditions      55  
            Item 76  
            Code: 0 - Unsatisfactory conditions  
                      absent  
                  1 - Unsatisfactory conditions  
                      present  
                  9 - No report
27.      Diagnosis (Rev. "0" only)      56  
            Code: Blank - Not on Rev. "3"  
                  0 - Normal  
                  1 - Other  
                  9 - No report, not on Rev. "1"
28.      Tone - Neck (Rev. "0" and "1" only)      57  
            Code: Blank - Not on Rev. "3"  
                  0 - Flaccid on Rev. "0" } classify as Hypotonic  
                  1 - Flaccid on Rev. "1" }  
                  2 - Questionable flaccidity on Rev. "1"  
                  3 - Normal  
                  4 - Questionable hypertonicity on Rev. "1"  
                  5 - Hypertonic on Rev. "1"  
                  6 - Hypertonic on Rev. "0"  
                  9 - No report

DEFINITION OF CODES (Continued)

FORM PED-6  
Card 2406 and  
4406

FIELD

CARD  
COLUMN

|     |                                                                                                                                                                                                                                                                                                                                           |       |
|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| 29. | <u>Tone - Trunk</u> (Rev. "0" and "1" only)<br>Code: Same as in Field 28                                                                                                                                                                                                                                                                  | 58    |
| 30. | <u>Tone - Upper Extremity</u> (Rev. "0" and "1" only)<br>Code: Same as in Field 28                                                                                                                                                                                                                                                        | 59    |
| 31. | <u>Tone - Lower Extremity</u> (Rev. "0" and "1" only)<br>Code: Same as in Field 28                                                                                                                                                                                                                                                        | 60    |
| 32. | <u>Eyes - Cornea</u> (Rev. "0" and "1" only)<br>Two-digit code for:<br><u>Right</u> (col. 61)<br><u>Left</u> (col. 62)<br>Code for each:<br>Blank - Not on Rev. "3"<br>0 - Normal<br>1 - Suspicious (Rev. "1" only)<br>2 - Abnormal (Rev. "1" only)<br>3 - Abnormal on Rev. "0"; includes<br>suspicious<br>9 - Not observed, not reported | 61-62 |
| 33. | <u>Eyes - Anterior Chamber</u> (Rev. "1" only)<br>Code: Same as in Field 32 except<br>9 - No report, not on Rev. "0"                                                                                                                                                                                                                      | 63-64 |
| 34. | <u>Eyes - Iris</u> (Rev. "1" only)<br>Code: Same as in Field 33                                                                                                                                                                                                                                                                           | 65-66 |
| 35. | <u>Eyes - Lens</u> (Rev. "0" and "1" only)<br>Code: Same as in Field 32                                                                                                                                                                                                                                                                   | 67-68 |
| 36. | <u>Eyes - Vitreous</u> (Rev. "0" and "1" only)<br>Code: Same as in Field 32                                                                                                                                                                                                                                                               | 69-70 |
| 37. | <u>Eyes - Optic Disc</u> (Rev. "0" and "1" only)<br>Code: Same as in Field 32                                                                                                                                                                                                                                                             | 71-72 |
| 38. | <u>Eyes - Fundus</u> (Rev. "0" and "1" only)<br>Code: Same as in Field 32                                                                                                                                                                                                                                                                 | 73-74 |

DEFINITION OF CODES (Continued)

FORM PED-6  
Card 2406 and  
4406

FIELD

CARD  
COLUMN

39. Eyes - Pupil and Other (Rev. "0" only)

75-76

Two-digit code for:

Right (col. 75)

Left (col. 76)

Code for each:

Blank - Not on Rev. "3"

0 - Normal

1 - Abnormal pupil

2 - Other abnormality

3 - Abnormal pupil plus other abnormality

9 - No report, not on Rev. "1"

[illegible]

6/61

3406 is first card for second exam, if given.



NEONATAL NEUROLOGICAL EXAMINATION  
FORM PED-6

|        |   |               |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |  |
|--------|---|---------------|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|--|--|--|--|--|
| ITEM # | 1 | DATE OF BIRTH | 7 | 8 | 51 | 52 | 53 | 54 | 55 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 00 |  |  |  |  |  |  |
| R      |   |               |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |  |
| X      |   |               |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |  |
| 0      |   |               |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |  |
| 1      |   |               |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |  |
| 2      |   |               |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |  |
| 3      |   |               |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |  |
| 4      |   |               |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |  |
| 5      |   |               |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |  |
| 6      |   |               |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |  |
| 7      |   |               |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |  |
| 8      |   |               |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |  |
| 9      |   |               |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |  |

PED-6 - 19

II.E.190

PED-6

\* Item numbers refer to form dated: 6/61  
\*\* 4406 is second card for second exam, if given.

# NEONATAL NEUROLOGICAL EXAMINATION

(PED-6, rev. June 1961)

## I Introduction

The purpose of the Neonatal Neurological Examination is to evaluate by physical examination techniques, the function of the child's central nervous system in the first few days of life. Information obtained from the examination is to be recorded for the following purposes:

- A. To characterize the child as neurologically normal or other-than normal at a specified age.
- B. To identify manifestations of suspected or definite neurological abnormality.
- C. To provide a base line for subsequent neurological examinations.
- D. To study the relevance or predictive value of certain traditional neurological examination items.

The reporting form PED-6 is provided to facilitate recording and coding of the information obtained from the Neonatal Neurological Examination. This manual has been prepared for use as a guide in performing the examination and in the proper recording of the information obtained.

A movie, *The Neurological Examination of the Newborn*, is highly recommended for use in orientation and training for the performance of the Neonatal Neurological Examination. This film, produced by Dr. Richmond Paine, is in 16 mm color sound. Viewing time is approximately 30 minutes. It may be purchased from Churchill-Wexler Film Productions, 801 N. Seward Street, Los Angeles 38, California, or may be obtained on loan from NIH by request to Information Specialist, Perinatal Research Branch, NINDB.

## II General Instructions for Performing and Recording the Examination

- A. **The Examiner.** The person performing the Neonatal Neurological Examination should be a pediatrician with special interest and training in neurology or a neurologist with special interest and training in pediatrics. An ophthalmologist may be asked to do the funduscopic examination.
- B. **Time of Examination.** The Neonatal Neurological Examination should be performed

when the child is between 36 and 60 hours of age. If the child's condition is such as to make it unwise to perform the complete examination during this time, as much of the examination as can reasonably be done should be done and recorded, and an explanation for the incompleteness given. As soon as the child's condition permits, a complete examination should be performed and recorded. The examination should be repeated weekly as long as the child is in the nursery (routine or special care). Additional examinations may be done at any time, and it is recommended that an extra examination be done early if the child is critically ill.

It is not necessary that the ophthalmoscopic examination be performed during the 36 to 60 hour age interval. It may be performed at any time during the child's stay in the nursery. Provision is made for recording it on the initial examination report, even though it is performed at a different time.

- C. **Elimination of Bias.** Ideally the examiner performing the Neonatal Neurological Examination should be unaware of the child's history, including the events of pregnancy and previous physical findings, so that the possibility of such knowledge introducing spurious correlation between prior events and the presence of abnormal findings can be avoided. It is obviously impossible to avoid all such information, but every effort should be made to prevent the examiner's access to or consideration of information which could be a source of such bias.
- D. **Construction of the Reporting Form.** The items on the reporting form are arranged, in general, in order of increasing intensity of stimulation or handling of the child. This arrangement of items is for convenience in recording and is not to be construed as a required order of examination.

The form is set up so that the results of the normal child may be recorded quickly. In most items other-than-normal responses or signs require description. The abnormal responses are to be indexed by a check mark in the appropriate box, and described in narrative or outline fashion in the blank space on the right-hand side of the page.

June 1961

The itemized instructions to follow will specify those items that need no further comment even for an abnormal response.

**E. Completeness of Examination and Recording.** The examiner is requested to perform at least all of the tests and observations indicated on the form. Beyond this he may perform other tests and observations that are his custom or special interest. The "Impression" (Items 75 and 75) need not be based only on the items routinely recorded on the form. However, if the "Impression" is based on the results of tests and observations other than those listed on the form, a description or comment on these should be included in the diagnostic statements.

**F. Confirmation of Abnormal Findings.** It is strongly recommended that every child judged to be neurologically other-than-normal on the basis of the Neonatal Neurological Examination be subjected to a repeat examination by a second examiner who is unaware of the findings on the initial examination. Confirmatory re-examination for isolated unusual or abnormal findings would be interesting but is not requested.

**G. Preparation for the Eye Examination.** The eyes should be properly prepared for an adequate examination. This includes dilating the pupils. The recommended drug for pupil dilatation is cyclogel 1/2%, plain or with 1/4% Neosynephrine. It is important that the dilating drug not be instilled prior to the evaluation of the pupillary reflexes. At the discretion of the examiner, it is permissible for the nurse to record pupil reflexes and size (Items 42 and 43) prior to instillation of the dilating fluid. However, if the nurse suspects abnormality of either the reflexes or the size of pupils, these signs should be further evaluated by the physician prior to pupillary dilatation.

### III Specific Instructions for Performing and Recording the Examination.

**Item 1. Patient Identification.** This item is to be completed using the child's name plate containing at least the following information: child's name, NINDB number, date of birth, time of birth, sex, birth weight, and race.

**Item 2. Name of Examiner.** Record the surname and initials of the examiner.

**Item 3. Title or Position.** Record the professional training status of the examiner as neurologist, pediatrician, pediatric neurologist, etc.

**Item 4. Date of Examination.** Record the date of examination using the sequence month, day, year.

**Item 5. Time Examination Started.** Record in 24-hour-clock-time the time that the examination was begun.

**Item 6. Time Last Feeding Started.** Record in 24-hour-clock-time the time that the last feeding was started. This information may be taken from the nursery nurses' records. The time should be recorded as an approximation to the nearest 15 minutes, even though it is recognized that from some nurseries the basic information does not provide this order of precision.

**Item 7. Age of Child.** It is not necessary to complete this item. This space is provided for convenience in the subsequent computation and coding of this information in relation to analysis of the examination data. However, it is recommended that it be completed and used for local quality control purposes. If this item is completed locally, it should be computed as follows:

- a. Subtract date and time of birth from date and time of examination to the nearest minute.
- b. If the age is less than 72 hours, strike off the minutes and report as hours completed.
- c. If the age is 72 hours or over, strike off minutes, divide by 24, strike off the fraction and report as whole days completed.

**Item 8. Time Since Last Feeding.** It is not necessary to complete this item. This space is provided for convenience in the subsequent computation and coding of this information in relation to analysis of the examination data. If this item is completed locally, it should be computed as follows:

- a. Subtract Item 6 from Item 5 to the nearest minute.
- b. Decrease to the nearest 15 minute interval (00', 15', 30', 45').
- c. Report as hours and minutes (e.g., 47 hrs. 15 min.).

**Items 9-11. Eyes - Position at Rest.** Observe the position of the child's pupils when the child is awake and not attempting lateral or near point fixation. Record by considering

June 1961

the recording chart (Items 10 and 11) expanded and superimposed on the child's eyes with the intersections of the two crosses on the P-A axes of the globes. (Be wary of either over- or under-diagnosing strabismus by relating position of pupils to palpebral fissures.) Indicate position of pupils at rest by two small (approximately 2 mm.) circles on the chart. This chart is designed to indicate direction but not magnitude of deviation from the central position. Only definite or obligatory imbalance or deviation should be recorded as non-central. Any circle enclosing the intersection of the vertical and horizontal lines will be coded as central. Do not equivocate.

Spontaneous nystagmus or aimless wandering eye movements should be reported by checking the box "Unable to evaluate" and describing the situation under the comments section.

**Item 12. Blink Reflex (Light Stimulus).** The blink reflex is tested in each eye separately by shining a strong light directly into the eye. The test may be performed even when the lids are closed and the child is asleep, but should not be attempted while the child is crying. Whether the lids are open or closed at the time of stimulation, the normal response is reflex tightening of the orbicularis oculi.

This is a test for the integrity of the visual system, not for strength and symmetry of lid movement. Weakness or inequality of the movements of the lids should be reported in Item 13.

If a satisfactory response is not obtained in the lighted room, the test should be repeated in a darkened room or with a stronger light before a recording of other-than-normal is made.

**Item 13. Movements of Face.** Evaluate the child's facial movements under both resting and active states if possible. This is an evaluation of the integrity of the innervation of the facial musculature, not of the static anatomy. If there is asymmetry of the facial structure, special attention is needed to ensure accurate evaluation of movements.

**Item 14. Motor Activity (check all that apply).** This is an evaluation of the integrity of the child's general somatic motor system as manifested by the intensity and character of movement. The examiner should observe the child's

spontaneous movements as well as the activity evoked by non-specific stimuli such as handling. For the purpose of this examination the following definitions are to be used:

**0. Normal.** As employed in those few items (except the IMPRESSION categories) where its use is unavoidable, the term "Normal" is to be considered in the restricted sense of "ideal" or "none of the following apply". This interpretation is particularly important here since the examiner is asked to record the presence of certain physical signs of questionable significance in order that their significance or predictive value may be studied. Therefore, in this item the category "Normal" is applicable only by exclusion of all of the subsequent categories.

**1. Tremulous or jittery (movements).** Record here the presence of tremulousness, i.e., the presence of rapid, repetitive oscillations of the extremities occurring only in response to specific stimuli such as used to elicit the Moro reflex or withdrawal reaction should not be reported. The check boxes "Slight", "Moderate", and "Marked" are provided for convenience in recording the intensity or definiteness of the movements. No further comment or description is necessary.

**2. Jerky or myoclonic movements.** Record under this category the presence of abnormal movements of several types variously described as sudden twitches, massive spasms, "extensor thrust", myoclonic jerks, etc. The check boxes "Slight", "Moderate" and "Marked" are provided for convenience in recording the intensity or definiteness of the abnormal movements.

**3. Writhing movements.** Record here the presence of spontaneous, sinuous, stretching movements. Although such movements are commonly seen in small premature infants, the examiner is asked first to record the presence of such movements, and then to indicate by checking one of the boxes "Slight", "Moderate" or "Marked" the intensity or definiteness of the movements. No further comment or description is necessary.

**4. Asymmetrical movements.** If any of the general body movements, exclusive of localized seizures, differ in quality or

June 1961

intensity between the two sides, record the fact of the asymmetry by checking this category. Further, check one of the boxes "Slight", "Moderate" or "Marked" to indicate the degree of asymmetry and note under the "Comments" section the direction of the asymmetry. A description of localized weakness or paralysis, if unilateral, should be included under this category.

**5 and 6. Local Convulsions, Generalized Convulsions.** These are usually clonic or tonic movements which are spontaneous in nature, but this term also includes unconscious or atonic spells. Generalized clonic or tonic movements or unconscious or atonic spells are to be reported as generalized convulsions. If the convulsive movement is localized to a definable area, it is to be reported as a localized convulsion.

**8. Other.** Report here the presence of any manifestations of general somatic motor function which the examiner considers to be pathologic and which are not recorded under one of the preceding categories. Generalized paucity of movement and symmetric paralysis would be included under this category. Describe the abnormality in detail.

**Item 15. Extremity Movements.** This is an evaluation of the functional range of motion in the joints of the extremities and spine as determined by observation of both active and passive movements. Abnormalities of motor activity or tone *per se* are to be reported under Item 14 or Item 50 and are not to be included in this item. Abnormal spontaneous posturing and excessive or limited movement in any joint should be reported here.

**Item 16. Cry (Quality).** Evaluate the quality of the child's cry (high-pitched, stridulous, incessant, etc.). If the child does not cry spontaneously, attempt to elicit a cry by slapping the bottom of his feet or pinching his heel.

**Item 17. Comments.** Use this space for recording comments or descriptions concerning the numbered items. Be careful to identify the comment with the number of the item to which it relates.

**Item 17. Patient Identification.** Same as Item 1.

**Item 18. Palmar Grasp.** The palmar grasp reflex is elicited by touching or stroking the ulnar side of the palm of the child's hand. The child must be awake and quiet. The head should be in the midline. It is desirable that the wrist be in the neutral position and the arm partially flexed. The examiner should avoid extending the child's arm, or stimulating the dorsum of the hand, as a traction reflex or an extensor reflex respectively may confuse the sought-after grasp reflex.

The principal part of the normal grasp reflex is flexion of the fingers. Three trials on either side in alternation should be performed to assess the presence, symmetry and reproducibility of the reflex.

If a normal reflex response is not obtained, the test should be repeated once again later in the examination before making a final judgment.

**Item 20. Plantar Grasp.** The plantar grasp reflex is elicited by touching or stroking the sole of the child's foot. The child should be awake and quiet. The child's head must be in the midline (see Pollack, Seymour L., *Archives of Neurology*, 3, 574, 581, 1960). The legs should be in the semi-flexed position. It is important to avoid using a noxious stimulus as this would evoke a withdrawal response.

The principal part of the normal plantar grasp reflex is flexion of the toes. Three trials on either side in alternation or on the two sides simultaneously should be performed to assess the presence and symmetry of the reflex.

If a normal reflex response is not obtained, the test should be repeated once again later in the examination before making a final judgment.

**Item 21. Patellar Jerk.** The patellar jerk reflex is elicited by tapping the patellar tendon with a standard reflex hammer. The legs should be in the midline during this test.

Three trials on either side in alternation should be performed to assess the presence and symmetry of the reflex. No attempt should be made to quantitate the response.

If a symmetrical reflex response is not obtained, the test should be repeated once again later in the examination before making a final judgment.

June 1961

**Items 22-24. Ankle Clonus.** Ankle clonus is elicited by sudden dorsal flexion at the ankle forced by pressure of the examiner's finger on the plantar surface of the forefoot. The legs should be semi-flexed and the head should be in the midline during the test.

Three trials on either side in alternation should be performed to assess the presence and symmetry of ankle clonus. Count the number of clonic cycles, if any, and record as "None", "Under 8", or "8 or more"

**Item 25. Suck.** The sucking reflex is elicited by placing a sterile nipple or similar shaped object in the child's mouth. If the child does not begin sucking spontaneously, gently increase the stimulation by moving or attempting to withdraw the nipple. If the sucking reflex is weak or absent repeat the test once again later in the examination before making a final judgment.

**Item 26. Rooting Response.** The rooting reflex is elicited by touching the angle of the lips or adjacent region of the cheek with a nipple or finger. Movement of the child's head or mouth toward the stimulus will be considered a normal response. This stimulation should be repeated three times on each side before interpreting the response. If the response is absent or asymmetrical the test should be repeated once again later in the examination before making a final judgment.

**Item 27. Prone Position.** Place the child prone on a flat surface and observe the resulting activity. The normal response in this situation is considered to be one or a combination of the following three actions: 1. The child lifts his chin up; 2. The child turns his head to the side; 3. The child makes crawling movements. If none of these three actions result, the test should be scored "Abnormal." If none of the three actions are performed well but there is feeble performance of one or more, "Questionable Abnormality" should be checked and the performance described. If it is impossible to evaluate the response to this stimulus, check the category "Other" and describe the situation.

**Item 28. Traction Response.** This reflex is elicited with the child in supine position. The examiner grasps the child's hands and forearms and pulls the child gently forward to a sitting position. The response of the child's neck and shoulder muscles and control

of the head during the action are observed. If neck flexion, head control, and shoulder muscle assistance are well performed the response should be considered normal. The test should be repeated three times before interpreting the response. If any of the three parts of the normal response was absent, check the box "Abnormal", and check which of the three times was absent. If all three parts of the response were present but any were poorly performed, check the box "Questionable" and describe the response.

**Item 29. Comments.** Same as Item 17.

**Item 30. Patient Identification.** Same as Item 1.

**Item 31. Withdrawal Reflex.** This is a crude test for the integrity of cutaneous sensation to pain. The stimulus for this test is a painful pin prick on the sole of the foot.

If, with each stimulus, the stimulated extremity withdraws, regardless of what other response is also elicited, the first category "Withdrawal of stimulated extremity elicited bilaterally" should be checked.

If, with each stimulus, the stimulated extremity does not withdraw but some other response indicating the perception of pain is elicited, the second category is to be checked. If there is no response on stimulation of either side, the third category "No response bilaterally" should be checked. If the response to stimulation of the two sides is different, the fourth category "Asymmetrical" should be checked and the responses described.

An absent response is difficult to interpret in the presence of abnormal function of the muscles of the lower extremity. If you are unable to evaluate the response, or a result that doesn't fit one of the above categories is obtained, check "Other" and describe the situation.

**Item 32. Incurvation of the Trunk.** The incurvation reflex (Galant's reflex) is elicited with the child in the prone position, either lying on a flat surface or being held in the examiner's hand. The stimulus for this test is tactile stimulation of the thoracolumbar paravertebral area by light tapping or stroking with the finger. The examiner should avoid using a noxious or muscle-stretching stimulus.

The test should be repeated three times on either side in alternation before assessing the presence and symmetry of the response.

June 1961

The expected normal response is contraction of the long muscles of the back on the side of the stimulus so that the child's head and legs curl around the stimulated area while the trunk moves away from the stimulus. If the response is absent or asymmetrical, the test should be repeated once again later in the examination before a final judgment is made.

**Item 33. Stepping.** This response is elicited by holding the child erect and placing the soles of both feet on a flat surface. If necessary incline the child's head, shoulders and trunk slightly forward and by rotating the child's trunk alternately simulate a walking motion. The child is expected to alternately place one foot ahead of another in a *very slow* pseudo-walking motion.

There is a different response in a premature baby from the full term baby. The premature walks on tiptoe whereas the full term baby walks on the flat feet, often beginning on the heel. This might indicate the essential stimulus for this response comes from proprioceptive impulses in the ankle joint as well as from sense receptors in the plantar skin. It is probable that both sources are involved. The premature baby does not go on to walk on the heel or flat feet when he reaches his full term age, as the position of the foot is determined by factors relating to the intrauterine position. Breech babies with extended legs often will not walk at all. This is presumably due to the previous intrauterine position though the exact mechanism of their failure to respond is unknown.<sup>1</sup>

Three trials should be attempted before assessing the presence and symmetry of the response. If stepping is not present and symmetrical, the test should be performed once again later in the examination before a final judgment is made.

**Item 34. Placing.** The placing reflex is elicited with the child held in the erect position (not inclined forward). The stimulus is provided by drawing the dorsum of the child's foot across the lower edge of a moderately sharp surface such as the edge of the examining

table. As it is often difficult to stimulate both feet simultaneously, the test is usually performed first with one foot and then with the other. If stimulated at the same time, the two feet need not move synchronously.

The response consists of flexion at the knee and hip followed by extension at the hip. If the plantar surface of *one* foot comes in contact with the flat surface a third phase ensues, namely, further extension of the knee and hip (the Positive Supporting Reaction in the Legs). The placing reflex is often present in the first few days of life, but is usually stronger when the infant is two or three weeks old. Perhaps the main value of the test is the demonstration of symmetry or asymmetry of the response.<sup>1</sup>

This test is included for two reasons. The first is to test for asymmetry of the lower extremity reflexes. The other is to study the significance or predictive value of either the presence or the absence of a symmetrical placing reflex. Flexion at the knee and hip sufficient to withdraw the foot from under the stimulus surface and raise the foot above the level of the surface, followed by extension at the hip sufficient to return the foot to the level of the surface, will be considered a placing reflex.

The examiner should avoid the temptation to perform the movements for the child. After the stimulus has been applied, the examiner should not elevate the child further, but rather hold it steady in order to determine the presence of flexion and extension in relation to the stimulus surface.

Three trials should be attempted before assessing the presence and symmetry of the response. If a placing reflex is not present and symmetrical, the test should be performed once again later in the examination before a final judgment is made.

**Items 35-38. Moro.** Of the many ways of eliciting the Moro reflex, the one to be used for the purposes of the Study begins with the child held face up in the examiner's hands (semi-sitting position) with head supported by one

<sup>1</sup>Rephrased from the *Minutes of the Gröningen Meeting of the Little Club, July 3-9, 1960.* (unpublished)

<sup>1</sup>Rephrased from the *Minutes of the Gröningen Meeting of the Little Club, July 3-9, 1960.* (unpublished)

of the examiner's hands. The stimulus is a sudden extension of the neck: the head is allowed suddenly to drop back through an angle of approximately 30 degrees. The speed, character, extent of response of the arms, and the presence of movement in the legs are to be noted. The stimulus-response sequence should be repeated three times before evaluating the response. If the expected response is not obtained, the test should be repeated once again later in the examination before a final judgment is made.

The results of this test are to be recorded in three categories:

**Item 35. Response—General.** Record here the ease and consistency with which a response was obtained. If there was no reflex movement of the arms or legs during any of the three trials, check the box labeled "No response" and leave Items 37 and 38 blank. If a response was obtained but not reproduced on at least two out of the three attempts, the box "No constant pattern" should be checked and Items 37 and 38 left blank. If the same response was obtained two out of three times, the box "Obtained with difficulty" should be checked. If the same response was obtained on three out of three attempts, the box, "Obtained with ease" should be checked.

Since the intensity of the stimulus should be the same on all trials in all cases, the distinction between "Obtained with ease" and "Obtained with difficulty" represents a difference in the consistency of the response not in the intensity of stimulus necessary to elicit a response.

If a response was "Obtained with ease" or "Obtained with difficulty," Items 37 and 38 should be completed.

**Item 37. Response of Arms.** If a response was obtained (Item 36, categories 1 or 2), the character of the reflex activity in the arms should be recorded under this item. The first 4 categories refer specifically to the extent of involvement of the arms in the response. The quality of the response is another parameter which is much more difficult to define and record. If the extent of involvement corresponds to one of the first 4 categories but is considered to be abnormal in quality, two check marks can be used to record the responses; the first in the appropriate box to indicate the extent of in-

volvement, and the second in the box "Other". A description of the abnormal quality of the response should be recorded in the "Comments" section. The category "Other" may also be used for recording a response which does not fit into one of the previous four categories.

**Item 38. Response of Legs.** If a response was obtained (Item 36, categories 1 or 2), record simply whether or not there was reflex movement of the legs in response to the stimulus. The quality, extent, and character of the response need not be described unless the examiner feels it is frankly abnormal.

**Item 39. Comments.** Same as Item 17.

**Item 40. Patient Identification.** Same as Item 1.

**Item 41. Eye Movements.** This is a test for the presence of weakness or paralysis of extraocular movements in the horizontal plane. The stimulus for this test is lateral translocation in the frontal plane. The examiner holds the child upright facing him and moves the child from side to side, observing for symmetry of eye movements in the horizontal plane. The normal response is conjugate deviation of the eyes in the direction of movement (toward the advancing side).

Evaluation of eye movements in other planes may be performed and recorded in the "Comments" section, but for consistency Item 41 shall be limited to horizontal movements.

**Item 42. Pupils—Direct Reaction to Light.** The stimulus for the direct reaction to light will be a standard flashlight directed alternately into each eye. Observe the presence and rate of the reaction in the stimulated eye. The magnitude of the response and consensual reaction may be recorded separately in the "Comments" section but should not enter into the recording of this item. Unequal size either before or after constriction should be reported under Item 43.

**Item 43. Pupils—Size.** Observe for symmetry and absolute size of the pupils before and after the reaction to direct illumination. The emphasis in this observation is on definite abnormalities, either bilateral or unilateral. Such abnormalities should be clearly described. The significance of minor variations from normal size or of minor inequality is not

June 1961



known, and such findings should be recorded as "Questionable abnormality" and described with a very brief comment.

**Item 44. Eyes - Structure - External Examination.**

The structure of the eyes as determined by external examination should be reported here. For the purpose of this examination edema of the lids and uncomplicated chemical conjunctivitis are to be considered normal findings and are not to be reported. This is an evaluation of static anatomy of the lids, sclera, conjunctiva, cornea, iris and, insofar as possible, of the orbit and globe. Abnormalities of size and position of the latter, scleral or conjunctival hemorrhage, coloboma and cataract are among the abnormalities that should be sought for and described here. Such dynamic functions as pupil reflexes and extraocular movements are to be reported elsewhere.

**Items 45-48. Name of Examiner, Title or Position, Date of Exam. and Time Exam. Started.** These items should be completed only if the ophthalmoscopic examination (Item 49) is done by a different examiner or at a different time than the rest of the Neonatal Neurological Examination. Instructions are the same as for Items 2-5 respectively.

**Item 49. Eyes - Structure - Ophthalmoscopic Examination.** The examination of the ocular fundi of the neonate deserves to be carefully done under optimal conditions and with adequate preparation. The pupils should be dilated for this examination (see paragraph II G, Preparation for Eye Examination). The examination should be done in a darkened room with adequate assistance as necessary to stabilize the child's head. The examination should be done within the first few days of the child's life, but need not be done at the same time as the rest of the Neonatal Neurological Examination. Regardless of when it is done, the first funduscopic examination should be recorded on the same form as the rest of the first examination.

If it was impossible to do the ophthalmoscopic examination at any time during the child's nursery stay, the category "Unable to evaluate" should be checked on the first PED-6 record, and an explanation for the omission given. On the forms reporting repeat neurological examinations the category "Not done" may be checked without explanation.

A clear description of abnormal findings should be given, including laterality and an indication of the amount of retinal hemorrhage, if any (three-point scale: minimal, moderate, marked).

**Items 50-55. Tone.** The tone of the child's muscles should be observed throughout the course of the examination. It is recognized that there are many aspects to muscle tone, but it is not considered worthwhile for this examination to attempt separate recording of these. The evaluation of muscle tone includes:

- palpating the muscles when the child is at rest;
- feeling the resistance to passive movements;
- observing the extensibility of the muscles through full range of passive movement;
- observing the spontaneous posturing and active movements for tone and balance of antagonist muscles.

The emphasis in these observations should be on detecting asymmetry and differences in tone from one muscle group to another.

For clarity in recording, the evaluation is broken down into gross body areas: upper extremity, lower extremity, neck flexor, neck extensor and trunk. The recording is made by entering the code number from the key given on the form (ranging from 1 = definitely hypotonic to 5 = definitely hypertonic) in the "Bilateral" blank if symmetrical, or in the "Right" and "Left" blanks if there is asymmetry. No further qualification or description is necessary unless the examiner feels the code number does not clearly indicate the situation. Opisthotonus should be described opposite Items 54-55.

**Item 56. Comments.** Same as Item 17.

**Item 57. Patient Identification.** Same as Item 1.

**Item 58. Transillumination.** This examination is to be performed in a darkened room, or in a small area darkened with an opaque hood. The examiner's vision should be dark-adapted in order to properly interpret the observation. The light source for transillumination will be a standard flashlight with an opaque rubber adapter to prevent surface light scatter. A

June 1961

penlight or flashlight without a flexible adapter is not acceptable. Care must be taken to adequately illuminate all areas of the head in succession. Two centimeters or less of light scatter from the inner margin of the opaque adapter in a totally darkened room will be considered normal. In interpreting the observation, the examiner must consider the thickness of the adapter ring, the darkness of the room and his own adaptation to the dark. Areas of increased density as well as areas of decreased density (increased transillumination) should be noted. If abnormality is suspected or definitely present, the appropriate box should be checked and the abnormality clearly described in the "Comments" section.

**Items 59-72. Tonic Neck Reflex (Optional).** This is an optional test and no recording or explanation is necessary if it is not completed. Since there is a great deal of interest in this test, and the significance or predictive value of it is still being debated, it is included in this protocol for the express purpose of gathering data in a prospective fashion on a large number of cases in order to contribute facts to this debate.

In order for the data to fulfill this purpose, it is necessary that the test be done carefully and routinely. Therefore, any particular institution or group within an institution should perform the test carefully and routinely or not bother.

An obligatory, classical tonic neck reflex pattern is generally assumed to be abnormal, and if seen may be reported here as an abnormality even if the test is not done routinely for the purpose stated above.

The following quotation from the Minutes of the Gröninga Meeting of the Little Club, July 3-9, 1960, (unpublished) is included as instruction and explanation for this test.

"Asymmetrical tonic neck reflex. This is frequently loosely called the tonic neck reflex. The test is performed by turning the head of the child slowly to one side and holding it in this position for approximately 15 seconds. Three to five attempts should be made to obtain this response on either side.

"It is difficult to obtain this response in very active and crying children and it is more often elicited in sleeping children. The response is very variable. It is possible that a sym-

metrical tonic neck reflex is seen in sleeping newborns, but it is difficult to be sure whether this is a true tonic neck reflex or merely a chance position the child has taken up. When the child is in the classical pose while sleeping, the head can often be turned over to the other side without altering the position of the baby's arms.

"The classical response of extension of the jaw arm with flexion of the occiput arm after active movement by the examiner of the infant's head is rarely seen.

"The interpretation of these responses is very difficult. It is believed to originate in proprioceptive impulses coming from the neck muscles. *Megaw* in animal studies revealed that this test could be observed at the level of the red nucleus below which the pattern disappears in the experimental animal. It is sometimes seen in newborns who later have complex dysplasias but it has also been observed in newborns who appear perfectly normal later on in life."

Record the ease and consistency with which a response was obtained; record in Item 60 if symmetrical, record in Items 61 and 62 if asymmetrical. A definite flexion or extension movement in one or more extremities is to be considered a response. The same pattern of response on 3 out of 3 trials is to be recorded "Obtained with ease". The same pattern of response on 2 out of 3 trials is to be recorded "Obtained with difficulty". A response on only 1 out of 3 trials, or a different pattern of response on each trial is to be recorded "No constant pattern". If there is no definite flexion or extension in any of the extremities in response to the stimulus, check the category "No response".

If a pattern of response was obtained, on rotation to one or both sides, code the pattern of the response under Items 35 and 40. The key to the three columns of boxes under these items is: Fl. = flexion, Ext. = extension, O. = other movement or no movement. If there was no constant pattern or no response on head rotation to the right, leave Item 63 (Items 64-67) blank. If there was no constant pattern or no response on head rotation to the left, leave Item 68 (Items 69-72) blank.

The stimulus for the tonic neck reflex will often make the child struggle and cry. It is recommended the child be given a sugarball

June 1961

or nipple pacifier as an aid to the performance of this test.

- Item 73. Other Signs, Reflexes, Tests, etc.** If other neurological examination items or screening tests are performed as an integral part of this examination, they will properly be included in the synthesis of the IMPRESSION, and should be mentioned briefly. If any was performed check the box "Yes" and identify the test or observation and the results.

Additional tests performed on referral or follow-up, and repeat or additional examinations performed after consideration of the case record are not to be included in the synthesis of the IMPRESSION and should not be reported on this page. Such additional follow-up tests, or biased examination findings should be reported on a CP-5 sheet and attached to this form as extra information. Repeat examinations should be reported on separate PED-6 forms (see instructions for Item 77).

The blank space below this item on the form may be used for additional items that one or more institutions may wish to investigate systematically. If an institution plans to overprint certain items for this purpose, written communication with the Pediatrics-Neurology unit, PRB, would be desirable, both in order that the items might be recognized and perhaps coded centrally and that other institutions interested in the same item might be encouraged to participate.

- Item 74. Neurological Abnormalities.** Here the examiner should state his clinical impression of the child's neurological status at present, based on his evaluation of the significance or lack of significance of the itemized and overall findings on this examination.

If the examiner considers the child to be completely normal neurologically, the first box "None" should be checked.

If, on the basis of his examination, the examiner has reason to feel that the child is not completely normal neurologically, but cannot be classified as a definite clinical syndrome or "Neurologically abnormal child," the second box "Neurologically suspicious ...." should be checked.

If the examiner is able to state a definite or provisional diagnosis of a recognized syndrome, or feels the child is definitely neurologically abnormal but doesn't at this time fit into any diagnostic category, the third box "Neurologically abnormal child" should be checked.

If it is the examiner's impression that the child has a definite or suspect neurological abnormality, he should clearly identify the findings and summarize the reasoning on which this impression is based.

For the purpose of this examination, report under "Neurologically suspicious but no definite abnormalities" conditions, which may not in themselves be neurological but are often related to CNS disorders, such as abnormalities of skull size and shape, spinal anomalies, hemangiomas on the face and head, positional deformities of the feet and unusual facies.

- Item 75. Non-Neurological Abnormalities.** This examination is primarily for the detection and description of neurological abnormalities. However, examiner should not overlook other conditions or abnormalities present in the child. Since there are at least two rather detailed pediatric examinations performed on the child during the nursery stay, the neurologist need not feel compelled to describe static non-neurological abnormalities in detail. It is assumed that these would have been detected and described on the PED-2 examinations. Obvious static conditions such as nevi, cleft lip, etc., may be passed off with a word. Conditions which might possibly have been overlooked on a previous examination or transient but possibly important conditions such as subconjunctival hemorrhage should be noted. Minor or trivial conditions such as diaper rash, uncomplicated umbilical hernia, Mongolian spots, etc., should not be reported in any case.

- Item 76. Unsatisfactory Conditions for Examination.** This provides the examiner the opportunity to indicate the presence of conditions in the child or the environment which may have interfered with performance and accurate assessment of any portion of the examination. In addition to identifying the condition (such as "child in Isolette", "excessively irritable child"), indicate which of the findings reported above might have been significantly influenced by the unsatisfactory condition.

- Item 77. Repeat Examination Scheduled for Verification of Abnormality.** It is strongly recommended that every child judged to be neurologically other-than-normal on the basis of the Neonatal Neurological Examination be subjected to a repeat examination by a second examiner who is unaware of the findings of the initial examination. Confirmatory re-examination for isolated unusual or abnormal findings would be interesting but is not requested.

If a repeat examination is to be done, check this item "Yes"

- Item 78. Comments.** Same as Item 17.

June 1961

**NEONATAL NEUROLOGICAL  
EXAMINATION**

*Blue*

**INSTRUCTIONS:** Every item should be checked (✓). If not normal, findings should be checked (x) and described in margin at right.

|                                                                 |                                              |
|-----------------------------------------------------------------|----------------------------------------------|
| 2. Examined By                                                  | 3. Status                                    |
| 4. Time Examination Started (24-hr. clock)                      | 5. Date (Mo-Day-Yr)                          |
| 6. Date of Birth (Mo-Day-Yr)                                    | 7. Hour of Birth (24 hr. clock)              |
| 8. Sex<br><input type="checkbox"/> M <input type="checkbox"/> F | 9. Race (of mother)                          |
| 10. Birth wt. (gms.)                                            | 11. Time of Last Feeding (no longer 15 min.) |

1. Patient Identification

*Superseded by  
COL A-3004-6  
rev. 6-61*

|                                                                              |           |          |
|------------------------------------------------------------------------------|-----------|----------|
| 12. SPONTANEOUS MOVEMENTS                                                    | 14. Right | 15. Left |
| 13. Eyes - Position at Rest<br>(Draw Position of Pupils)                     | 2         | 1        |
| <input type="checkbox"/> Not observed (state reason in detail)               | 3         | 4        |
| 16. Movements of Face                                                        |           |          |
| <input type="checkbox"/> Present and Symmetrical                             |           |          |
| Abnormal                                                                     |           |          |
| <input type="checkbox"/> Absent                                              |           |          |
| <input type="checkbox"/> Asymmetrical (describe)                             |           |          |
| <input type="checkbox"/> Other (describe)                                    |           |          |
| 17. General Body Movements                                                   |           |          |
| <input type="checkbox"/> Normal                                              |           |          |
| <input type="checkbox"/> Questionable abnormality (describe)                 |           |          |
| Abnormal                                                                     |           |          |
| <input type="checkbox"/> Rapid jittery movements (describe)                  |           |          |
| <input type="checkbox"/> Withering movements (describe)                      |           |          |
| Convulsions                                                                  |           |          |
| <input type="checkbox"/> Local (describe)                                    |           |          |
| <input type="checkbox"/> Generalized (describe)                              |           |          |
| <input type="checkbox"/> Other (describe)                                    |           |          |
| 18. Extremity Movements                                                      |           |          |
| <input type="checkbox"/> Normal (e.g., all joints have full range of motion) |           |          |
| <input type="checkbox"/> Questionable abnormality (describe)                 |           |          |
| <input type="checkbox"/> Abnormal (describe)                                 |           |          |
| 19. Cry (quality)                                                            |           |          |
| <input type="checkbox"/> Normal                                              |           |          |
| <input type="checkbox"/> Questionable abnormality (describe)                 |           |          |
| <input type="checkbox"/> Abnormal (describe)                                 |           |          |
| <input type="checkbox"/> Not heard                                           |           |          |

20. Identify remarks by number of item. Every abnormality which is checked (x) should have some description. Give reason for not evaluating any item.

**NEONATAL NEUROLOGICAL EXAMINATION**  
(Continued)

21. Patient Identification

*Superseded by  
COLR-3009-6  
rev. 6-61*

**22. RESPONSES TO STIMULI**

**23. Blink Reflex (Light stimulus)**

- ☐ Present and symmetrical both eyes  
0
- ☐ Questionable response (describe)  
1
- ☐ Asymmetrical response (describe)  
2
- ☐ Absent both eyes  
3
- ☐ Other (describe)  
8

**24. Palmar Grasp (Stimulus - Finger applied to palm side of palm)**

- ☐ Strong symmetrical response  
0
- ☐ Weak symmetrical response  
1
- ☐ Absent bilaterally  
2
- ☐ Asymmetrical response (describe)  
3
- ☐ Other (describe)  
8

**25. Plantar Grasp (Stimulus - Finger applied to medial side of sole.)**

- ☐ Symmetrical response present  
0
- ☐ Absent bilaterally  
1
- ☐ Asymmetrical response (describe)  
2
- ☐ Other (describe)  
8

**26. Pupillary Jerk (With head in midline)**

- ☐ Symmetrical response present  
0
- ☐ Absent bilaterally  
1
- ☐ Asymmetrical response (describe)  
2
- ☐ Other (describe)  
8

**27. Ankle Clonus (Stimulus - Finger to sole of foot with knees flexed at 45°. Count number of clonic movements)**

- |                                         |                                         |
|-----------------------------------------|-----------------------------------------|
| <b>28. Right</b>                        | <b>29. Left</b>                         |
| <input type="checkbox"/> None<br>0      | <input type="checkbox"/> None<br>0      |
| <input type="checkbox"/> Under 5<br>1   | <input type="checkbox"/> Under 5<br>1   |
| <input type="checkbox"/> 5 or more<br>2 | <input type="checkbox"/> 5 or more<br>2 |

**30. Suck (Evaluate with sterile nipple)**

- ☐ Strong  
0
- ☐ Weak  
1
- ☐ Absent  
2

31. Identify remarks by number of item. Every abnormality which is checked (✓) should have some description. Give reason for not evaluating any item.

**NEONATAL NEUROLOGICAL EXAMINATION**  
(Continued)

32. Patient Identification

*Superscribed by  
COL R-3004-6  
rev. 6-61*

33. Rooting Response (Stimulus - Touch a corner of lips. Record movement toward stimulus)

- ☐ 0 Movement toward stimulus  
☐ 1 No movement  
☐ 2 Asymmetrical response (describe)  
☐ 3 Other (describe)

34. Prone Position

- ☐ 0 Normal (Child lifts chin up or turns head to side or makes crawling movements)  
☐ 1 Questionable abnormality (describe)  
☐ 2 Abnormal (No chin up, no head to side, no crawl)  
☐ 3 Other (describe)

35. Eye movements (Evaluate by moving child's head horizontally)

- ☐ 0 Normal (horizontal)  
☐ 1 Questionable abnormality (describe)  
☐ 2 Abnormal (describe)

36. Labyrinthine (The child is to be held vertically at arms length by examiner. The examiner then rotates with the child to first his own right and then his own left. In recording this item the examiner's rotation is identical to the child's rotation. Eye movements are recorded in relation to the child's own right and left.)

37. Right Rotation

|                     | None                     | R                        | L                        | Asym.                    |
|---------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 38. During Rotation |                          |                          |                          |                          |
| 39. Deviation       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 40. Nystagmus       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 41. After Rotation  |                          |                          |                          |                          |
| 42. Deviation       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 43. Nystagmus       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

44. Left Rotation

|                     | None                     | R                        | L                        | Asym.                    |
|---------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 45. During Rotation |                          |                          |                          |                          |
| 46. Deviation       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 47. Nystagmus       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 48. After Rotation  |                          |                          |                          |                          |
| 49. Deviation       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 50. Nystagmus       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

51. Identify remarks by number of item. Every abnormality which is checked (✓) should have some description. Give reason for not evaluating any item.

# NEONATAL NEUROLOGICAL EXAMINATION (Continued)

## 52. Patient Identification

*Superseded by  
COL R-3004-6  
rev. 6-61*

53. Tonic Neck Reflex (Elicit by turning head slowly to child's right or child's left and maintaining this position for approximately 30 seconds. The most consistent pattern developed is noted. If pattern can be reproduced record in appropriate boxes after a minimum of 3 attempts. If there is no definite or reproducible pattern check "No consistent pattern," and skip to item 62.

### 54. Response

- ☐ Obtained with ease
- ☐ Obtained with difficulty
- ☐ No consistent pattern
- ☐ No response (Skip to item 62)

### 55. Head Movement to:

#### 56. Right

#### 58. Flexion

☐ Absent

Present in

☐ Jaw Arm

☐ Jaw Leg

☐ Occiput Arm

☐ Occiput Leg

☐ Other

☐

☐

☐

☐

☐

#### 57. Left

#### 60. Flexion

☐ Absent

Present in

☐ Jaw Arm

☐ Jaw Leg

☐ Occiput Arm

☐ Occiput Leg

☐ Other

☐

☐

☐

☐

☐

#### 61. Extension

☐ Absent

Present in

☐ Jaw Arm

☐ Jaw Leg

☐ Occiput Arm

☐ Occiput Leg

☐ Other

☐

☐

☐

☐

☐

64. Identify remarks by number of item. Every abnormality which is checked (x) should have some description. Give reason for not evaluating any item.

62. Traction Response (Elicit by lifting child from supine position by pulling arms)

- ☐ Normal (Neck flexes, head controlled and shoulder muscles assist movement)
- ☐ Questionable (describe)
- ☐ Abnormal (Check all that apply below)
  - ☐ No head control
  - ☐ No neck flexion
  - ☐ No shoulder muscle assistance

63. Withdrawal (Stimulus - Noxious Pin Prick to both soles)

- ☐ Movement of extremities bilaterally
- ☐ Response other than movement elicited bilaterally (describe)
  - ☐ No response
  - ☐ Asymmetrical (describe)
  - ☐ Questionable response (describe)
  - ☐ Other (describe)

# NEONATAL NEUROLOGICAL EXAMINATION (Continued)

## 65. Patient Identification

*Prepared by  
COL R-3004-6  
ver. 6-61*

### 66. Stepping (Child erect, sole of feet on surface, and trunk and head inclined forward)

- ☐ Present bilaterally and symmetrically
- ☐ Questionable response (describe)
- ☐ Absent bilaterally
- ☐ Asymmetrical (describe)
- ☐ Other (describe)

### 67. Placing (Child held erect and dorsum of feet drawn under lower edge of surface)

- ☐ Present bilaterally and symmetrically
- ☐ Questionable response (describe)
- ☐ Absent bilaterally
- ☐ Asymmetrical (describe)
- ☐ Other (describe)

### 68. Inspiration of Trunk (Child prone, stroke on top paravertebral areas)

- ☐ Normal
- ☐ Questionable response (describe)
- ☐ No response
- ☐ Other (describe)

### 69. Moro (Support child under back and head - let child's head drop back about 30° and note pattern of response. If pattern can be reproduced repeat in appropriate bones after a minimum of 3 attempts. If there is no definite or reproducible pattern check "No constant pattern" and skip to item 73.)

- #### 70. Response
- ☐ Obtained with ease
  - ☐ Obtained with difficulty
  - ☐ No consistent pattern
  - ☐ No response (Skip to item 73)

### 71. Response of Arms

- ☐ Normal (Extensor and flexor components symmetrically present)
- ☐ Flexor component absent
- ☐ Asymmetrical
- ☐ Other

### 72. Response of Legs

- ☐ Movement
- ☐ No movement

### 73. Identify remarks by number of item. Every abnormality which is checked (✓) should have some description. Give reasons for not evaluating any item.



# NEONATAL NEUROLOGICAL EXAMINATION (Continued)

## 74. Patient Identification

*superceded by  
COA R-3004-6  
Rev. 6-61*

75. Tone - (Use the following code which will indicate a gradation from flaccid to rigid in Items 76 through 79.)

- 1 - Flaccid (limp)
- 2 - Questionable flaccidity
- 3 - Normal
- 4 - Questionable hypertonicity
- 5 - Hypertonic (rigid)

76. Neck \_\_\_\_\_ 77. Trunk \_\_\_\_\_  
78. Upper extremity \_\_\_\_\_ 79. Lower extremity \_\_\_\_\_

80. Transillumination

- ☐ 0 Absent
- ☐ 1 Doubtful or questionable (describe)
- ☐ 2 Present (describe in detail with drawing)

81. Pupils - direct reaction to light

- ☐ 0 Present and rapid bilaterally
- ☐ 1 Present but sluggish bilaterally
- ☐ 2 Absent bilaterally
- ☐ 3 Asymmetrical response (describe)

82. Pupil - size

- ☐ 0 Normal and equal bilaterally
- ☐ 1 Questionable abnormality (describe)
- ☐ 2 Abnormal bilaterally (describe in detail with drawing)
- ☐ 3 Asymmetrical (describe)

83. Eyes - Cornea

- |                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                          |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>84. Right</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> 0 Normal</li> <li><input type="checkbox"/> 1 Suspicious (describe)</li> <li><input type="checkbox"/> 2 Abnormal (describe)</li> <li><input type="checkbox"/> 3 Not observed (state reason)</li> </ul> | <p>85. Left</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> 0</li> <li><input type="checkbox"/> 1</li> <li><input type="checkbox"/> 2</li> <li><input type="checkbox"/> 3</li> </ul> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

86. Eyes - Anterior Chamber

- |                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                          |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>87. Right</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> 0 Normal</li> <li><input type="checkbox"/> 1 Suspicious (describe)</li> <li><input type="checkbox"/> 2 Abnormal (describe)</li> <li><input type="checkbox"/> 3 Not observed (state reason)</li> </ul> | <p>88. Left</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> 0</li> <li><input type="checkbox"/> 1</li> <li><input type="checkbox"/> 2</li> <li><input type="checkbox"/> 3</li> </ul> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

89. Identify remarks by number of item. Every abnormality which is checked (x) should have same description. Give reason for not evaluating any item.

**NEONATAL NEUROLOGICAL EXAMINATION**  
(Continued)

90. Patient Identification

*superseded by  
COLR-3004-6  
rev. 6-61*

91. Eyes - Iris

92. Right

- ☐ 0 Normal  
☐ 1 Suspicious (describe)  
☐ 2 Abnormal (describe)  
☐ 9 Not observed (state reason)

93. Left

- ☐ 0  
☐ 1  
☐ 2  
☐ 9

94. Eyes - Lens

95. Right

- ☐ 0 Normal  
☐ 1 Suspicious (describe)  
☐ 2 Abnormal (describe)  
☐ 9 Not observed (state reason)

96. Left

- ☐ 0  
☐ 1  
☐ 2  
☐ 9

97. Eyes - Vitreous

98. Right

- ☐ 0 Normal  
☐ 1 Suspicious (describe)  
☐ 2 Abnormal (describe)  
☐ 9 Not observed (state reason)

99. Left

- ☐ 0  
☐ 1  
☐ 2  
☐ 9

100. Eyes - Optic disc

101. Right

- ☐ 0 Normal  
☐ 1 Suspicious (describe)  
☐ 2 Abnormal (describe)  
☐ 9 Not observed (state reason)

102. Left

- ☐ 0  
☐ 1  
☐ 2  
☐ 9

103. Eyes - Fundus

104. Right

- ☐ 0 Normal  
☐ 1 Suspicious (describe)  
☐ 2 Abnormal (describe)  
☐ 9 Not observed (state reason)

105. Left

- ☐ 0  
☐ 1  
☐ 2  
☐ 9

106. Identify remarks by number of item. Every abnormality which is checked (✓) should have some description. Give reason for not evaluating any item.

**NEONATAL NEUROLOGICAL EXAMINATION**  
(Continued)

107. Patient Identification

*Superseded by  
COL R-3004-6  
125.6-61*

108. Neurological Diagnosis (Include suspected and proven findings)

- ☐ 0 Neurologically normal newborn
- ☐ 1 Neurologically suspicious (state reason for suspicions)
- ☐ 2 Neurologically abnormal child (describe in detail)

109. Associated physical defect (other than neurological)

- ☐ 0 None
- ☐ 1 Minor or suspicious abnormalities (describe in detail)
- ☐ 2 Abnormalities (describe in detail)

110. Conditions during examination

- ☐ a Normal and satisfactory
- ☐ b Other (describe)

111. Identify remarks by number of item. Every abnormality which is checked (✓) should have some description. Give reason for not evaluating any item.

**NEONATAL NEUROLOGICAL  
EXAMINATION**

**INSTRUCTIONS:** Every numbered item should be checked (✓).  
If not normal, findings should be checked (✓) and described in  
spaces at right.

|             |                 |
|-------------|-----------------|
| EXAMINED BY | TIME            |
| STATUS      | DATE (Mo-Da-Yr) |

*white*  
*Supervised by*  
*rd, 11-5-9*

**OBSERVATIONS REQUIRING MINIMAL HANDLING OR STIMULATION OF CHILD**

**I - SPONTANEOUS MOVEMENTS**

**EYES**

1. Position at Rest

(Draw Position of Pupils)

RT.

LT.

2. MOVEMENTS OF FACE

☐ Present and Symmetrical

☐ Abnormal

☐ Absent

☐ Asymmetrical

☐ Other

3. PALPEBRAL FISSURE

☐ Equal

☐ Unequal

4. BODY MOVEMENTS

☐ Normal

☐ Abnormal

☐ Tremulous

☐ Rapid, Jerky Movements

☐ Writhing Movements

☐ Convulsions

☐ Local

☐ Generalized

☐ Other

5. MOVEMENTS OF UPPER EXTREMITIES

☐ Normal (Symmetrical with Normal Range of Motion)

☐ Abnormal

6. MOVEMENTS OF LOWER EXTREMITIES

☐ Normal (Symmetrical with Normal Range of Motion)

☐ Abnormal

Identify remarks by number of item. Every abnormality  
which is checked (✓) should have some description. Give reason  
for not evaluating any item.

**II - RESPONSES TO STIMULI**

7. BLINK REFLEX (Stimulus - Welch-Allyn Light)

RIGHT

LEFT

☐ Present

☐ Absent

☐ Asymmetrical

☐ Present

☐ Absent

☐ Asymmetrical

8. AUDITORY RESPONSE (Stimulus - "Clicker")

☐ Present

☐ Absent

☐ Asymmetrical

☐ Present

☐ Absent

☐ Asymmetrical

9. PALMAR GRASP (Stimulus - Finger Applied to  
Ulnar Side of Palm)

RIGHT

LEFT

☐ Present

☐ Absent

☐ Asymmetrical

☐ Present

☐ Absent

☐ Asymmetrical

# NEONATAL NEUROLOGICAL EXAMINATION

*Supervised by  
Rev. 11-59*

## OBSERVATIONS REQUIRING MINIMAL HANDLING OR STIMULATION OF CHILD (Continued)

### II - RESPONSES TO STIMULI (Continued)

#### 10. PLANTAR GRASP (Stimulus - Finger Applied to Medial Side of Sole)

- |                                                                                                                                          |                                                                                                                                         |
|------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| <p>RIGHT</p> <p><input type="checkbox"/> Present</p> <p><input type="checkbox"/> Absent</p> <p><input type="checkbox"/> Asymmetrical</p> | <p>LEFT</p> <p><input type="checkbox"/> Present</p> <p><input type="checkbox"/> Absent</p> <p><input type="checkbox"/> Asymmetrical</p> |
|------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|

#### 11. PATELLAR JERK (With Head in Midline)

- |                                                                                                                                          |                                                                                                                                         |
|------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| <p>RIGHT</p> <p><input type="checkbox"/> Present</p> <p><input type="checkbox"/> Absent</p> <p><input type="checkbox"/> Asymmetrical</p> | <p>LEFT</p> <p><input type="checkbox"/> Present</p> <p><input type="checkbox"/> Absent</p> <p><input type="checkbox"/> Asymmetrical</p> |
|------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|

#### 12. ANKLE CLONUS (Stimulus - Finger to Sole of Foot with Knees Flexed at 45°)

- |                                                                                                                                                                |                                                                                                                                                               |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>RIGHT</p> <p><input type="checkbox"/> None</p> <p><input type="checkbox"/> Number under 8 Movements</p> <p><input type="checkbox"/> 8 or more movements</p> | <p>LEFT</p> <p><input type="checkbox"/> None</p> <p><input type="checkbox"/> Number under 8 Movements</p> <p><input type="checkbox"/> 8 or more movements</p> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|

#### 13. ROOTING RESPONSE (Stimulus - Touch a corner of lips. Record movement toward stimulus)

- |                                                                                                                                                                          |                                                                                                                                                                         |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>RIGHT</p> <p><input type="checkbox"/> Movement of face and hand</p> <p><input type="checkbox"/> Movement of face only</p> <p><input type="checkbox"/> No movement</p> | <p>LEFT</p> <p><input type="checkbox"/> Movement of face and hand</p> <p><input type="checkbox"/> Movement of face only</p> <p><input type="checkbox"/> No movement</p> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

#### 14. SUCK (Evaluate With Finger)

- ☐ Strong
- ☐ Weak
- ☐ Absent

#### 15. PRONE POSITION

- ☐ Normal (Child lifts chin up, turns head to side, makes crawling movements)
- ☐ Abnormal (No chin up, no head to side. No crawl)

Identify remarks by number of item. Every abnormality which is checked (✓) should have some description. Give reason for not evaluating any item.

## OBSERVATIONS REQUIRING MAXIMAL HANDLING OR STIMULATION OF CHILD

#### 16. EYE MOVEMENTS (Evaluate by moving child's head vertically and horizontally)

- ☐ Normal (Vertical and Horizontal)
- ☐ Abnormal

#### 17. LABYRINTHINE (Child to be held vertically facing examiner. Both examiner and child rotate)

- |                                                                                                                                                                                       |                                                                                                                                                                                      |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Rotation to Child's<br/>RIGHT</p> <p><input type="checkbox"/> No eye movement</p> <p>During rotation<br/>eyes deviate to _____</p> <p>After stopping<br/>eyes deviate to _____</p> | <p>Rotation to Child's<br/>LEFT</p> <p><input type="checkbox"/> No eye movement</p> <p>During rotation<br/>eyes deviate to _____</p> <p>After stopping<br/>eyes deviate to _____</p> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Identify remarks by date and number of item. Every abnormality which is checked (✓) should have some description. Give reason for not evaluating any item.

# NEONATAL NEUROLOGICAL EXAMINATION

*Superseded by  
rev. 11-59*

## OBSERVATIONS REQUIRING MAXIMAL HANDLING OR STIMULATION OF CHILD (Continued)

18. TONIC NECK REFLEX (Elicits by turning head slowly to Child's right or Child's left. Nose position 30 to 60 seconds after head movements.)

Identify remarks by number of item. Every abnormality which is checked (✓) should have some description. Give reason for not evaluating any item.

### Head Movement to RIGHT

### Head Movement to LEFT

#### EXTENSION present in

- ☐ Jaw Arm
- ☐ Jaw Leg
- ☐ Occiput Arm
- ☐ Occiput Leg
- ☐ Absent

#### EXTENSION present in

- ☐ Jaw Arm
- ☐ Jaw Leg
- ☐ Occiput Arm
- ☐ Occiput Leg
- ☐ Absent

#### FLEXION present in

- ☐ Jaw Arm
- ☐ Jaw Leg
- ☐ Occiput Arm
- ☐ Occiput Leg
- ☐ Absent

#### FLEXION present in

- ☐ Jaw Arm
- ☐ Jaw Leg
- ☐ Occiput Arm
- ☐ Occiput Leg
- ☐ Absent

#### PELVIC ROTATION

- ☐ Away from Jaw
- ☐ Toward Jaw
- ☐ Absent

#### PELVIC ROTATION

- ☐ Away from Jaw
- ☐ Toward Jaw
- ☐ Absent

#### RESPONSE

- ☐ Obtained with Ease
- ☐ Obtained with Difficulty
- ☐ No Consistent Pattern

19. TRACTION RESPONSE (Elicits by lifting Child from Supine position by pulling Arms)

- ☐ Normal
- ☐ No Assistance from Shoulder Muscles
- ☐ No Floor Action of Neck Muscles

20. WITHDRAWAL (Stimulus - Pin Prick to Sole)

### RIGHT

- ☐ Withdrawal of Stimulated Limb Only
- ☐ No Response
- ☐ Other

### LEFT

- ☐ Withdrawal of Stimulated Limb Only
- ☐ No Response
- ☐ Other

21. STEPPING (Child Erect, Sole of Feet on Surface, and Trunk and Head Inclined Forward)

### RIGHT

- ☐ Present
- ☐ Absent
- ☐ Other (Include Asymmetry)

### LEFT

- ☐ Present
- ☐ Absent
- ☐ Other (Include Asymmetry)

22. PLACING (Child Held Erect and Dorsum of Feet Drawn Under Lower Edge of Surface)

### RIGHT

- ☐ Present
- ☐ Absent
- ☐ Other (Include Asymmetry)

### LEFT

- ☐ Present
- ☐ Absent
- ☐ Other (Include Asymmetry)

# NEONATAL NEUROLOGICAL EXAMINATION

*Revised by  
Mr. 11-59*

## OBSERVATIONS REQUIRING MAXIMAL HANDLING OR STIMULATION OF CHILD (Continued)

23. INCURVATION OF TRUNK (Child prone, stroke  
paravertebral areas)

- ☐ Normal
- ☐ No Response
- ☐ Other

24. MORO (Support child under back and head -- Let  
child's head drop back about 30°)

### RESPONSE OF ARMS

- ☐ Normal (Flexor and Extensor components  
symmetrically present)
- ☐ Flexor Component Absent
- ☐ Asymmetrical
- ☐ Other

### RESPONSE OF LEGS

- ☐ Flexor
- ☐ Other

### RESPONSE

- ☐ Obtained with Ease
- ☐ Obtained with Difficulty
- ☐ No Constant Pattern

25. TONE

### NECK

- ☐ Normal
- ☐ Flaccid (Limp)
- ☐ Hypertonic (Rigid)

### TRUNK

- ☐ Normal
- ☐ Flaccid (Limp)
- ☐ Hypertonic (Rigid)

### UPPER EXTREMITY

- ☐ Normal
- ☐ Flaccid (Limp)
- ☐ Hypertonic (Rigid)

### LOWER EXTREMITY

- ☐ Normal
- ☐ Flaccid (Limp)
- ☐ Hypertonic (Rigid)

26. TRANSLUMINATION

- ☐ Absent
- ☐ Supratentorial
- ☐ Infratentorial

27. PUPILS

### RIGHT

Direct Reaction  
to Light

- ☐ Present
- ☐ Absent

### REACTION

- ☐ Rapid
- ☐ Sluggish

SIZE (Use disc)

### LEFT

Direct Reaction  
to Light

- ☐ Present
- ☐ Absent

### REACTION

- ☐ Rapid
- ☐ Sluggish

SIZE (Use disc)

Identify remarks by number of item. Every abnormality  
which is checked (✓) should have some description. Give  
reasons for not evaluating any item.

# NEONATAL NEUROLOGICAL EXAMINATION

*Supervised by  
ser. 11-59*

## OBSERVATIONS REQUIRING MAXIMAL HANDLING OR STIMULATION OF CHILD (Continued)

### 28. EYES

#### RIGHT

- ☐ Normal
- ☐ Abnormal
  - ☐ Abnormal Pupil
  - ☐ Abnormal Cornea
  - ☐ Abnormal Lens
  - ☐ Other

#### LEFT

- ☐ Normal
- ☐ Abnormal
  - ☐ Abnormal Pupil
  - ☐ Abnormal Cornea
  - ☐ Abnormal Lens
  - ☐ Other

Identify remarks by number of items. Every abnormality which is checked (✓) should have some description. Give reason for not evaluating any item.

### 29. FUNDUSCOPIC

#### RIGHT

- ☐ Normal
- ☐ Abnormal Vitreous
- ☐ Abnormal Disc
- ☐ Abnormal Fundus
- ☐ Other

#### LEFT

- ☐ Normal
- ☐ Abnormal Vitreous
- ☐ Abnormal Disc
- ☐ Abnormal Fundus
- ☐ Other

### 30. CONDITIONS DURING EXAMINATION

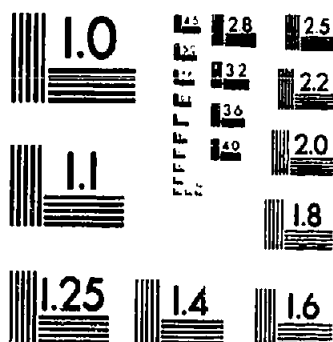
- ☐ Normal and Satisfactory
- ☐ Other

### 31. DIAGNOSIS (Include Suspected and Proven Findings)

- ☐ Normal
- ☐ Other







MICROCOPY RESOLUTION TEST CHART  
 NATIONAL BUREAU OF STANDARDS  
 STANDARD REFERENCE MATERIAL 1010a  
 (ANSI and ISO TEST CHART No. 2)

CONTINUED ON NEXT FICHE