# NICU Manual of Definitions

*2019 Birth Year*

cpqcc

# Table of Contents

# Introduction

What you can expect to find in this manual; where to look for other information; list of manuals/documents that they might find useful, with links. A note that they can always send a Help Desk ticket in times of need.

Note that this is a manual explaining how to enter data for infants in the NICU Database, on the NICU Data site, and that it (does/doesn't) cover the transport in info, and where to find that.

# NICU Admission/Discharge Form

## Demographics (tab I, items 1-8):

### Item 1. Birth Weight [BWGT]

Record the birth weight in grams. Since many weights may be obtained on an infant shortly after birth, enter the weight from the Labor and Delivery record if available and judged to be accurate. If unavailable or judged to be inaccurate, use the weight on admission to the neonatal unit or lastly, the weight obtained on autopsy (if the infant expired within 24 hours of birth)

Do not use a comma separator (e.g. 1,224). Record the numbers without a comma (e.g. 1224).

### Item 2. Head Circumference at Birth [BHEADCIR]

Enter the head circumference to the nearest tenth of a centimeter as recorded in the chart or clinical flow sheets on the day of birth. If the head circumference is not recorded on the day of birth, record the first head circumference measurement on the following day.

The head circumference entries allowed should be between 10.0cm and 70.0cm. If the head circumference was not measured on the day of birth or on the following day, select **"Not Done."**

Select **Unknown** if this information cannot be obtained, or if the head circumference was not measured on the day of birth or the following day.

### Item 3. Best Estimate of Gestational Age [GAWEEKS, GADAYS]

Gestational age is defined as the best obstetrical estimate (OE) of the newborn's gestation in completed weeks based on the birth attendant's final estimate of gestation, irrespective of whether the gestation results in a live birth or fetal death. This estimate of gestation should be determined by all perinatal factors and assessments such as ultrasound, but not the newborn exam. Ultrasound taken early in pregnancy is preferred (source: American College of Obstetricians and Gynecologists reVITALize Initiative).

Source: https://manual.jointcommission.org/releases/TJC2017A/DataElem0265.html

In the cases where there is no prenatal care or there are significant discrepancies between the obstetrical gestational age and neonatal gestational age (i.e. over two weeks), please determine the gestational age from the neonatologist exam.

Select **Unknown** if this information cannot be obtained.

**Note:** Entering or updating gestational age in days affects other items. For instance, for centers not participating in the expanded VON data collection, item 51 (HIE) will only be unlocked if an infant's gestational age has been entered.

### Item 4. Infant's Date/Time of Birth [BDATE] [BTIME]

Enter the infant's date of birth.

The date of birth is used in subsequent portions of the form to determine the date of Day 3, date of Day 28 of life, and the date of Week 36 adjusted gestational age, initial length of stay, and total length of stay for infants who are transported out.

Enter the infant's time of birth.

The time of birth is used to obtain the number of hours/minutes to first surfactant treatment. For infants who are acutely transported to your NICU, the value for time of birth is propagated from/to the CPeTS form.

### Item 5. Infant Sex [SEX]

Select **Male** or **Female**

Select **Unknown** if sex cannot be determined.

### Item 6. Died in Delivery Room [DELDIE]

Select **Yes** if the infant was born in your center, was never admitted to the NICU, and died in the delivery room or at any other location in your hospital within 12 hours after birth. These locations may include the mother's room, resuscitation rooms or any location other than the NICU in your hospital.

Select **No** if the infant did not die in the delivery room or at any other location in your hospital within 12 hours after birth and prior to admission to the NICU.

Select **No** for all out-born infants. If No, complete the Admission/Discharge Form.

**Note:** Hospital policies vary concerning the physical placement of a non-viable infant for the purpose of providing "comfort care". These infants may be physically cared for in a variety of locations including the delivery room, the OB recovery room, and the mother's room or even the nursery or NICU. If a hospital policy dictates that this type of infant be formally admitted to the NICU for end-of-life care, then an Admission/Discharge form must be completed for this infant. If the hospital policy does not dictate that the infant be formally admitted to the NICU for end-of-life care, complete the Delivery Room Death form.

The online form does not allow you to change the Delivery Room Death check box. Whether or not the infant died in the delivery room has to be established in the eligibility screen. If a record is incorrectly answered for a delivery room death, please submit a Help Desk ticket.

### Item 7a. Location of Birth [LOCATE]

The purpose of this question is to find out where the infant was born.

Select **Inborn** if the infant was delivered in your center on this admission.

- This includes any location within your center, e.g. Labor and Delivery, Antepartum unit, Emergency Room AND was never sent home after birth.
- If inborn, items 7b, 7c, 8a, and 8b are Not Applicable.
- For Satellite NICUs, the Inborn option cannot be selected.

**Note:** Data must be collected on all **inborn** infants meeting the eligibility criteria, including infants who were live born, but died in the delivery room prior to NICU admission.

Select **Outborn** if:

- The infant was born in another facility OR
- Was at any location outside your center OR
- Was home at any time after birth.

Any infant requiring ambulance transfer is considered out-born. When completing the Admission/Discharge data forms for out-born infants, use all information available from the hospital that transferred the infant to your center as well as from your own hospital.

**Note:** If a baby is born at your center, then sent home, and readmitted to your center, you must:

1. Create a new record and assign a new record ID
2. For Location of Birth (Item 7a), select **Outborn**
3. Fill in the age in days at the re-admission (Item 7b)
4. Select your center as hospital of birth (Item 7c).

This is because the infant was not born during the current "episode of care" at your center. For more details and definitions, please see the manual Is That Baby Eligible? on the NICU Data Resources page.

Select **Born at Co-Located Hospital** (Satellite NICUs Only) if your center is a satellite NICU and the infant was delivered in the co-located hospital. This includes any location within the co-located hospital, e.g. Labor and Delivery, Antepartum unit, Emergency Room. For non-satellite NICUs, the option (Born at Co-Located Hospital) cannot be selected.

**Note:** If a baby is born at the co-located hospital, then sent home, and readmitted to your center, you must:

1. Create a new record and assign a new record ID
2. For Location of Birth (Item 7a), select **Outborn**
3. Fill in the age in days at the re-admission (Item 7b)
4. Select your center as hospital of birth (Item 7c).

For Satellite NICUs, infants who are delivered at the Main NICU and then transferred to the Main NICU's Satellite NICU are considered as out-born infants.

### Item 7b. age in Days at Admission to your NICU [DAYADMISS]

The Day of NICU Admission is the day of life on which the infant is admitted to your hospital's NICU considering the date of birth as Day 1. For example, if an out-born infant is born on June 1, and admitted to your hospital's NICU on June 1, the Day of Admission would be 1. If that same infant were admitted to your hospital's NICU on June 3, the Day of NICU Admission would be 3.

To determine the Day of Admission to your NICU, you must know the Date of Birth and the Date of NICU Admission. The time of birth does not matter. If the infant is born at 11:30PM and admitted to your hospital's NICU at 11:59PM on the same day, the Day of NICU Admission is 1, since the infant was admitted on the Date of Birth.

**Note:** For babies with birth weights of 1,500 grams or less or a gestational age of 22 to 29 weeks of gestation, this item defaults to 1 which means that these infants are assumed to be admitted to the NICU on the day of birth.

### Item 7c. Hospital Location of Birth [BIRTHLOCATION]

For out-born infants only or for infants who were previously sent home, and then readmitted within 28 days of birth, select the birth hospital from the selection list. If the baby was born at your center, then sent home and readmitted to your center, the birth location is your center.

The list on the form is sorted in alphabetical order by hospital name. You can use the search function built into the drop-down list to search for any name part of the transport location, or you can use the transport location's OSHPD ID.

**Note:** Once you select "Born at Co-Located Hospital", the system will automatically set the hospital of birth to the hospital's OSHPD ID number. The birth location will be grayed out and cannot be changed.

### Item 8a. Previously Discharged Home [PDH]

This item applies only to out-born infants.

Select **Never Home after Birth** if the infant has never been discharged to home from a hospital location since birth.

A home birth does NOT qualify for checking "Was Previously Discharged Home after Birth".

Select **Was Discharged Home from a Hospital after Birth** if the infant has been discharged to home from a hospital location since birth.

**Note:**

- A home birth that was admitted to your NICU should be coded as "Never home after birth," unless the infant was admitted to a hospital after the home birth, then discharged, and then re-admitted to the NICU.
- This item is Not Applicable for inborn infants or infants born at the co-located hospital for satellite centers.

### Item 8b. Re-Admission after Previous Discharge Home [READMIT]

This item applies only to out-born infants. Only answer this section if the infant was home after birth.

Select **First Admission to this NICU** if this admission is the first time the infant has been in your NICU.

Select **Re-admission to this NICU** if the infant has previously been in your NICU.

**Note:** For a hyperbilirubinemia/exchange transfusion infant, the infant can be admitted or re-admitted to any location in your hospital.

This item is Not Applicable if the infant is inborn/born at the co-located hospital or satellite centers, or out-born and never previously discharged home.

## Maternal History and Delivery (tab 2, items 9-18):

**Note:**

- Ethnic and racial data help us to monitor differences in perinatal risks and outcomes in California, and to adjust for these differences when comparing hospitals with diverse populations. The CPQCC race classification scheme follows that used by Vermont Oxford Network, which combines Asian and Pacific Islander groups, includes a residual "Other" category, and only allows for a single choice. In the future, CPQCC will standardize with California State standards and allow multiracial categorization.
- Finding Race and Ethnicity Data. The Automated Vital Statistics System (AVSS) is now used in all birthing hospitals in California to produce paper and electronic birth certificates. It is important for CPQCC Data Collectors to understand that the AVSS system is probably used in your center and that it collects ethnicity and race data in a manner consistent with new State and Federal standards for multiple race reporting. CPQCC encourages members to use their Center's AVSS system as the primary source for the maternal race and ethnicity information.
- Self-identification, Maternal Ethnicity, and Race should be completed by or with direct assistance of the informant. Appearance, language, or other personal attributes do not necessarily determine ethnicity or race. A woman who speaks Spanish, was born in Mexico, and says that she is not Hispanic, but claims to be a Native American, should be recorded as non-Hispanic Native American. The responses for Ethnicity and Race (Items 9a and 9b) should be obtained by review of the birth certificate or personal interview with the mother (see information above about AVSS), if possible. Obtaining the information from a review of medical records is less preferable.
- For the Maternal History and Delivery section, enter the maternal and perinatal data on the woman who delivered the infant even if she is a gestational carrier.

## Item 9. Maternal Date of Birth [MDATE]

Enter the mother's birth date as mm-dd-yyyy. Note that the online form allows "short" date entries and tries to convert them to the correct date. For instance, entering 12111989 will be converted to 12-11-1989.

A correct maternal birth date will auto-populate a maternal age at the time of delivery using information entered on infant's date of birth.

Select **Unknown** if the mother's date of birth is unknown.

**Maternal Age**

If the mother's date of birth is unknown, but the mother's age at the time of delivery is known, enter the mother's age at time of delivery. Give her age in completed years; meaning that a woman who is 30 years and 364 days old should be recorded as 30 years old, not 31.

Select **Unknown** if the mother's age at the time of the delivery is unknown.

## Item 10a. Maternal Hispanic Origin [HISP]

Select **Yes** if the biological mother is a person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin, regardless of race.

Select **No** if the biological mother's ethnicity is not of Hispanic or Latino origin as defined above.

Select **Unknown** if the maternal ethnicity is not known.

## Item 10b. Maternal Race [MATRACE]

Select **Black** or **African American** if the biological mother is a person having origins in any of the black racial groups of Africa.

Select **Asian** if the biological mother is a person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian Subcontinent including, for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam.

Select **Native Hawaiian** or **Other Pacific Islander** if the biological mother is a person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.

Select **American Indian** or **Alaska Native** if the biological mother is a person having origins in any of the original peoples of North and South America (including Central America), and who maintains tribal affiliation or community attachment.

Select **White** if the biological mother is a person having origins in any of the original peoples of Europe, the Middle East, or North Africa.

Select **Other** if none of the race categories above applies to the biological mother.

## Item 11. Prenatal Care [PCARE]

Select **Yes** if the mother received any prenatal obstetrical care prior to the admission during which birth occurred. Note that one visit is counted as prenatal care.

Select **No** if the mother did not receive any prenatal obstetrical care.

Select **Unknown** if this information cannot be obtained.

### Item 12. Group B Strep Positive [GROUPBSTREP]

Select **Yes** if a maternal or vaginal or anal or urine culture is positive for Group B Streptococcus (GBS).

Select **No** if a maternal culture(s) for GBS was/were done (vaginal, anal or urine cultures) and was/were negative for Group B Streptococcus (GBS).

Select **Not Done** if a maternal culture for GBS (vaginal, anal or urine culture) was not performed.

Select **Unknown** if culture was not taken or if this information cannot be obtained.

### Item 13a. Antenatal Steroids [ASTER]

Select **Yes** if corticosteroids were administered IM or IV to the mother during pregnancy at any time prior to delivery. Corticosteroids include betamethasone, dexamethasone, and hydrocortisone.

Select **No** if antenatal corticosteroids were not administered to the mother during pregnancy at any time prior to delivery or if there is no documentation in the medical record that antenatal steroid therapy was initiated before delivery.

Select **Unknown** if this information cannot be obtained (e.g. missing records from a referring hospital).

**Note:** For calculating the Joint Commission measure, **Unknown** will count as **No**.

### Item 13b. Antenatal Steroids Documentation [ASTERDOCUMENT]

Select **Yes** if there is documentation by a physician/Advanced Practice Nurse/Physician's Assistant/Certified Nurse Midwife that the patient has one or more reasons for not initiating antenatal steroid therapy before delivery.

Select **No** if there is no documentation by physician/Advanced Practice Nurse/Physician's Assistant/Certified Nurse Midwife of a reason for not initiating antenatal steroid therapy before delivery or unable to determine from medical record documentation.

Select **Unknown** if this information cannot be obtained.

**Note:**

- The Joint Commission will exclude all cases marked as "Yes" from the numerator/denominator so there is an advantage to finding this documentation if present.
- When determining whether there is a reason documented by a physician/Advanced Practice Nurse/Physician's Assistant/Certified Nurse Midwife for not initiating antenatal steroid

therapy, reasons must be explicitly documented (e.g., "patient had an adverse reaction to the medication – unable to initiate antenatal steroid therapy") or clearly implied (i.e., there is documentation the delivery occurred before antenatal steroid therapy could be initiated, or there is documentation the fetus has anomalies which are not compatible with life).

- This item is only applicable and optional for inborn infants who are <34 weeks gestational age.
- This item is Not Applicable (NA) if the infant was ≥ 34 weeks gestational age at birth or if the mother did not receive antenatal steroids

### Item 13c. Antenatal Steroids Reason [ASTERREASON]

Select **Chorioamnionitis** if it includes infection of the amniotic sac and fluid (amnionitis) and those of the uterine wall (endometritis)

Select **Other Active Infection** if sepsis, pyelonephritis, active herpes or similar infection was given as the reason.

Select **Immediate Delivery** if the mother is admitted with advanced cervical dilation or fetal/maternal condition requiring immediate delivery.

Select **Fetus has Anomalies Incompatible with Life** if only comfort measures are to be provided.

Select **History of Adverse Reaction to Corticosteroids** if the mother has history of adverse reaction to corticosteroids.

Select **Comfort Care** if infant is pre-viable and planning for non-resuscitation due to immaturity or congenital anomalies.

Select **Other** if there is another documented reason that does not fall into a category above.

Select **Unknown** if this information cannot be obtained.

**Note:**

- This is an optional field and would only be used if your hospital has a high rate of excluded cases to understand why.
- This item is Not Applicable (NA) if the infant was ≥ 34 weeks gestational age at birth or if the mother did receive antenatal steroids or if there was no documentation in the medical record as to why no antenatal steroids were given.
- This item is only applicable and optional for inborn infants who are <34 weeks gestational age.

### Item 14. Spontaneous Labor [SPLABOR]

Labor is defined as the presence of strong, regular, and painful contractions causing cervical change.

Select **Yes** if the mother went into labor on her own (spontaneous labor) prior to delivery. Cases where the mother begins labor spontaneously, but the labor is subsequently augmented (e.g. administration of Pitocin) spontaneous labor should be checked **Yes.**

Select **No** if the mother did not go into labor on her own. Select **No** if labor is induced (e.g. administration of Pitocin or cervical ripening agent), but no labor was evident prior to induction. Select **No** if the patient had a scheduled cesarean delivery.

Select **Unknown** if this information cannot be obtained.

### Item 15a. Multiple Births or Gestation [MULT]

Select **Yes** if two or more live fetuses were documented at any time during pregnancy. Note that this count might include fetuses that have been re-absorbed in utero by the time of delivery.

Select **No** for a singleton birth.

Select **Unknown** if this information is not known.

*Note:* For the Delivery and Maternal History section, enter maternal and perinatal data on the woman who delivered the infant even if she is a gestational carrier.

### Item 15b. Number of Infants Delivered [NBIRTHS]

If Multiple Gestation is answered Yes, enter the number of infants actually delivered. Count both live born and stillborn infants. For example, if twins were delivered, enter "2", if triplets were delivered enter "3'. Do NOT count fetuses which have been reabsorbed in utero and were not delivered.

This item is **Not Applicable (N/A)** if the infant is not a multiple gestation.

Select **Unknown** if the information is not known.

### Item 15c. Birth order [BIRTHORDER]

If Multiple Gestation is answered **Yes**, enter the birth order of the infant for the set of multiples. For instance, if the infant was the second of a set of triplets delivered, enter 2. Note that it is necessary to answer items 15a and 15b before the online form lets you answer 15c. The reason is that this item should only be filled in if the infant was a multiple. Item 15b is then constrained to the number of multiples delivered.

Select **Unknown** if the information is not known.

### Item 16. Delivery Mode [DELMOD]

Select **Spontaneous Vaginal** for a Normal Vaginal Delivery. This is any vaginal delivery for which instruments were not used. This includes cases where manual rotations or other head or shoulder maneuvers were used, provided instruments were not also used.

Select **Operative Vaginal** for any vaginal delivery for which any instrumentation (forceps, vacuum) was used. Episiotomies are not considered operative deliveries.

Select **Cesarean** for any abdominal delivery.

Select **Unknown** if this information cannot be obtained.

### Item 17a. Maternal Antenatal Conditions

This question focuses on antenatal events that may affect the pregnancy and/or delivery of the infant. Select all maternal conditions which were present in the antenatal period.

Select **None [ANCMNONE]** if no maternal antenatal conditions were present.

Select Yes for **Hypertension [ANCMHYP]** if the maternal or infant medical record states the diagnoses of hypertension, chronic or pregnancy-induced, eclampsia, preeclampsia, seizures, toxemia, HELLP syndrome, with or without edema and proteinuria, or if a maternal blood pressure above 140 systolic or 90 diastolic was recorded prior to or during the current pregnancy.

Select Yes for **Chorioamnionitis [ANCMCHORIO]** if the maternal medical record gives evidence of infections of the amniotic sac and fluid (amnionitis) and those of the uterine wall (endometritis).

Select Yes for **Other Infection [ANCMOINF]** if other maternal non-intrauterine infections which complicate the pregnancy or delivery. Includes herpes, HIV, or other sexually transmitted diseases (STD) were present.

Select Yes for **Diabetes [ANCMDIA]** if the maternal or infant medical record shows evidence of maternal diabetes of any type and severity.

Select Yes for **Previous Cesarean [ANCMCES]** if the mother has delivered by cesarean prior to this delivery.

Select Yes for **Antenatal Magnesium Sulfate [ANCMAMAGSULF]** if magnesium sulfate was administered intravenously to the mother during pregnancy at any time prior to delivery. Select Yes if antenatal magnesium sulfate was administered intravenously at any time, for any reason. Do not select Yes if Magnesium Sulfate was not administered intravenously to the mother during pregnancy at any time prior to delivery.

Select Yes for **Other Maternal [ANCMOTH]** if another antenatal maternal complication affecting the infant's heath or the course of delivery was diagnosed.

**Description of Other [ANCMDESC]** Specify the complication in the space provided.

Select **Unknown [ANCMUNK]** if the information is not obtainable.

### Item 17b. Fetal Antenatal Conditions

This question focuses on antenatal events that may affect the pregnancy and/or delivery of the infant. Select all fetal conditions which were present in the antenatal period.

Select **None [ANCFNONE]** if no fetal antenatal complications were present.

Select Yes for **Intrauterine Growth Restriction/IUGR [ANCFIUGR]** if symmetric or asymmetric IUGR was diagnosed.

Select Yes for **Non-Reassuring Fetal Status [ANCFDIS]** if the medical record states the diagnoses of fetal distress, poor biophysical profile, or non-reassuring (abnormal) stress test or fetal monitoring or fetal status. The following situations are also often associated with non-reassuring fetal status (but do not in themselves constitute non-reassuring fetal status, unless accompanied by documentation as noted above):

- decrease in amniotic fluid (low AFI, oligohydramnios)

- decreased blood flow or oxygenation to the infant
- cord entanglement
- cord prolapse
- decreased fetal movement
- fetal arrhythmia
- feta bradycardia.

Select **Yes** for **Anomaly [ANCFANO]** if anomalies were diagnosed prior to birth.

Select **Yes** for **Other Fetal [ANCFOTH]** if other fetal problems affecting the infant's health or the course of delivery were present.

**Description of Other [ANCFDESC]** Specify the complication in the space provided.

Check **Unknown [ANCFUNK]** if this information is not obtainable.

**Note:** The issues identified under "Fetal" conditions refer to problems, issues or concerns pertaining to the fetus prior to birth. Select "None" only if you have access to a reliable and complete prenatal record or history that includes fetal evaluation. If a mother presents with no prenatal care and no available medical history, this section should be marked "Unknown". If a mother presents with no prenatal care, but there is a prenatal history that includes fetal evaluation present on her chart, applicable items may be selected as appropriate.

### Item 17c. Obstetrical Conditions

This question focuses on antenatal events that may affect the pregnancy and/or delivery of the infant. Select all obstetrical conditions which were present in the antenatal period.

Select **None [ANCONONE]** if no obstetrical antenatal complications were present.

Select Yes for **Preterm (<37 weeks) Labor [ANCOLABOR]** if preterm (<37 weeks) regular contractions in the context of cervical change occurred.

Select Yes for **Preterm (<37 weeks) Premature Rupture of Membranes (ROM) [ANCOPREPROM]** if premature rupture of membranes before the onset of labor prior to 37 weeks completed gestation occurred.

Select Yes for **Term (≥ 37 weeks) Premature ROM [ANCOPREROM]** if premature rupture of membranes before the onset of labor at 37 completed weeks or later occurred.

Select Yes for **Prolonged ROM [ANCOPROM]** if prolonged rupture of the membranes, rupture of the membranes more than 18 hours prior to birth of the infant occurred.

Select Yes for **Malpresentation/Breech [ANCOMAL]** if the fetal presentation was other than vertex, including frank breech, footing breech, transverse and compound presentation.

Select Yes for **Bleeding/Abruption/Previa [ANCOBLEED]** if bleeding occurred related to complications with the placenta. Placental abruption refers to premature detachment of the placenta from the uterine wall. Placenta previa refers to low implementation of the placenta in the uterus, usually over the cervix.

Select Yes for **Other Obstetrical Complications [ANCOOTH]** if any other obstetrical complication occurred.

**Other Obstetrical Complications Describe [ANCODESC]**. Specify the complication in the space provided.

Select **Unknown** if this information is not obtainable.

**Note:** Only one of "Preterm (<37 weeks) Premature ROM" or "Term (≥ 37 weeks) Premature ROM" can apply. "Term (≥ 37 weeks) Premature ROM" is not applicable and grayed out if an infant was born prior to 37 completed weeks gestation.

### Item 18. Indications for Cesarean Section

Indicate why a cesarean section was done. Select all indications that apply.

Select **Not Applicable (N/A) [INDCESNA]** if no cesarean section was performed to delivery this infant.

Select Yes for **Malpresentation/Breech [INDCESBR]** if the infant has an unfavorable presentation (breech, oblique, transverse, or compound lie).

Select Yes for **Multiple Gestation [INDCESMG]** if a reason for cesarean delivery was a multiple gestation pregnancy.

Select Yes for **Non-Reassuring Fetal Status [INDCESFD]** if non-reassuring fetal status was a reason why a cesarean section was performed.

Select Yes for **Elective [INDCESER]** if the cesarean section was elected over vaginal birth by physician or patient preference and no other indication is specified. Includes elective repeats.

Select Yes for **Dystocia/Failure to Progress [INDCESDY]** if a cesarean section was performed for either of the following reasons:

1) Uterine contractions were insufficient to open the cervix
2) The pelvis and/or birth canal was too small or was obstructed, preventing clear passage of the infant
3) Failure to progress. Also include as dystocia, cases of failed induction, unengaged fetus, cephalopelvic disproportion and suspected or pending macrosomia.

Select Yes for **Placental Problems [INDCESPP]** if problems related to the placenta indicated a cesarean section be performed. Includes placenta previa, antepartum bleeding, abruption.

Select Yes for **Hypertension [INDCESOTH]** if hypertension was a reason why a cesarean section was performed. The medical record should state the diagnosis of hypertension, eclampsia, preeclampsia, seizures, toxemia or HELLP Syndrome.

Select Yes for **Other [INDCESOTH]** if another maternal, fetal, or obstetrical problem was a reason why a cesarean section was performed.

**Other Describe [INDCESOTH]**. Specify indication in the given space.

## Delivery Room and First Hour after Birth (tab 3, items 19-23):

### Item 19a. Was delayed umbilical cord clamping performed? [DCCDONE]

Select **Yes** if delayed umbilical cord clamping was performed.

Select **No** if delayed umbilical cord clamping was not performed.

Select **Unknown** if this information cannot be obtained.

**Note:** For the purposes of this definition, clamping performed less than 30 seconds after delivery would not be considered delayed cord clamping even if there was intention to perform delayed cord clamping.

### Item 19b. How long was umbilical cord clamping delayed? [DCCTIME]

Select **30 to 60 seconds** if delayed umbilical cord clamping was performed for 30 to 60 seconds.

Select **61 to 120 seconds** if delayed umbilical cord clamping was performed for greater than 60 seconds to 120 seconds.

Select **>120 seconds** if delayed umbilical cord clamping was performed for greater than 120 seconds.

If 19a is No, then **Not Applicable (N/A)** will be automatically selected and this item will be grayed out.

Select **Unknown** if this information cannot be obtained.

### Item 19c. If DCC was not done, reason why? (optional) [DCCNOTWHY] [DCCNOTWHYDESC]

Select **Maternal Bleeding** if delayed umbilical cord clamping was not performed due to abruption, placental separation, uterine rupture, cord avulsion.

Select **Neonatal Causes** if delayed umbilical cord clamping was not performed due to neonatal complications i.e. very depressed apneic baby requiring resuscitation, hydropic.

Select **Other** if delayed umbilical cord clamping was not performed for reasons other than maternal bleeding and neonatal causes. Please enter a description if Other is selected in the space provided.

If 19a. is Yes, then **Not Applicable (N/A)** will automatically be selected and this item will be grayed out.

Select **Unknown** if this information cannot be obtained.

### Item 19d. Was umbilical cord milking performed? [DCCCORDMILK]

Select **Yes** if cord milking was performed.

Select **No** if cord milking was not performed.

Select **Unknown** if this information cannot be obtained.

**Note:**

Umbilical cord milking – The 2015 ILCOR review on umbilical cord milking states:
"In light of the limited information regarding the safety of rapid changes in blood volume for extremely pre-term infants, we suggest against the routine use of cord milking for infants born at less than 29 weeks of gestation outside of a research setting. Further study is warranted because cord milking may improve initial mean blood pressure and hematologic indices and reduce

intracranial hemorrhage, but thus far there is no evidence for improvement in long-term outcomes."

Although this practice is not currently recommended, we recognize that some centers/clinicians are performing this related therapy. Therefore, we will also collect data on this practice.

### Item 19e. Did breathing begin before umbilical cord clamping? [DCCBREATH]

Select **Yes** if breathing began before umbilical cord clamping was performed. If the infant has signs of breathing, such as crying, chest wall movement, and/or grunting, select **Yes**.

Select **No** if breathing did not begin before umbilical cord clamping was performed.

Select **Unknown** if this information cannot be obtained.

### Item 20. APGAR Scores [AP1, AP5, AP10]

Enter the Apgar score at 1 minute and at 5 minutes as noted in the Labor and Delivery record, if available. Enter the 10-minute Apgar score, if available.

Select **Unknown** for any score that is unknown.

Select **Not Done** for any score if that score was not done.

### Item 21a. Suspected Encephalopathy or Suspected Perinatal Asphyxia [PA] or Low 5-min and/or 10min APGAR Score

This item only applies to infants >1,500 grams

Select **Yes** if the infant had suspected encephalopathy or perinatal asphyxia along with cardiorespiratory depression at birth signified by:

- a pH less than 7.00 on an umbilical blood sample or a blood gas obtained within one hour of life or
- if the infant's 5-minute Apgar score was less than or equal to 3 or
- if the infant's 10minute Apgar score of less than or equal to 4.

Select **No** if the infant does not meet any of the above criteria.

Select **Unknown** if this information cannot be obtained.

**Note:** This definition of suspected encephalopathy or suspected perinatal asphyxia is different from the criteria for hypoxic ischemic encephalopathy (HIE), defined later in Item 51 (i.e. not all patients meeting eligibility criteria under suspected encephalopathy or suspected perinatal asphyxia will have HIE according to the HIE definition).

### Item 21b. Is there an umbilical cord blood gas or a baby blood gas in the first hour of life available? [GAS]

This item only applies to infants >1,500 grams who also meet at least one of the following criteria:

- Admitted with suspected encephalopathy (Yes to Item 21a)

- Admitted with suspected perinatal asphyxia (Yes to Item 21a)
- 5-minute Apgar less than or equal to 3 or 10-minute Apgar less than or equal to 4 (Item 20)
- Received active hypothermia (Selective or Whole-Body Cooling to Item 24d), or
- Diagnosis of HIE (mild/moderate/severe to Item 51)

Select **Yes** if an umbilical cord blood gas or a baby blood gas within the first hour of life was obtained. If yes, respond to items 19d-19f.

Select **No** if an umbilical cord blood gas or a baby blood gas within the first hour of life was not obtained.

Select **Not Applicable** if this item does not apply.

Select **Unknown** if this information cannot be obtained.

**Note:** The umbilical cord or the first baby blood gas value is important to identify these newborns as it is one of the eligibility criteria. The severity and the timing of the perinatal insult may be evident based on the pH and the base deficit in these newborns. All studies and recommendations related to therapeutic cooling have a physiological criterion based on pH and base deficit. Hence, collecting these values is important to compare outcomes of newborns with HIE whether they did or did not undergo therapeutic cooling.

### Item 21c. Source of the blood gas [GASSOURCE]

This item only applies to infants >1,500 grams who also meet at least one of the following criteria:

- Admitted with suspected encephalopathy (Yes to Item 21a)
- Admitted with suspected perinatal asphyxia (Yes to Item 21a)
- 5-minute Apgar less than or equal to 3 or 10-minute Apgar less than or equal to 4 (Item 20)
- Received active hypothermia (Selective or Whole-Body Cooling to Item 24d), or
- Diagnosis of HIE (Mild/Moderate/Sever to Item 51)

And for whom an umbilical cord blood gas or baby blood gas during the first hour of life has been obtained (yes to 19c).

Select the source where the infant's blood gas was obtained. The umbilical arterial (UA) cord blood gas is preferred over the umbilical venous (UV) blood gas. Any umbilical cord gas (UA or UV) is preferred over any baby gas. If no cord blood gas is available, then use the first blood gas that was obtained from the baby within the first hour of life.

Select from the following options:

- Cord umbilical arterial (UA)
- Cord umbilical venous (UV)
- Arterial baby gas
- Venous baby gas
- Capillary baby gas

Select **Not Applicable** if this item does not apply.

Select **Unknown** if this information cannot be obtained.

### Item 21d. pH within one hour of life [GASPH]

This item only applies to infants >1,500 grams who also meet at least one of the following criteria:

- Admitted with suspected encephalopathy (Yes to Item 21a)
- Admitted with suspected perinatal asphyxia (Yes to Item 21a)
- 5-minujte Apgar less than or equal to 3 or 10-minute Apgar less than or equal to 4 (Item 20)
- Received active hypothermia (Selective or Whole-Body Cooling to Item 24d), or
- Diagnosis of HIE (Mild/Moderate/Severe to Item 51)

And for whom an umbilical cord blood gas or baby blood gas during the first hour of life has been obtained (Yes to 19c).

Record the pH to 2 decimal places from the source listed in Item 19c.

If this item is not applicable, the data entry box is grayed.

Check the **Unknown** box if this information cannot be obtained.

### Item 21e. Base Deficit [GASBD]

This item only applies to infants >1,500 grams who also meet at least one of the following criteria:

- Admitted with suspected encephalopathy (Yes to Item 21a)
- Admitted with suspected perinatal asphyxia (yes to Item 21a)
- 5-minute Apgar less than or equal to 3 or 10-minute Apgar less than or equal to 4 (Item 20)
- Received active hypothermia (Selective or Whole-Body Cooling to Item 24d), or
- Diagnosis of HIE (Mild/Moderate/Severe to Item 51)

And for whom an umbilical cord blood gas or baby blood gas during the first hour of life has been obtained (Yes to 21b).

Record the base deficit to 1 decimal place from the source listed in Item 21b.

If this item is not applicable, the data entry box is grayed out.

Select the **Too Low to Register** box if the equipment indicates that the base deficit as too low to register or incalculable.

Select the **Unknown** box if this information cannot be obtained.

**Note:** "Base deficit" is defined in reference to a negative integer, but written as a positive integer. However, some places use the equivalent term "bae excess" which is written as a negative integer. Thus, a base of "-17.7" is equivalent to a base deficit of "17.7."

### Item 22a. Supplemental Oxygen [DROX]

Select **Yes** if infant received any supplemental oxygen in the delivery room or during the initial resuscitation performed immediately after birth.

Select **No** if infant did not receive supplemental oxygen in the delivery room or during the initial resuscitation performed immediately after birth.

Select **Unknown** if this information cannot be obtained.

**Note:** 21% oxygen is room air. This is not considered supplemental oxygen, no matter how administered.

### Item 22b. Nasal CPAP [DRCPAP]

Select **Yes** if the infant was given continuous positive airway pressure (CPAP) in the delivery room. CPAP administered through a face mask covering the nose without the administration of intermittent breaths is considered nasal CPAP for the purpose of this definition. If this item is answered as **Yes**, item 26b is applicable.

Select **No** if infant did not receive continuous positive airway pressure (CPAP) in the delivery room.

Select **Unknown** if this information cannot be obtained.

### Item 22c. Bag/Mask [DRBM]

Select **Yes** if the infant received any positive pressure breaths with a bag and face mask in the delivery room or during the initial resuscitation performed immediately after birth. Positive pressure may be administered using a resuscitation bag. T-piece, or other device that generates intermittent positive pressure.

Select **No** if the infant did not receive any positive pressure breaths with a bag and face mask in the delivery room or during the initial resuscitation performed immediately after birth. Select **No** if a bag, T-piece or face mask were only used to administer CPAP (continuous positive airway pressure) and no positive pressure breaths were given.

Select **Unknown** if this information cannot be obtained.

### Item 22d. Endotracheal Tube Ventilation [DRET]

Select **Yes** if the infant was ventilated using an endotracheal tube in the delivery room or during the initial resuscitation performed immediately after birth.

Select **No** if the infant did not receive ventilation through an endotracheal tube in the delivery room or during the initial resuscitation performed immediately after birth. If an endotracheal tube was placed only for suctioning and assisted ventilation was not given through the tube, Select **No**.

Select **Unknown** if this information cannot be obtained.

### Item 22e. Epinephrine [DREP]

Select **Yes** if epinephrine was given in the delivery room or during the initial resuscitation performed immediately after birth via intravenous, intracardiac or intratracheal (through an endotracheal tube) routes.

Select **No** if epinephrine was not given in the delivery room or during the initial resuscitation performed immediately after birth via intravenous, intracardiac or intratracheal (through an endotracheal tube) routes.

Select **Unknown** if this information cannot be obtained.

### Item 22f. Cardiac Compression [DRCC]

Select **Yes** if external cardiac massage was given in the delivery room or during the initial resuscitation performed immediately after birth.

Select **No** if external cardiac massage was not given in the delivery room or during the initial resuscitation performed immediately after birth.

Select **Unknown** if this information cannot be obtained.

### Item 22g. NIPPV (Nasal Intermittent Positive Pressure Ventilation) [DRNIPPV]

Select **Yes** if the infant was given nasal intermittent positive pressure ventilation (NIPPV) in the delivery room or during the initial resuscitation performed immediately after birth. Positive pressure breaths through nasal prongs may be administered using a resuscitation bag, T-piece, or other device that generates intermittent positive pressure breaths.

**Note:** This is different from bag/mask PPV.

Select **No** if NIPPV was not used in the delivery room. Also select **No** if nasal prongs were only used to administer continuous positive airway pressure (CPAP) and no positive pressure breaths were given.

Select **Unknown** if this information cannot be contained.

### Item 22h. Laryngeal Mask Airway (LMA) [DRLMA]

Select **Yes** if the infant received any intermittent positive pressure breaths via a laryngeal mask airway in the delivery room or during the initial resuscitation performed immediately after birth. Intermittent positive pressure breaths may be administered using an anesthesia bag, self-inflating bag, or other device that generates intermittent positive pressure.

Select **No** if the infant did not receive any intermittent positive pressure breaths via a laryngeal mask airway device in the delivery room or during the initial resuscitation performed immediately after birth. Select **No** if a laryngeal mask airway device was only used to administer continuous positive airway pressure and no intermittent positive pressure breaths were given.

Select **Unknown** if this information cannot be obtained.

**Note:** Interventions may be performed in the Delivery Room or in an Initial Resuscitation Area immediately following birth and prior to the admission to the NICU. There are situations in which infants receive their initial neonatal resuscitation in locations other than a "delivery room". These include cases in which resuscitation is provided in locations adjacent to or close-by the delivery room. In such situations, the responses to the Initial Resuscitation items should be based on the initial resuscitation provided immediately after birth, regardless of where the resuscitation took place. The initial Resuscitation Area is the term used below to indicate an area where

stabilization occurs immediately after birth and prior to NICU admission, including the delivery room or other location where initial resuscitation and stabilization are performed.

### Item 23a. Surfactant in the Delivery Room [DRSURF]

Select **Yes** if surfactant was administered to the infant in the delivery room or as part of the stabilization immediately after birth even if that occurred in a location other than the delivery room.

Select **No** if surfactant was not administered when the infant was in the delivery room or as part of the stabilization immediately after birth.

Select **Unknown** if this information cannot be obtained.

**Note:** The initial resuscitation and stabilization of infants immediately after birth may occur in locations other than a delivery room. These may include designated resuscitation area, hospital room, emergency room, operating room, ambulance, etc. If surfactant is administered during stabilization and resuscitation immediately following birth, the answer to this question is Yes regardless of location. If the stabilization immediately after birth occurs in a delivery room, resuscitation room or other location and the infant is then transported to the NICU for further stabilization during which surfactant is administered, select No.

### Item 23b. Surfactant at Any Time [SURFX]

Select **Yes** if the infant received an exogenous surfactant at any time. If the answer to Surfactant in the Delivery Room is **Yes**, Surfactant at Any Time must also be answered **Yes**.

Select **No** if the infant never received an exogenous surfactant.

Select **Unknown** if this information cannot be obtained.

### Item 23c. Age at First Dose of Surfactant in Hours and Minutes [SURF1DHR], [SURF1DMIN]

If Surfactant at Any Time has been answered yes, enter age in hours and minutes of first dose. Do not answer this item if the answer to Surfactant at Any Time is No.

**Note:**

- The Admission/Discharge (A/D) form includes the ability to enter the date/time of first surfactant treatment. If the date/time of birth is also provided, the time from birth to surfactant in hours and minutes is calculated for the user and populates the respective form fields. The date/time of surfactant is **not** committed to the CPQCC database. The A/D form will propagate the date/time of first surfactant treatment to the CPeTS form if the date/time of first surfactant treatment has not been entered on the CPeTS form, and if the date/time of first surfactant treatment occurred prior to an infant's NICU admission at the receiving NICU.
- The EDS submissions will not be modified to include date/time of the first dose of surfactant. EDS submissions will continue to include only the age at first dose of surfactant.

- If surfactant was given at any time, enter the infant's postnatal age in hours and minutes at the time when the first dose of surfactant was administered. For infants, the first dose may have occurred prior to or after NICU admission. For out-born infants, the first dose may have occurred before transport, during transport or at your hospital. Do not answer this item if the answer to Surfactant at Any Time is No.
- The postnatal age at first dose is the interval in hours and minutes, to the nearest minute, between the date and time of birth and the date and time at which the first dose was given.
- If the postnatal age at the time of the first dose was exact in hours, a "0" should be entered in the "minutes" portion of this item. Do not leave hours or minutes blank. If the precise age at first dose is unknown, but an estimated age at first dose can be reliably determined to the nearest 15 minutes, please record this estimate. If the best estimate of age at first dose to the nearest 15 minutes cannot be determined, check Unknown next to the hours and minutes.
    - Example 1: An infant is born at 15:30 hours on October 1 in your hospital. The first dose of surfactant is given at 15:45 hours on October 1 in the delivery room. The postnatal age at first dose is 0 hours and 15 minutes.
    - Example 2: an infant is born at 15:30 hours on October 1 in an outlying hospital. The first dose of surfactant is given at 15:45 hours on October 1 in the delivery room at that hospital. The infant is subsequently transported to your hospital. The postnatal age at first dose is 0 hours and 15 minutes.
    - Example 3: An infant is born at 15:30 hours on October 1. The first dose of surfactant is given at 15:00 hours on October 4. The age at first dose is 71 hours and 30 minutes.
    - Example 4: An infant is born at 15:30 hours on October 1. The first dose of surfactant is given at 16:30 hours on October 1. The age at first dose is 1 hour and 0 minutes. (Please record as 1 hour and 0 minutes, rather than 0 hours and 60 minutes.)

## Post-Delivery Diagnosis and Interventions – Respiratory (tab 4, items 24-39):

### Item 24a. Temperature measured within the First Hour after Admission to Your NICU [ATEMPM]

Select **Yes** if the infant's core body temperature was measured and recorded within the first hour after admission to your NICU. Core body temperature may be measured by taking a rectal, esophageal, tympanic or axillary temperature.

Select **No** if the infant's core body temperature was not measured and recorded within the first hour after admission to your NICU.

Select **Not Applicable** if the infant is eligible but was never admitted to your NICU.

*Note:*

- This item applies to the temperature of the infant during the first hour after your admission to your NICU. For out-born infants, do not record temperature measurements taken at the transporting center.

- If an attempt was made to measure temperature during the first hour after admission to your NICU, and the temperature of the infant was lower than what the thermometer could measure, select "Yes" and check "Too low to register" in Item 24b. If the infant's core body temperature was not measured within the first hour after admission to your NICU, Item 24b is **Not Applicable**.
- For infants not undergoing cooling during the transport process, this item propagates the same variable in the CPeTS online form (Item C.21c at NICU admission).

### Item 24b. First Temperature at Admission to Your NICU [ATEMP]

If the infant's core body temperature was measured and recorded within the first hour of the **initial** admission to your NICU, enter the infant's temperature in degrees centigrade to the nearest tenth of a degree. If the infant's temperature is measured multiple times within the first hour after admission to your NICU, enter the value of the first temperature measurement.

Use rectal temperature or, if not available, esophageal temperature, tympanic temperature or axillary temperature, in that order.

Check the option **Too Low to Register** for situations in which the infant's temperature is too low to register on the thermometer used.

Temperatures may be entered in degrees Celsius or Fahrenheit.

Item 24b, applies to the first temperature measured within an hour of the initial admission to your NICU, even if the baby is being readmitted.

### Item 24c. Cooling for HIE [ACOOLING]

Select **No Cooling for HIE** if no attempt for cooling/administration of hypothermic therapy for HIE was done at any time during the first admission to your NICU.

Select **Cooling for HIE Started** if the first attempt for cooling/administration of hypothermic therapy for HIE was started during the first admission to your NICU.

Select **Cooling for HIE continued for Transport-In** if the first attempt for cooling/administration of hypothermic therapy for HIE was started at another hospital prior to admission to your NICU, and then continued during the first admission to your NICU. The option Cooling for HIE Continued for Transport-In is not applicable for inborn infants and will not be displayed on the online form for inborn infants.

Select **Unknown** if this information cannot be obtained.

**Note:** Item 24c applies only to the first admission to your NICU. If the infant is transported out and readmitted to your NICU, do not update this item.

### Item 24d. Cooling Method for HIE [ACOOLINGMETHOD]

If an infant was cooled for HIE at any time during the initial admission to your NICU, record the last type of hypothermic therapy administered during the initial NICU admission.

Select **Passive** if cooling was intentionally withholding standard temperature maintenance strategies for the purpose of achieving low temperature. If passive cooling is only used until head or body cooling is started, please select either head or body cooling.

Select **Selective Head** if active cooling was restricted to the head and brain as an intervention to reduce the temperature by exposing the head to lower than environmental temperature. Specifically designed head cooling devices, other cooling devices and ice packs applied to the head would be considered active cooling of the head and brain. Passive exposure to environmental temperature or cooling of the face for the treatment of supraventricular tachycardia is not considered active cooling of the head and brain.

Select **Whole Body** if active cooling of the body that it is not restricted to the head and brain as an intervention to reduce the core body temperature and temperature of the brain by exposing the body to lower than environmental temperature. Whole body cooling may include cooing of the head in addition to the rest of the body. Cooling blankets, other cooling devices and ice packs applied to the body would be considered active cooling of the whole body. Passive exposure to environmental temperature is not considered active cooling of the whole body.

Select **Other** if cooling is actively administered in some other way that is not provided as an option.

Select **Unknown** if this information cannot be obtained.

**Note:**

- If an infant is administered several methods of hypothermic therapy during the NICU admission, record the last type of hypothermic therapy administered during the first admission to your NICU.
- This item applies only to the first admission to your NICU. If the infant is transported out and re-admitted to your NICU, do not update this item.
- This item is Not Applicable if the infant was not cooled.

### Item 25. Respiratory Support after Initial Resuscitation

The initial resuscitation and stabilization of infants immediately after birth may occur in locations other than a delivery room. These may include a designated resuscitation area, hospital room, emergency room, operating room, ambulance, etc. The Initial Resuscitation Area is the term used below to indicate an area where stabilization occurs immediately after birth and prior to NICU admission, including the delivery room or other location where initial resuscitation and stabilization are performed.

### Item 25a. Supplemental Oxygen [OXY]

Select **Yes** if the infant was given supplemental oxygen at any time after leaving the delivery room or the initial resuscitation area. Include this information even if it occurred at the birth hospital prior to transport to your center.

Select **No** if the infant was never given supplemental oxygen after leaving the delivery room or the initial resuscitation area.

Select **Unknown** if this information cannot be obtained.

**Note:** 21% oxygen is room air. This is not considered supplemental oxygen, no matter how administered.

### Item 25b. Intubated Conventional Ventilation [VENT]

Select **Yes** if the infant was given intermittent positive pressure ventilation through an endotracheal tube with a conventional ventilator (IMV rate <240/minute) at any time after leaving the delivery room or the initial resuscitation area. Include this information even if it occurred at the birth hospital prior to transport to your center.

Select **No** if the infant was never given intermittent positive pressure ventilation through an endotracheal tube with a conventional ventilator (IMV rate <240/minute) after leaving the delivery room or the initial resuscitation area.

Select **Unknown** if this information cannot be obtained.

**Note:** Intermittent positive pressure ventilation (IPPV) via nasal prongs is NOT considered conventional ventilation. Synchronized intermittent positive pressure ventilation (SIMV) via nasal prongs is NOT considered conventional ventilation.

### Item 25c. Intubated High Frequency Ventilation [HFV]

Select **Yes** if the infant received intubated high frequency ventilation (IMV rate >240/minute) at any time after leaving the delivery room or the initial resuscitation area. Include this information even if it occurred at the birth hospital prior to transport to your center.

Select **No** if the infant never received intubated high frequency ventilation (IMV rate >240/minute) after leaving the delivery room or the initial resuscitation area.

Select **Unknown** if this information cannot be obtained.

**Note:** Intubated high frequency ventilation via nasal prongs is NOT considered intubated high frequency ventilation for this item.

### Item 25d. High Flow Nasal Cannula [HFNC]

Select **Yes** if the infant received air or oxygen (any FiO2) at a flow rate of one liter per minute or more via nasal cannula at any time after leaving the delivery room or the initial resuscitation area.

Select **No** if the infant did not receive air or oxygen (any FiO2) at a flow rate of one liter per minute or more via nasal cannula at any time after leaving the delivery room or the initial resuscitation area.

Select **Unknown** if this information cannot be obtained.

### Item 25e. Nasal IMV or SIMV (or any other form of non-intubated assisted ventilation [NIMV]

Select **≤ 4 hours** if the infant received for 4 hours or less intermittent positive pressure ventilation (intermittent mandatory ventilation or synchronized intermittent mandatory ventilation) via nasal prongs or other nasal device at any time after leaving the delivery room or the initial resuscitation area.

Select **>4 hours** if the infant received for more than 4 hours intermittent positive pressure ventilation (intermittent mandatory ventilation or synchronized intermittent mandatory ventilation) via nasal prongs or other nasal device at any time after leaving the delivery room or the initial resuscitation area.

Select **No** if the infant did not receive intermittent positive pressure ventilation via nasal prongs or other nasal device at any time after leaving the delivery room or the initial resuscitation area.

Select **Unknown** if this information cannot be obtained.

**Note:**

- Non-intubated assisted ventilation is defined as mechanically-produced breath. CPAP alone does NOT qualify as non-intubated assisted ventilation. However, CPAP with a back-up rate whether administered through the nose, face mask, etc. that is triggered as a backup rate or intermittently would qualify. In this case, select Yes to Nasal IMV/SIMV in Item 25e, but do not include these hours in calculating the duration of the initial episode of intubated assisted ventilation (Item 27b).
- If a Big Baby infant is on CPAP with a backup rate for greater than 4 continuous hours, then this infant qualifies under the Big Baby selection criteria of nasal IMV/SIMV (or any other form of non-intubated assisted ventilation) greater than 4 continuous hours.
- This item should be coded "≤ 4 hours" or ">4 hours" if the infant receives positive pressure patterns that include two or more levels of positive pressure such as "BiPAP" or SiPAP".
- Intermittent positive pressure ventilation (IPPV) via nasal prongs is NOT considered conventional ventilation.
- Synchronized intermittent positive pressure ventilation (SIMV) via nasal prongs is NOT considered conventional ventilation.

### Item 26a. Nasal CPAP [CPAP]

Select **Yes** if the infant was given continuous positive airway pressure applied through the nose at any time after leaving the delivery room or the initial resuscitation area.

Select **No** if the infant was never given continuous positive airway pressure applied through the nose after leaving the delivery room or the initial resuscitation area.

Select **Unknown** if this information cannot be obtained.

**Note:**

- If a Big Baby infant is on CPAP with a backup rate for greater than four continuous hours, then this infant qualifies under the Big Baby selection criteria of nasal IMV/SIMV (or any form of non-intubated assisted ventilation) greater than four continuous hours. CPAP alone does NOT qualify as non-intubated assisted ventilation.
- High flow nasal cannula oxygen is NOT considered nasal CPAP for the purpose of this definition.

### Item 26b. Nasal CPAP prior to ETT Ventilation [CPAPES]

Select **Yes** if the infant was given positive pressure airway applied through the nose at any time prior to first receiving intermittent positive pressure breaths through an endotracheal tube.

Select **Yes** if the infant was given positive airway pressure applied through the nose and never received intermittent positive pressure breaths through an endotracheal tube.

Select **No** if the infant received intermittent positive pressure breaths through an endotracheal tube before being given airway pressure applied through the nose.

Select **Not Applicable** if the infant never received positive airway pressure applied through the nose (**No** to 22b-Nasal CPAP at Initial Resuscitation and **No** to 26a-Nasal CPAP after Initial Resuscitation.

Select **Unknown** if this information cannot be obtained.

**Note:**

- Item 26b is only completed with the answer to Item 22b or Item 26a is yes. When responding to Item 26b, the important point is whether the Nasal CPAP or Nasal IMV or SIMV was given before or after assisted positive pressure breaths through an endotracheal tube.
- If ETT Ventilation was never used, the response to Item 26b should be Yes.
- "Intermittent positive pressure breaths" refers to assisted breaths given through an endotracheal tube using a mechanical ventilator or given through an endotracheal tube using an anesthesia bag, self-inflating bag, or other device.
  CPAP administered through a face mask covering the nose without the administration of intermittent breaths is considered nasal CPAP for the purpose of this definition.
  When responding to Nasal CPAP or Nasal Ventilation before or without ever having received ETT Ventilation, the important point is whether the Nasal CPAP or ventilation was given at any time before assisted positive pressure breaths through an endotracheal tube were first given. The Nasal CPAP or Ventilation before assisted positive pressure breaths may have been given during initial resuscitation or after initial resuscitation.
- There are two special situations that must be considered when answering this question:
  - If an infant was intubated in the initial resuscitation area solely for suctioning meconium, this does not count as prior intubation and assisted positive pressure breaths. Therefore, for infants whose only intubation prior to receiving Nasal CPAP or Ventilation was for suctioning of meconium, Nasal CPAP or Nasal Ventilation before or without ever having received ETT Ventilation should be answered **Yes**.
  - If an infant was intubated for the purpose of surfactant administration and rapidly extubated to Nasal CPAP or Ventilation, this does count as prior intubation and assisted positive pressure breaths. Nasal CPAP or Nasal Ventilation before or without ever having received ETT Ventilation should be answered **No**.
- If an infant was first treated with Nasal CPAP and later was intubated and ventilated, the response to Item 26b should be Yes.
- If an infant was treated with Nasal CPAP and was never subsequently intubated, the response to Item 26b should also be Yes.
- If an infant was intubated and given intermittent positive pressure breaths through the endotracheal tube and then later received Nasal CPAP, the response to Item 26b should be No.

### Item 27a. Length of Intubated Assisted Ventilation [DURVENT]

Select **None** if infant did not receive intubated assisted ventilation.

Select **Vent ≤ 4 hours** if intubated assisted ventilation occurred for less than or equal to 4 continuous hours during the current admission. If Vent ≤ 4 hours is selected, it is not necessary to report ventilation days.

Select **Vent >4 hours** if infant received intubated assisted ventilation for more than 4 continuous hours for any reason (surgery or the need for controlled sedation to perform imaging studies are included). Intubated assisted ventilation includes intubated conventional ventilation or intubated high frequency/jet ventilation. Nasal IMV/SIMV (or any other form of non-intubated assisted ventilation) is NOT considered intubated assisted ventilation and should NOT be included in ventilation time for Item 27b. This item refers to assisted ventilation through an endotracheal tube only. CPAP alone should not be included in the length of time of intubated assisted ventilation for Item 27b.

**Note:**

- In most cases, this item pertains to the infant's initial episode of intubated assisted ventilation, during the initial stay at your hospital. However, for those infants who are ventilated for more than 4 hours, then transported out, and then readmitted while still ventilated, include the ventilation time at the receiving hospital as well. However, if this same infant is transported out and never readmitted, you only include the ventilation time at your hospital.
- The infant was transported into your center at the initial admission, do NOT include any prior ventilation episodes when assessing this item.

### Item 27b. Duration of Intubated Assisted Ventilation in Days [VENTDAYS], [VENTHOURS]

If the duration of ventilation is >4 hours, enter the total ventilation time in days comprising the time when intubated assisted ventilation first began until ventilation was stopped for at least 24 hours.

Select **Unknown** if the number of days with intubated assisted ventilation cannot be determined.

**Note:**

- In most cases, this item pertains to the infant's initial episode of intubated assisted ventilation, during the initial stay at your hospital. However, for those infants who are ventilated for more than 4 hours, then transported out, and then readmitted while still ventilated, include the ventilation time at the receiving hospital as well. However, if this same infant is transported out and never readmitted, you only include the ventilation time at your hospital.
- If the infant was transported into your center at the initial admission, do NOT include any prior ventilation episodes when assessing this item.

- A failed or unsuccessful discontinuation of intubated assisted ventilation occurs when intubated assisted ventilation is discontinued, the infant does not tolerate this change, and intubated assisted ventilation is restarted within 24 hours.
    - Example 1: Infant receives intubated assisted ventilation for 6 hours and is then weaned to NCPAP. The infant does not tolerate the change, and is placed back on intubated assisted ventilation 12 hours later at 18 hours of life. She remains on intubated assisted ventilation for the next 36 hours, and is then successfully weaned to NCPAP. The duration of intubated assisted ventilation is 2 days and 6 hours which should be entered as 3 days.
    - Example 2: Infant receives intubated assisted ventilation for 6 hours and is then weaned to NCPAP. The infant does well for the next 36 hours, but then experiences a set-back and is re-intubated and placed back on intubated assisted ventilation. The duration of intubated assisted ventilation is 0 days and 6 hours which should be entered as 1 day.
- When recording ventilation days always round up.
    - Example 3: An infant was ventilated for 4 hours and 1 minute. Round up to 1 day.
    - Example 4: An infant was ventilated for 25 hours and 3 minutes. Round up to 2 days.
- If an infant had multiple episodes of intubated assisted ventilation each lasting more than 4 hours, use the initial start and stop time of the first episode after which intubated assisted ventilation was not restarted within 24 hours when answering this item.

### Item 28. Infant Death within 12 Hours of NICU Admission [DIE12]

Select **Yes** if the infant died 12 hours or less from the time of admission to the NICU.

Select **No** if the infant did not die 12 hours or less from the time of admission to the NICU.

Select **Unknown** if this information cannot be obtained.

**Note:** There may be eligible infants who die without ever having been admitted to your NICU. For eligible inborn infants who are never admitted to your NICU and who die within 12 hours of birth, use the Delivery Room Death Form rather than the Admission/Discharge Form. For eligible out-born infants who are never admitted to your NICU, select **Yes** to this item if they die within 12 hours of admission to your hospital, and complete all items on the Admission/Discharge Form.

### Item 29. Respiratory Distress Syndrome [RDS]

Select **Yes** if the infant had Respiratory Distress Syndrome (RDS) defined as:

1) PaO2 <50 mmHg in room air, central cyanosis in room air, or a requirement for supplemental oxygen to maintain PaO2 >50mmHg, or a requirement for supplemental oxygen to maintain a pulse oximeter saturation over 85% within the first 24 hours of life, and
2) A chest radiograph consistent with RDS (reticulogranular appearance to lung fields with or without low lung volumes and air bronchograms) within the first 24 hours of life.

Select **No** if the infant did not satisfy both criteria 1 and 2 above.

Select **Unknown** if this information cannot be obtained.

### Item 30. Pneumothorax [PNTX]

Select **Yes, here** if the infant had extrapleural air diagnosed by chest radiograph or needle aspiration (thoracentesis) at YOUR hospital prior to Initial Disposition, and/or at YOUR hospital four (4) or more hours following readmission after initial transport. This includes infants who had thoracic surgery and then later developed extrapleural air diagnosed by CXR or needle thoracentesis.

Select **Yes, elsewhere** if the infant had extrapleural air diagnosed by chest radiograph or needle aspiration (thoracentesis) that occurred within four (4) hours of admission to your hospital and the infant was at another hospital before being admitted to your hospital, and/or at the hospital where the infant was initially transported if the infant was initially transported and then readmitted to your hospital after initial transport. This includes infants who had thoracic surgery who later developed extrapleural air diagnosed by CXR or needle thoracentesis.

Select **Yes, here and elsewhere** if the infant had extrapleural air diagnosed by chest radiograph or needle aspiration (thoracentesis) at BOTH your hospital AND another hospital. This includes infants who had thoracic surgery who later developed extrapleural air diagnosed by CXR or needle thoracentesis.

Select **No** if the infant did not have extrapleural air as defined above. For infants who had thoracic surgery and a chest tube was placed at the time of surgery, or if free air was only present on a CXR taken immediately after thoracic surgery and the infant was not treated with a chest tube, check No.

Select **Unknown** if this information cannot be obtained.

**Note:** The online form will only display options that are possible depending on the responses to other items. For instance, for an inborn infant discharged home, the options "Elsewhere" and "Here and Elsewhere" will not be available.

### Item 31. Meconium Aspiration Syndrome [MECONIUM]

For member centers that participate in the expanded VON data collection, this item applies to delivery room deaths and NICU admissions. For member centers that do not participate in the expanded VON data collection, this item applies to NICU admissions only.

Select **Yes** if all five of the following criteria are satisfied:

1) Presence of meconium-stained amniotic fluid at birth.
2) Respiratory distress with onset within 1 hour of birth. Respiratory distress will be defined as the presence of one of the following signs: tachypnea, grunting, nasal flaring or intercostal retractions.
3) At PaO2 <50 mmHg in room air, central cyanosis in room air or a requirement for supplemental oxygen to maintain PaO2 >50 mmHg.
4) Abnormal chest x-ray compatible with the diagnosis of meconium aspiration. Findings may include coarse, irregular, or nodular pulmonary densities, areas of diminished aeration or consolidation alternating with areas of hyperinflation, and generalized hyperinflation.

5) Absence of culture-proven early onset bacterial sepsis or pneumonia. The diagnosis of culture-proven, early-onset, bacterial sepsis or pneumonia requires a positive blood culture obtained within 72 hours of birth.

Select **No** if all of the above criteria for Meconium Aspiration Syndrome did not apply.

Select **Unknown** if this information cannot be obtained.

### Item 32. Caffeine for Any Reason [CAFFEINE]

Select **Yes** if caffeine was administered at any time after birth for any reason.

Select **No** if caffeine was not administered at any time after birth for any reason.

Select **Unknown** if this information cannot be obtained.

### Item 33. Intramuscular Vitamin A for Any Reason [VITAMINA]

Select **Yes** if intramuscular Vitamin A was administered at any time after birth for any reason.

Select **No** if intramuscular Vitamin A was not administered at any time after birth for any reason.

Select **Unknown** if this information cannot be obtained.

### Item 34. Inhaled Nitric Oxide > 4 hours [NITRICO]

Select **Yes, here** if infant received inhaled Nitric Oxide (iNO) >4 hours:

- at YOUR hospital prior to Initial Disposition, and/or
- at YOUR hospital following readmission after initial transport

Select **Yes, elsewhere** if infant received inhaled Nitric Oxide (iNO) > 4 hours.

- at another hospital before being admitted to your hospital, and/or
- at the hospital where the infant was initially transported, if the infant was initially transported and then readmitted to your hospital after initial transport.

Select **Yes, here and elsewhere** if infant received inhaled Nitric Oxide (iNO) > 4 hours BOTH at your hospital AND another hospital as defined above.

Select **No** if infant did not receive inhaled Nitric Oxide (iNO) >4 hours during this admission or during transport from a referring hospital.

Select **Unknown** if this information cannot be obtained.

**Note:**

- The online form will only display options that are possible depending on the responses to other items. For instance, for an inborn infant discharged home, the options "Elsewhere" and "Here and Elsewhere" will not be available.
- Nitric Oxide is considered given at another hospital in the following situations:
    - Nitric Oxide is given before being admitted to your hospital.
    - Nitric Oxide is given prior to re-admission to your hospital after initial transport.

### Item 35. ECMO [ECMO]

Select **Yes, here** if infant received Extra-Corporeal Membrane Oxygenation (ECMO) at your hospital.

Select **Yes, elsewhere** if infant received ECMO at another hospital.

Select **Yes, here and elsewhere** if infant received ECMO at BOTH your hospital and another hospital.

Select **No** if infant did not receive ECMO.

Select **Unknown** if this information cannot be obtained.

*Note:* The online form will only display options that are possible depending on the responses for other items. For instance, for an inborn infant discharged home, the options "Elsewhere" and "Here and Elsewhere" will not be available.

### Item 36a. Postnatal Systemic Corticosteroids [POSTSTER]

Select **Yes** if postnatal systemic corticosteroids were given after birth. Do not include inhaled or topical steroids.

Select **No** if no postnatal systemic corticosteroids were given after birth.

Select **Unknown** if it is not known whether postnatal systemic corticosteroids were given after birth.

*Note:* Inhaled corticosteroids are not considered systemic corticosteroids. Thus, if an infant received inhaled corticosteroids but did not receive systemic corticosteroids after birth to treat or prevent bronchopulmonary dysplasia or chronic lung disease, then the answer to Item 36a is No.

### Item 36b. If postnatal steroids were used, select all reasons that applied

If postnatal systemic corticosteroids were given, check all indications for steroid treatment that applied

**CLD (Chronic Lung Disease) [POSTERCLD]**

Select **Yes, here** if steroids were administered to treat or prevent bronchopulmonary dysplasia (BPD) or chronic lung disease:

- at YOUR hospital prior to Initial Disposition, and/or
- at YOUR hospital following readmission after initial transport.

Select **Yes, elsewhere** if steroids were administered to treat or prevent bronchopulmonary dysplasia (BPD) or chronic lung disease:

- at another hospital before being admitted to your hospital, and/or
- at the hospital where the infant was initially transported, if the infant was initially transported and then readmitted to your hospital after initial transport.

Select **Yes, here and elsewhere** if steroids were administered to treat or prevent bronchopulmonary dysplasia (BPD) or chronic lung disease BOTH at your AND at another

hospital. Select **No** if steroids were not administered to specifically treat or prevent bronchopulmonary dysplasia (BPD) or chronic lung disease.

Select **Unknown** if this information cannot be obtained.

**Note:** The online form will only display options that are possible depending on the responses to other items. For instance, for an inborn infant discharged home, the options "Elsewhere" and "Here and Elsewhere" will not be available.

**Extubation [POSTEREX]**

Select **Yes** if steroids were given to ease trauma or irritation to the endotracheal tube (e.g. glottis edema).

Select **No** if steroids were not specifically given to ease trauma or irritation to the endotracheal tube.

Select **Unknown** if it is unknown whether steroids were given to ease trauma or irritation to the endotracheal tube.

**Blood Pressure [POSTERBP]**

Select **Yes** if steroids were given to treat hypertension

Select **No** if steroids were not specifically given to treat hypertension.

Select **Unknown** if it is unknown whether steroids were given to treat hypertension.

**Other [POSTEROTH]**

Select **Yes** if systemic steroids were given for reasons other than those listed above. Exclude inhaled or topical steroids.

Select **No** if steroids were not specifically given for reasons other than those listed above.

Select **Unknown** if it is unknown whether steroids were given for reasons other than CLD, extubation or hypotension/blood pressure.

### Item 37. Supplemental Oxygen on Day 28 [NEWOX28]

Select **Continuous** if the infant was hospitalized and received continuous supplemental oxygen on day 28 of life. This does not include "blow-by" oxygen.

Select **Intermittent** if the infant was hospitalized and received any supplemental oxygen on day 28 of life, but did not receive continuous oxygen during that day.

Examples include oxygen given only with feeds or occasional apneic spells. "Blow-by" oxygen qualifies as intermittent supplemental oxygen.

Select **None** if the infant was hospitalized on day 28 of life and did not receive supplemental oxygen on that date.

Select **Not Applicable** if:

1) The infant is discharged home or dies prior to the Date of Day 28 of life, or

2) The infant is transported from your center to another hospital prior to the Date of Day 28 of life and either, is NOT readmitted to your calendar before discharge home, death or first birthday, OR is transported a second time before the Date of Day 28 of life.

Select **Unknown** if this information cannot be obtained.

**Note:** The date of Day 28 of life is determined by using the calendar date of birth as day 1 regardless of the time of birth. Thus, for an infant born at 11:59PM on September 1, Day 28 of life occurs on September 28. The date of Day 28 of life is calculated as Date of Birth plus 27 days. The online form figures out whether oxygen on the date of Day 28 of life is applicable and what it is based on the information entered for infant birth date, initial disposition, post-transport disposition, initial length of stay and total length of stay.

### Item 38. Respiratory Support at 36 Weeks

For the following items pertaining to respiratory support methods at 36 weeks adjusted gestational age, the online form determines the date of Week 36 Adjusted Gestational Age is based on the information entered for gestational age at birth, infant birth date, initial disposition, post-transport disposition, initial length of stay and total length of stay. If based on the information entered, respiratory support methods at 36 weeks adjusted gestational age are not applicable, the form sets all items in this section to **Not Applicable**.

### Item 38a. Supplemental Oxygen at 36 Weeks Adjusted GA [OX36]

Select **Continuous** if the infant was hospitalized and received 4 or more hours of continuous supplemental oxygen on the Date of Week 36 adjusted gestational age. This does not include "blow-by" oxygen.

Select **Intermittent** if the infant was hospitalized and received any supplemental oxygen on the date of week 36, but did not receive continuous oxygen during that day. Examples include oxygen given only with feeds or occasional apneic spells. "Blow-by" oxygen qualifies as intermittent supplemental oxygen.

Select **None** if the infant was hospitalized on the date of week 36 and did not receive supplemental oxygen on that date.

Select **Not Applicable** if:

1) The infant's gestational age in rounded weeks is greater than 36 weeks; or
2) The infant is discharged home or dies prior to the Date of Week 36 or
3) The infant is transported from your to another hospital prior to the Date of Week 36 and either is NOT readmitted to your center before discharge home, death or first birthday, or is transported a second time before the Date of Week 36.

Select **Unknown** if this information cannot be obtained.

### Item 38b. Conventional Ventilation of 36 Weeks Adjusted GA [VENT36]

Select **Yes** if this item is applicable based on the Eligibility Criteria for Respiratory Support at 36 Weeks, and the infant was given intermittent positive pressure ventilation through an

endotracheal tube with a conventional ventilator (IMV rate <240/minute) at any time on the date of Week 36.

Select **No** if the item is applicable based on the Eligibility Criteria for Respiratory Support at 36 Weeks, and the infant was not given intermittent positive pressure ventilation through an endotracheal tube with a conventional ventilator (IMV rate <240/minute) at any time on the date of Week 36.

Select **Not Applicable** if:

1) The infant's gestational age in rounded weeks is greater than 36 weeks; OR
2) The infant is discharged home or dies prior to the Date of Week 36; OR
3) The infant is transported from your center to another hospital prior to the Date of Week 36 and either is NOT readmitted to your center before discharge home, death or first birthday, or is transported a second time before the Date of Week 36.

Select **Unknown** if this information cannot be obtained.

**Note:** Intermittent positive pressure ventilation (IPPV) via nasal prongs is not considered conventional ventilation. Synchronized intermittent positive pressure ventilation (SIMV) via nasal prongs is not considered conventional ventilation.

### Item 38c. High Frequency Ventilation on the Day of Week 36 Adjusted GA [HFV36]

Select **Yes** if the item is applicable based on the Eligibility Criteria for Respiratory Support at 36 Weeks, and the infant received high frequency ventilation (IMV rate >= 240/minute) at any time on the Date of Week 36.

Select **No** if the item is applicable based on the Eligibility Criteria for Respiratory Support at 36 Weeks, and the infant did not receive high frequency ventilation (IMV rate >=240/minute) at any time on the Date of Week 36.

Select **Not Applicable** if:

1) The infant's gestational age in rounded weeks is greater than 36 weeks; or
2) The infant is discharged home or dies prior to the Date of Week 36; or
3) The infant is transported from your center to another hospital prior to the Date of Week 36 and either is NOT readmitted to your center before discharge home, death or first birthday, or is transported a second time before the Date of Week 36.

Select **Unknown** if this information cannot be obtained.

**Note:** High frequency ventilation via nasal prongs is not considered high frequency ventilation.

### Item 38d. High Flow Nasal Cannula at 36 Weeks Adjusted GA [HFNC36]

Select **Yes** if the item is applicable based on the Eligibility Criteria for Respiratory Support at 36 Weeks, and the infant received air or oxygen (any FiO2) at a flow rate of one liter per minute or more via nasal cannula at any time on the date of Week 36.

Select **No** if the item is applicable based on the Eligibility Criteria for Respiratory Support at 36 Weeks, and the infant did not receive air or oxygen (any FiO2) at a flow rate of one liter per minute or more via nasal cannula at any time on the date of Week 36.

Select **Not Applicable** if:

1) The infant's gestational age in rounded weeks is greater than 36 weeks; or
2) The infant is discharged home or dies prior to the Date of Week 36; or
3) The infant is transported from your center to another hospital prior to the Date of Week 36 and either is NOT readmitted to your center before discharge home, death or first birthday, or is transported a second time before the Date of Week 36.

Select **Unknown** if this information cannot be obtained.

### Item 38e. Nasal IMV or SIMV at 36 Weeks Adjusted GA [NIMV36]

Select **Yes** if the item is applicable based on the Eligibility Criteria for Respiratory Support at 36 Weeks, and the infant received intermittent positive pressure ventilation (intermittent mandatory ventilation or synchronized intermittent mandatory ventilation) via nasal prongs or other nasal devices at any time on the date of Week 36.

Select **No** if the item is applicable based on the Eligibility Criteria for Respiratory Support at 36 Weeks, and the infant did not receive intermittent positive pressure ventilation via nasal prongs or other nasal device at any time on the date of Week 36.

Select **Not Applicable** if:

1) The infant's gestational age in rounded weeks is greater than 36 weeks; or
2) The infant is discharged home or dies prior to the Date of Week 36; or
3) The infant is transported from your center to another hospital prior to the Date of Week 36 and either is NOT readmitted to your center before discharge home, death or first birthday, or is transported a second time before the Date of Week 36.

Select **Unknown** if this information cannot be obtained.

**Note:** Nasal IMV or Nasal SIMV should be coded "Yes" if the infant receives positive pressure patterns that include two or more levels of positive pressure such as "BiPAP" or "SiPAP". Intermittent positive pressure ventilation (IPPV) via nasal prongs is not considered conventional ventilation. Synchronized intermittent positive pressure ventilation (SIMV) via nasal prongs is not considered conventional ventilation.

### Item 38f. Nasal CPAP on the Day of Week 36 Adjusted GA [CPAP36]

Select **Yes** if the item is applicable based on the Eligibility Criteria for Respiratory Support at 36 Weeks, and the infant was given continuous positive airway pressure applied through the nose at any time on the date of Week 36. If Nasal IMV or Nasal SIMV at 36 weeks adjusted gestational age is answered "Yes", Nasal CPAP at 36 weeks adjusted gestational age should also be answered "Yes".

Select **No** if the item is applicable based on the Eligibility Criteria for Respiratory Support at 36 weeks, and the infant was never given continuous positive airway pressure applied through the nose on the date of week 36.

Select **Not Applicable** if:

1) The infants gestational age in rounded weeks is greater than 36 weeks; or

2) The infant is discharged home or dies prior to the Date of Week 36; or
3) The infant is transported from your center to another hospital prior to the Date of Week 36 and either is NOT re-admitted to your center before discharge home, death or first birthday, or is transported a second time before the Date of Week 36.

Select **Unknown** if this information cannot be obtained.

**Note:** Nasal IMV (intermittent mandatory ventilation) and nasal SIMV (synchronized intermittent mandatory ventilation) are both considered forms of nasal CPAP for the purpose of this deletion. High flow nasal cannula oxygen is NOT considered nasal CPAP for the purpose of this definition.

### Item 39a. Apnea/Cardio-Respiratory Monitor [ACFINAL]

**Select Yes** if the infant was discharged home or transferred on an Apnea Monitor or Cardio-Respiratoy Monitor.

Select **No** if the infant was not discharged on an Apnea or Cardio-Respiratory Monitor.

Select **Unknown** if this information cannot be obtained.

**Note:**

- For infants who remained in your center on his/her first birthday, select **Yes** if the infant was on an Apnea Monitor or Cardio-Respiratory Monitor on the date of the infant's first birthday.
- Select **No** if the infant was not on an Apnea or Cardio-Respiratory Monitor on his/her first birthday.
- Select **Unknown** if this information cannot be obtained.
- For infants who die prior to discharge, select **Yes** if infant was on an Apnea Monitor or Cardio-Respiratory Monitor at any time on the day of death.
- Select **No** if the infant was not on an Apnea or Cardio-Respiratory Monitor at any time on the day of death.
- Select **Unknown** if this information cannot be obtained.
- A pulse oximeter is considered a cardio-respiratory monitor.

### Item 39b. Supplemental Oxygen [OXFINAL]

For infants who went home or were transported:

Select **Yes** if the infant was discharged on supplemental oxygen.

Select **No** if the infant was not discharged on supplemental oxygen.

Select **Unknown** if this information cannot be obtained.

For infants who remained in your Center on their first birthday*:*

Select **Yes** if the infant was on supplemental oxygen on the date of the infant's first birthday.

Select **No** if the infant was not on supplemental oxygen on his/her first birthday.

For infants who died prior to discharge:

Select **Yes** if the infant received supplemental oxygen at any time on the day of death.

Select **No** if the infant did not receive supplemental oxygen at any time on the day of death.

**Note:** 21% oxygen is room air. This is not considered supplemental oxygen, no matter how administered.

### Item 39c. Intubated Conventional Ventilation at Discharge [VENTFINAL]

Select **Yes** if the infant went home or was transferred on intermittent positive pressure ventilation through an endotracheal tube with a conventional ventilator (IMV rate <240/minute)

Select **No** if the infant was not discharged on intermittent positive pressure ventilation through an endotracheal tube with a conventional ventilator (IMV rate <240/minute).

Select **Unknown** if this information cannot be obtained.

**Note:**

- For an infant who died prior to discharge, select **Yes** if the infant received conventional ventilation at any time on the day of death.
- Select **No** if the infant did not receive conventional ventilation at any time on the day of death.
- Intermittent positive pressure ventilation (Nasal IMV) via nasal prongs is not considered conventional ventilation.
- Synchronized intermittent positive pressure ventilation (SIMV) via nasal prongs is not considered conventional ventilation.

### Item 39d. Intubated High Frequency Ventilation at Discharge [HVFINAL]

Select **Yes** if the infant went home or was transferred on high frequency ventilation (IMV rate = 240/min).

Select **No** if the infant was not discharged on high frequency ventilation (IMV rate = 240/minute).

Select **Unknown** if this information cannot be obtained.

**Note:**

- For an infant who died prior to discharge, select **Yes** if the infant received high frequency ventilation at any time on the day of death.
- Select **No** if the infant did not receive high frequency ventilation at any time on the day of death.
- High frequency ventilation via nasal prongs is not considered high frequency ventilation.

### Item 39e. High Flow Nasal Cannula at Discharge [HFNCFINAL]

Select **Yes** if the infant went home or was transferred on air or oxygen (any FiO2) at a flow rate of one liter per minute or more via nasal cannula.

Select **No** if the infant was not discharged on air or oxygen (any FiO2) at a flow rate of one liter per minute or more via nasal cannula.

Select **Unknown** if this information cannot be obtained.

**Note:**

- For an infant who died prior to discharge, select **Yes** if the infant received air or oxygen (any FiO2) at a flow rate of one liter per minute or more via nasal cannula at any time on the day of death.
- Select **No** if the infant did not receive air or oxygen (any FiO2) at a flow rate of one liter per minute or more via nasal cannula at any time on the day of death.
- High frequency ventilation via nasal prongs is not considered high frequency ventilation.

### Item 39f. Nasal IMV or SIMV at Discharge [NIMVINAL]

Select **Yes** if the infant went home or was transferred noninvasive positive pressure ventilation via nasal prongs or other nasal device.

Select **No** if the infant was not discharged on noninvasive positive pressure ventilation via nasal prongs or other nasal device.

Select **Unknown** if this information cannot be obtained.

**Note:**

- For an infant who died prior to discharge, select **Yes** if the infant received non-invasive positive pressure ventilation via nasal prongs or other nasal device at any time on the day of death.
- Select **No** if the infant did not receive non-invasive positive pressure ventilation via nasal prongs or other nasal device at any time on the day of death.
- Nasal IMV or SIMV includes the following types of non-invasive positive pressure ventilation via nasal prongs:
    - Two or more levels of positive pressure such as BiPAP or SiPAP
    - Synchronized or unsynchronized intermittent mandatory ventilation
    - Non-invasive high-frequency oscillation

### Item 39g. Nasal CPAP at Discharge [CPAPFINAL]

Select **Yes** if the infant went home or was transferred on continuous positive airway pressure applied through the nose.

Select **No** if the infant was not discharged on continuous positive airway pressure applied through the nose.

Select **Unknown** if this information cannot be obtained.

**Note:**

- For an infant who died prior to discharge, select **Yes** if the infant received continuous positive airway pressure applied through the nose at any time on the day of death.

- Select **No** if the infant did not receive continuous positive airway pressure applied through the nose at any time on the day of death.
- CPAP administered through a face mask covering the nose without administration of intermittent breaths is considered nasal CPAP for the purpose of this definition.
- High flow nasal cannula oxygen is not considered nasal CPAP for the purpose of this definition.
- When completing these items, "Discharge" refers to initial disposition in most cases. If an infant is transported from your center to another hospital and readmitted to your center following transport, update these items based on whether the infant was on respiratory support at the time of discharge after re-admission.

## Post-Delivery Diagnoses and Interventions – Infections (tab 5, items 40-42):

### Item 40. Early Bacterial Sepsis and/or Meningitis on or Before Day 3 [EBSEPS, EBSEPSDESC]

Select **Yes** if a bacterial pathogen from the Bacterial Pathogens List was recovered from a blood and/or cerebrospinal fluid culture obtained on day 1, 2, or 3 of life.

Select **No** if a bacterial pathogen from the Bacterial Pathogens List was not recovered from a blood culture or cerebrospinal fluid culture obtained on day 1, 2, or 3 of life, or if no blood or cerebrospinal fluid cultures were obtained on day 1, 2, or 3 of life.

Select **Unknown** if this information cannot be obtained.

**Note:** Please refer to Appendix B for the Bacterial Infection Pathogens List.

- The date of birth counts as day 1 regardless of the time of birth. For an infant born at 11:59PM on September 1, day 3 will be September 3rd.
- If an infant transport into your center, who is being treated for early bacterial sepsis because of a positive culture drawn at the referring hospital, this infant qualifies, even if a repeat culture drawn at your center is negative. However, if an infant transport into your center who was diagnosed with early sepsis, but is no longer septic (due to treatment at the referring hospital), this infant does not qualify.
- The online form figures out the date of day 3 and displays it on the form based on the information entered for infant birth date.

Select **Other,** if a bacterial pathogen NOT from the listed bacterial pathogens is recovered from a blood and/or cerebrospinal fluid culture obtained on Day 1, 2 or 3 of life. Please review the list of bacterial pathogens falling under the CPQCC definition. If Other is selected from the drop-down list, use the description field to specify the pathogen. It is recommended that you consult an infection specialist at your hospital to confirm that the infection described is a true early onset sepsis.Use of the Other early infection category should account for roughly 1% of early infections coded.

### Item 41a. Late Bacterial Sepsis and/or Meningitis after Day 3 [LBPATH] [LBPATHCD1-3]

Select **Yes, here** if a bacterial pathogen from the list of Bacterial Pathogens was recovered from a blood and/or cerebrospinal fluid culture obtained after Day 3 of life

- at YOUR hospital prior to initial disposition, and/or
- at YOUR hospital four (4) or more hours following readmission after initial transport

Select **Yes, elsewhere** if a bacterial pathogen from the list of Bacterial Pathogens was recovered from a blood and/or cerebrospinal fluid culture obtained after Day 3 of life either at a prior stay at another hospital or within four (4) hours of admission to your hospital and the infant was:

- at another hospital before being admitted to your hospital, and/or
- initially transported and then readmitted to your hospital after initial transport.

Select **Yes, here and elsewhere** if a bacteria pathogen from the list of Bacterial Pathogens was recovered from a blood and/or cerebrospinal fluid culture obtained after Day 3 of life BOTH at your hospital AND another hospital prior to initial disposition or following readmission after initial transport.

Select **No** if a bacterial pathogen from the list of Bacterial Pathogens was not recovered from a blood and/or cerebrospinal fluid culture, or if no blood or cerebrospinal fluid cultures were obtained after Day 3 of life.

Select **Not Applicable** if any of the following applies:

- The infant is discharged home or dies on or before Day 3 of life; OR
- The infant is transported from your center to another hospital on or before day 3 of life and either is not readmitted to your center before discharge home, death or first birthday or, is transported a second time on or before the Day 3 of life.

Select **Unknown** if this information cannot be obtained.

Select **Other** if a bacterial pathogen NOT from the listed bacterial pathogens is recovered from a blood and/or cerebrospinal fluid culture obtained after Day 3 of life. Please review the list of bacterial pathogens falling under the CPQCC definition. If Other is selected from the drop-down list, use the description field to specify the pathogen. It is recommended that you consult an infection specialist at your hospital to confirm that the infection described is a true late onset sepsis.Use of the Other late infection category should account for roughly 1% of late infections coded.

**Note:** Please refer to Appendix B for the Bacterial Infection Pathogens List.

- If a bacterial pathogen and coagulase negative staph are recovered during the same sepsis workup performed after Day 3, check only Bacterial Pathogen for that episode. If a bacterial pathogen is recovered during one episode of sepsis after Day 3, and coagulase negative staphylococcus is recovered during another episode of sepsis after Day 3 (associated with the three clinical criteria listed below) check both "Bacterial Pathogen" and "Coagulase Negative Staph".
- If the infant has multiple infections during an episode of care, only record the first bacterial pathogen recovered from a blood and/or cerebrospinal fluid culture obtained after Day 3 of life from your hospital.
- If an infant is transported to your hospital with a bacterial pathogen from another hospital, and then develops an infection from a different bacterial pathogen from your hospital, only record the pathogen acquired from your hospital. For example, an infant is transported to

your hospital with GBS infection detected at another hospital AND E. coli from your hospital, only record E. coli Here.

- If an infant is readmitted to your hospital and has two different bacterial pathogens recovered from your hospital and another hospital, then upon re-admission only update the record with the first infection that occurred in your hospital.

### Item 41b. Coagulase Negative Staphylococci [CNEGSGTAPH]

For verifying the presence of a Coagulase Negative Staph infection, the infant should meet all 3 of the following conditions after Day 3 of life:

1. Coagulase Negative Staphylococcus is recovered from a blood culture obtained from either a central line, or peripheral blood sample, and/or is recovered from cerebrospinal fluid obtained by lumbar puncture, ventricular tap or ventricular drain; AND
2. Signs of generalized infection (such as apnea, temperature instability, feeding intolerance, worsening respiratory distress or hemodynamic instability); AND
3. Treatment with 5 or more days of intravenous antibiotics after the above cultures were obtained.

Select **Yes, here** if Coagulase Negative Staph occurred:

- at your hospital prior to initial disposition, and/or
- at your hospital four (4) or more hours following readmission after initial transport

Select **Yes, elsewhere** if Coagulase Negative Staphylococcal Infection after Day 3 of life was diagnosed at a prior stay at another hospital or within four (4) hours of admission to your hospital and the infant was:

- at another hospital before being admitted to your hospital, and/or
- initially transported and then readmitted to your hospital after initial transport.

Select **Yes, here and elsewhere** if Coagulase Negative Staph occurred BOTH at your hospital AND another hospital.

Select **No** if the criteria for Coagulase Negative Staph are not met and the item applies.

Select **Not Applicable** if any of the following applies:

- The infant is discharged home or dies on or before Day 3 of life; OR
- The infant is transported from your center to another hospital on or before Day 3 of life and either is not readmitted to your center before discharge home, death or first birthday or, is transported a second time on or before the Day 3 of life.

Select **Unknown** if this information cannot be obtained.

### Item 41c. Fungal [FUNGAL]

Select **Yes, here** if a fungus was recovered from a blood culture obtained from either a central line or peripheral blood sample and/or was recovered from cerebrospinal fluid obtained by lumbar puncture, ventricular tap or ventricular drain after Day 3 of life

- at your hospital prior to initial disposition, and/or

- at your hospital four (4) or more hours following readmission after initial transport

Select **Yes, elsewhere** if a fungus was recovered from a blood culture obtained from either a central line or peripheral blood sample and/or was recovered from cerebrospinal fluid obtained by lumbar puncture, ventricular tap or ventricular drain after Day 3 of life at a prior stay at another hospital or within (4) hours of admission to your hospital and the infant was:

- at another hospital before being admitted to your hospital, and/or
- initially transported and then readmitted to your hospital after initial transport

Select **Yes, here and elsewhere** if a fungus was recovered from a blood culture obtained from either a central line or periphera blood sample and/or is recovered from cerebrospinal fluid obtained by lumbar puncture, ventricular tap or ventricular drain after Day 3 of life BOTH at your hospital AND another hospital.

Select **No** if a fungus was not recovered from a blood culture obtained from either a central line or peripheral blood sample or if no blood cultures were obtained after Day 3 of life. Also check No if a fungus was not recovered from cerebrospinal fluid obtained by lumbar puncture, ventricular tap or ventricular drain after Day 3 of life.

Select **Not Applicable** if any of the following applies:

- The infant is discharged home or dies on or before Day 3 of life; OR
- The infant is transported from your center to another hospital on or before Day 3 of life and either is not readmitted to your center before discharge home, death or first birthday or, is transported a second time on or before the Day 3 of life.

Select **Unknown** if this information cannot be obtained.

### Item 42. Congenital Infection [VIRAL, VIRALCD1-3]

Select **Yes** if the infant was diagnosed with an infection on the Congenital Infection List acquired in utero or during birth.

Select **No** if the infant was not diagnosed with an infection on the Congenital Infection list acquired in utero or during birth.

Select **Other**, if a congenital infection pathogen NOT from the listed congenital infection pathogen list is acquired in utero or during birth. Please review the list of congenital infection pathogens falling under the CPQCC definition. If Other is chosen from the drop-down list, use the description field to specify the pathogen. It is recommended that you consult an infection specialist at your hospital to confirm that the infection described is a true congenital infection.

Use of the Other congenital infection category should account for roughly 1% of congenital infections coded.

Select **Unknown** if this information cannot be obtained.

If **Yes**, specify up to 3 pathogens from the congenital infection list.

Congenital Infections Pathogen List

| Code | Name |
|---|---|
| 101 | Toxoplasmosis (Toxoplasma gondii) |
| 102 | Rubella Virus |
| 103 | Syphilis (Treponema pallidum) |
| 104 | Cytomegalovirus |
| 105 | Herpes simplex |
| 106 | Parvovirus B19 |
| 107 | Zika virus |
| 108 | Varicella zoster virus |
| 8888 | Other |

**Note:**

- STORCH (storch) Acronym for disease group comprising syphilis, toxoplasmosis, other infections, rubella, cytomegalovirus infection, and herpes simplex; fetal infections that can cause congenital malformations.
- Starting from 2018, this item is applicable to all infants including delivery room deaths.

## Post-Delivery Diagnoses and interventions – Other Diagnoses, Surgeries (tab 6, items 43-47):

### Item 43a. Patent Ductus Arteriosus [PDA]

Select **Check PDA meeting revised 2011 VON definition** if at least **one** of the following findings is present:

- Left to right or bidirectional ductal shunt on Doppler echo;
- Systolic or continuous murmur

**And** at least **two** of the following findings are present:

- Hyper dynamic precordium
- Bounding pulses
- Wide pulse pressure
- Pulmonary vascular congestion, cardiomegaly, or both

Select **PDA diagnoses based on echo and/or clinical evidence or was treated for PDA, but not meeting all 2011 VON criteria** if the infant does not meet the 2011 VON criteria listed in the previous section, but:

- was treated with indomethacin for PDA or
- was treated with ibuprofen for PDA or
- underwent a PDA ligation or
- had a PDA ascertained via an echocardiographic or clinical diagnoses.

Select **No** if the infant does not satisfy the above conditions.

Select **Unknown** if this information cannot be obtained.

### Item 43b. Indomethacin for any Reason [INDOMETH]

Select **Yes** if indomethacin was administered after birth for any reason. The answer to this question may be Yes even if the infant did not meet the definition of PDA given in Item 43a.

Select **No** if indomethacin was not administered.

Select **Unknown** if this information cannot be determined.

**Note:** Ibuprofen should not be counted as indomethacin.

### Item 43c. Ibuprofen for Prevention or Treatment of PDA [IBUPROFEN]

Select **Yes** if Ibuprofen was administered at any time after birth for the prevention of treatment of PDA.

Select **No** if ibuprofen was not administered for the prevention or treatment of PDA.

Select **Unknown** if this information cannot be obtained.

**Note:** Ibuprofen used for reasons other than the prevention or treatment of PDA should NOT be coded as **Yes** for this item.

### Item 43d. Acetaminophen for the Prevention or Treatment of PDA [ACETAMIN]

Select **Yes** if acetaminophen (paracetamol) was administered at any time after birth for the prevention or treatment of PDA.

Select **No** if acetaminophen (paracetamol) was not administered for the prevention or treatment of PDA.

Select **Unknown** if this information cannot be obtained.

**Note:** Acetaminophen used for reasons other than the prevention or treatment of PDA should NOT be coded as **Yes** for this item.

### Item 43e. PDA Ligation or PDA Closure by Catheterization [SRGPDA]

Select **Yes, here** if closure of the ductus arteriosus by ligation or catheterization was attempted either in the operating room or NICU at YOUR hospital prior to initial disposition or following re-admission after initial transport.

Select **Yes, elsewhere** if closure of the ductus arteriosus by ligation or catheterization was attempted either in the operating room or NICU at ANOTHER hospital.

Select **Yes, here and elsewhere** if closure of the ductus arteriosus by ligation or catheterization was attempted either in the operating room or NICU BOTH at your hospital and another hospital.

Select **No** if closure of the ductus arteriosus by ligation or catheterization was not attempted.

Select **Unknown** if this information cannot be obtained.

**Note:**

- Closure of the ductus arteriosus by ligation or catheterization is considered to be done at another hospital in the following situations:
  1. Closure of the ductus arteriosus by ligation or catheterization done before admission to your hospital.
  2. Closure of the ductus arteriosus by ligation or catheterization done prior to re-admission to your hospital after initial transport.
- If a closure of the ductus arteriosus by ligation or catheterization was performed, code at least one of the following three surgery codes should be present
- S515 Open thoracotomy/sternotomy for patent ductus arteriousus closure
- S516 Thoracoscopic surgery for patent ductus arteriosus closure
- S605 Interventional catheterization for patent ductus arteriosus closure
- If an infant had a PDA repair as part of other heart surgery, PDA surgery should be coded as **Yes**, and a specific surgical code for PDA surgery (S515, S516, S605) **as well as** any codes related to the other heart surgery should be entered. For example, if the PDA is ligated as a component of the repair or palliation of congenital heart disease, use a specific surgical code for PDA surgery (S515, S516, S605) and code S504.
- This item is **Not Applicable** if the infant was not diagnosed with PDA.

### Item 44a. Probiotics [PROBIOTICS]

Select **Yes** if the infant received any probiotics.

Select **No** if the infant did not receive any probiotics.

Select **Unknown** if this information cannot be obtained.

**Note:**

- Probiotics must contain live microorganisms administered enterally with feedings or as feeding supplements.
- Probiotics are to be distinguished from prebiotics, which are non-digestible carbohydrates meant to encourage proliferation of desirable gut flora.
- Yogurt should not be considered a probiotic for this question.

- VON will not be providing a list of accepted probiotics because the range of options is growing so quickly, but only pharmaceutical preparations should be included for the purposes of this data item.

### Item 44b. Necrotizing Entercolitis [NEC]

Determine if the infant had (a) Necrotizing Enterocolitis (NEC) diagnosed at surgery, or (b) NEC diagnosed at postmortem examination, or (c) NEC diagnosed clinically and radiographically using the following criteria:

1. One or more of the following clinical signs present:
    - Bilious gastric aspirate or emesis
    - Abdominal distention
    - Occult or gross blood in stool with no apparent rectal fissure

AND

2. One or more of the following radiographic findings present:
    - Pneumatosis intestinalis
    - Hepato-biliary gas
    - Pneumoperitoneum

Select **Yes, Here** if NEC was diagnosed:

- at your hospital prior to initial disposition and/or
- at your hospital four (4) or more hours following readmission after initial transport.

Select **Yes, Elsewhere** if NEC was diagnosed at a prior stay at another hospital or within 4 hours of admission to your hospital and the infant was:

- at another hospital before being admitted to your hospital, and/or
- initially transported and then readmitted to your hospital after initial transporttransported

Select **Yes, Here and Elsewhere** if NEC occurred BOTH at your hospital AND at another hospital as defined above.

Select **No** if the infant did not satisfy the above definition of NEC.

Select **Unknown** if this information cannot be obtained.

### Item 44c. NEC Surgery [SRGNEC]

An infant had NEC surgery if it had NEC and underwent one or more of the following procedures:

- Laparotomy
- Laparoscopy
- Bowel resection. Or

- Intraperitoneal drain replacement

Select **Yes, here** if one of the above procedures was performed at YOUR hospital prior to initial disposition or following re-admission after initial transport.

Select **Yes, elsewhere** if one of the above procedures was performed at ANOTHER hospital.

Select **Yes, here and elsewhere** if one of the above procedures was performed at BOTH your hospital and another hospital.

Select **No** if none of the following procedures – laparotomy, laparoscopy, bowel resection or intraperitoneal drain replacement – were performed.

Select **Unknown** if this information cannot be obtained.

**Note:**

- If NEC surgery is answered "Yes". At least one of the following surgery codes must be entered in Item 47:
- S302 Laparoscopy
- S303 Laparotomy
- S307 Jejunostomy, ileostomy, colonoscopy for intestinal diversion
- S308 Small bowel resection
- S309 Large bowel resection
- S333 Primary peritoneal drainage for NEC, suspected NEC or intestinal perforation.
- If the surgery code S307 is recorded and the infant has a bowel resection, codes S308 and/or S309 should also be recorded.
- This item is **Not Applicable** and grayed out if the infant was not diagnosed with NEC.

### Item 45. Focal Intestinal Performation [GIPERF]

The diagnosis for Focal Gastrointestinal Perforation is separate from Necrotizing Enterocolitis. This diagnosis will be based n visual inspection of the bowel at the time of surgery or post-mortem examination that demonstrates a single focal perforation with the remainder of the bowel appearing normal.

Select **Yes, Here** if Focal Gastrointestinal Perforation (as defined above) occurred

- at your hospital prior to initial disposition, and/or
- at your hospital four (4) or more hours following readmission after initial transport

Select **Yes, Elsewhere** if Focal Intestinal Perforation was diagnosed during a prior stay at another hospital or within four (4) hours of admission to your hospital and the infant was:

- at another hospital before being admitted to your hospital, and/or
- initially transported and then readmitted to your hospital after initial transport

Select **Yes, Here and Elsewhere** if Focal Gastrointestinal Perforation (as defined above) occurred BOTH at your hospital AND another hospital.

Select **No** if the infant did not have a Focal Gastrointestinal Perforation as defined above.

Select **Unknown** if this information cannot be obtained.

### Item 46a. Retinal Examination Performed [EYEX]

Select **Yes** if an indirect ophthalmologic examination for retinopathy of prematurity (ROP) was performed at any time.

Select **No** if an indirect ophthalmologic examination for ROP was not performed.

Select **Unknown** if this information cannot be obtained.

**Note:** This item is not applicable if the infant does not meet small baby criteria (401 to 1,500 grams birth weight or 22 to 31 completed weeks of gestation at birth) and your center does not participate in the expanded VON data collection.

### Item 46b. If Retinal Exxamination was performed, Worst Stage of ROP [ISTAGE]

If a retinal examination was performed, enter the worst stage documented on any exam in the eye with the most advanced stage (from an International Committee for the Classification of ROP: The International Classification of ROP revisited. Arch Opthalmol 2005; 123:001-999). Do not answer this item if the answer to "Was a Retinal Examination Performed" is No.

- Stage 0: No evidence of ROP
- Stage 1: Presence of demarcation line (+/- abnormal vascularization)
- Stage 2: Presence of intra-retinal ridge
- Stage 3: Presence of a ridge with extra retinal fibro vascular proliferation
- Stage 4: Partial retinal detachment
- Stage 5: Retinal detachment

**Note:** This item is **Not Applicable** if the infant did not have an eye exam or if the infant does not meet small baby criteria (401 to 1,500 grams birth weight or 22 to 31 completed weeks of gestation at birth) and your center does not participate in the expanded VON data collection.

### Item 46c. Treatment of ROP with Anti-VEGF Drug [VEGF]

Per VON, this item is applicable to all small babies irrespective of whether they received an eye exam or an ROP diagnosis.

Select **Yes** if the infant received bevacizumab (Avastin) or other anti-vascular endothelial growth factor (VEGF) drug in one or both eyes for the treatment of retinopathy of prematurity (ROP).

Select **No** if the infant did not receive bevacizumab (Avastin) or other anti-VEGF in one or both eyes for the treatment of retinopathy of prematurity (ROP).

Select **Unknown** if this information cannot be obtained.

This item is Not Applicable if the infant does not meet small baby criteria (401 to 1,500 grams birth weight or 22 to 31 completed weeks of gestation at birth) and your center does not participate in the expanded VON data collection.

### Item 46d. ROP Surgery [SRGROP]

Select **Yes, here** if retinal cryosurgery and/or laser surgery was performed for ROP at YOUR hospital prior to initial disposition or following re-admission after initial transport.

Select **Yes, elsewhere** if retinal cryosurgery and/or laser surgery was performed for ROP at ANOTHER hospital.

Select **Yes, here and elsewhere** if retinal cryosurgery and/or laser surgery was performed for ROP both at your hospital and another hospital.

Select **No** if retinal cryosurgery and/or laser surgery was not performed for ROP.

Select **Unknown** if this information cannot be obtained.

**Note:** This item is **Not Applicable** if:

- the infant did not have an eye exam or
- if the infant did not have evidence of ROP or
- if the infant does not meet small baby criteria (401 to 1,500 grams birth weight or 22 to 31 completed weeks of gestation at birth) and your center does not participate in the expanded VON data collection.

### Item 47a. Other Surgery [SRGOTH]

Select **Yes** if a surgical procedure was performed for the infant. After you select **Yes**, you may select from a list of procedures considered Other Surgery for the purpose of NICU data set. You may enter up to ten Surgery Codes in the spaces provided. If the specific surgical procedure is not listed, and the procedure was performed under general or spinal anesthesia, use the code for Other Surgery in that category (for example, S100, S200, etc.) and provide a description in the text field.

Select **Unknown** if this information cannot be obtained.

**Note:**

- If Surgery for NEC is answered Yes, at least one of the NEC surgery codes must be entered in this Data Item (S302, S303, S307, S308, S309, S333).
- If Surgery for NEC and Other Surgery are both answered **Yes**, one or more surgery codes in the Surgery Codes List other than S333 must be entered in this Data Item.
- If Surgery or Interventional Catheterization for Closure of PDA is answered **Yes**, at least one of the PDA surgery codes must be entered in this data item (S515, S516, S605).
- If an infant had a PDA repair as part of other heart surgery, PDA surgery should be coded as **Yes**, and a specific surgical code for PDA Surgery (S515, S516, S605) **as well as** any codes related to other heart surgery should be entered.
  Codes for **other** procedures (i.e. S100, S200, S300, S400, S500, S700, S800, S900) should be used only to identify procedures for which there are no specific codes that are performed under general or spinal anesthesia.
- Do not use **other** codes to further describe surgical procedures that are on the list or to indicate why procedures were performed. For example, do not use S500 to add a description for the S504 procedure or to explain why heart surgery was performed. Cardiac surgery for the repair or palliation of congenital heart disease is coded as S504. Do not use code S500 to further describe the details of that surgery.

- It is necessary to specify the location of the surgery as either **Here, Elsewhere**, or **Here and Elsewhere** depending upon whether the baby had the surgery at your center, at another center, or at both locations.
- Central lines are not considered surgery. Please **do not record any of the following as surgery:** Broviac catheters, percutaneous venous catheters, central venous catheters, PICC lines, umbilical artery lines, umbilical venous lines, or any other intravascular catheter. We recognize that some of these lines may be placed while the infant is under anesthesia for other procedures. Do not code any lines as surgery even if they are placed under general or spinal anesthesia.
- ECMO, ECMO cannulation, ECMO de-cannulation are not considered surgery. Please do not code ECMO, ECMO cannulation, or de-cannulation as surgery even if the procedures are performed under anesthesia.
- Peritoneal dialysis and placement or removal of peritoneal dialysis catheters are not considered surgery.
- Chest tube placement is not considered surgery.

### Item 47b. Location of Surgery [SRGCD1-10]

Indicate where the procedure was done for each surgery code entered:

Select **Here** if the surgical procedure is performed:

- Only at your hospital prior to Initial Disposition, and/or
- At your hospital following re-admission after initial transfer without being discharged home.

Select **Elsewhere** if the surgical procedure is performed:

- At the "Transferred From" center (out-born) before being admitted to your hospital, or
- At the "Transferred To" center only if the infant is:
    - Re-admitted to your center, and
    - Not discharged home before being re-admitted to your center.

Select **Both** if the surgical procedure is performed both at "Your Hospital" and "Other Hospital" as defined above.

### Item 47b. Surgery Codes and Surgical Site Infections at Your Hospital [SRGCD1-10]

Check the SSI check box if – at any time prior to discharge – the infant had a surgical site infection of this surgical procedure resulting from a surgery at Your Hospital.

**Note:**

- Surgical site infections include superficial, deep incisional, or organ space. Please refer to the Center for Disease Control website for descriptions of these infections: http://www.cdc.gov/nhsn/acute-carehospital/ssi/
- If the infant had multiple surgical procedures at the same episode of surgery, code only one surgical code that resulted in the surgical site infection.

**Description of Other Surgery [SRGOTHDESC]**

If Surgery Code S100, S200, S300, S400, S500, S600, S700, S800, S900, S1000, and/or S1001 are entered, a description must be entered in this Data Item.

Please be specific and do not use general descriptions.

| Code | Surgery Description |
|---|---|
| S100 | Other head and neck surgery requiring general or spinal anesthesia |
| S200 | Other thoracic surgery requiring general or spinal anesthesia |
| S300 | Other abdominal surgery requiring general or spinal anesthesia |
| S400 | Other genito-urinary surgery requiring general or spinal anesthesia |
| S500 | Other open heart or vascular surgery requiring general or spinal anesthesia |
| S600 | Other interventional cardiac catheterization. Record procedures for other cardiac catheterization (S600) whether or not the infant received general or spinal anesthesia. |
| S700 | Skin or soft tissue surgery requiring general or spinal anesthesia. |
| S800 | Other musculoskeletal surgery requiring general or spinal anesthesia |
| S900 | Other central nervous system surgery requiring general or spinal anesthesia |
| S1000 | Fetal surgery |

## Post-Delivery Diagnoses and Interventions – Neurological (tab 7, items 48-51):

### Item 48a. Neural Imaging Done on or before Day 28 [IMAGE28]

Select **Yes** if neural imaging (cranial ultrasound, CT scan, MRI scan, etc.) was performed at least once on or before day 28 of life.

Select **No** if neural imaging was not performed on or before Day 28 of life.

Select **Unknown** if this information cannot be obtained.

**Note:** The date of Day 28 of life is determined by using the calendar date of birth as day 1 regardless of the time of birth. Thus, for an infant born at 11:59PM on September 1, Day 28 of life occurs on September 28. The date of Day 28 of life is calculated as Date of Birth plus 27 days. The online form determines the date of Day 28 of life based on the information entered for infant birth date.

### Item 48b. Worst Grade or Peri-intraventricular Hemorrhage [IGRADE]

If neural imaging was performed on or before Day 28 of life, enter the grade of hemorrhage based on the criteria below. Do not answer Worst Grade if neural imaging was NOT performed on or before Day 28 of life.

Grade 0: No sub-ependymal or intraventricular hemorrhage.

Grade 1: Sub-ependymal germinal matrix hemorrhage only.

Grade 2: Intraventricular blood, no ventricular dilation.

Grade 3: Intraventricular blood, ventricular dilation.

Grade 4: Intra-parenchymal hemorrhage.

**Note:** This item is **Not Applicable** if no ultrasound, CT, or MRI was done on or before Day 28 of life.

### Item 48c. Where did Peri-IVH first Occur? [PIHHEMLOC]

If the infant had a Periventricular-Intraventricular Hemorrhage (PIH grades 1 to 4) documented on an ultrasound, CT, or MRI on or before day 28 of life, indicate where the PIH first occurred. Note that this item does not ask where the worst grade occurred but rather where any PIH (grades 1 to 4) first occurred.

Select **Yes, and First Here** if PIH (grades 1 to 4 as defined above) first occurred at:

- at your hospital prior to initial disposition, or
- at your hospital four (4) or more hours following readmission after initial transport

Select **Yes, and First Elsewhere** if PIH (grades 1 to 4 as defined above) was first diagnosed during a prior stay at another hospital or within four (4) hours of admission to your hospital and the infant was:

- at another hospital before being admitted to your hospital, or
- initially transported and then readmitted to your hospital after initial transport

Select **N/A** if no ultrasound, CT or MRI was done on or before day 28 of life or if no PIH occurred.

Select **Unknown** if this information cannot be obtained.

### Item 48d. Shunt Placed for Bleed [SHUNT]

Select **Yes** if a shunt was placed for an acquired post-hemorrhagic hydrocephalus.

Select **No** if no shunt was placed, there was no hemorrhage present, or neural imaging was not performed.

Select **Unknown** if this information cannot be obtained.

**Note:** A shunt placed for congenital hydrocephalus, not due to cranial hemorrhage, should be coded No. This item is Not Applicable if no Peri-IVH occurred or if no ultrasound, CT, or MRI was done on or before Day 28 of life.

### Item 48e. Other Intracranial Hemorrhage (on or before Day 28) [OTHHEM] [OTHHEMDESC]

Select **Yes** if neural imaging (either ultrasound, CT scan, MRI scan, etc.) showed evidence of intracranial hemorrhage other than Peri-IVH grades 1 to 4. Includes subdural, epidural, subarachnoid bleeds and parenchymal hemorrhage not related to P/IVH. Do not include extracranial bleeds such as subgaleal hemorrhages or cephalhematomas. Specify the type of intracranial hemorrhage in the given space.

Select **No** if no other evidence of hemorrhage was found.

Select **Unknown** if this information cannot be obtained.

**Note:** This item is not applicable if no ultrasound, CT, or MRI was done on or before Day 28 of life.

### Item 49a. Neural Imaging Performed (at any time) [PVLIMAG]

Select **Yes** if neural imaging (either ultrasound, CT scan, MRI scan) was performed at any time. This includes imaging performed after Day 28 of life.

Select **No** if no neural imaging (either ultrasound, CT scan, MRI scan) was performed at any time.

Select **Unknown** if this information cannot be obtained.

### Item 49b. If Neural Image was Performed, was there Evidence of Cystic PVL? [PVL]

Select **Yes** if the infant has evidence of cystic periventricular leukomalacia (CPL) on a Cranial Ultrasound, CT, or MRI scan obtained at any time.

Select **No** if there was no evidence of cystic PVL on any Cranial Ultrasound, CT, or MRI and at least one cranial imaging study (ultrasound, CT, or MRI) was done.

Select **Unknown** if this information cannot be obtained.

**Note:** To be considered cystic periventricular leukomalacia there must be multiple small periventricular cysts identified. Periventricular echogenicity without cysts should not be coded as cystic periventricular leukomalacia. A porencephalic cyst in the area of previously identified intraparenchymal hemorrhage should not be coded as cystic periventricular leukomalacia. Periventricular abnormalities on CT or MRI should not be coded as cystic periventricular leukomalacia unless multiple small periventricular cysts are identified.

The item is **Not Applicable** if no cranial imaging study (Ultrasound, CT, or MRI) was ever done.

### Item 50. Seizures, EEG or Clincal [SEIZURE]

Select **Yes** if there is compelling clinical evidence of seizures, or of focal or multifocal clonic or tonic seizures. Also select **Yes** if there is EEG evidence of seizures regardless of clinical status.

Select **No** if there is no evidence of seizures.

Select **Unknown** if this information cannot be obtained.

## Item 51. Hypoxic Ischemic Encephalopathy [HIE]

Select **Severe** if the infant was diagnosed with Hypoxic-Ischemic Encephalopathy (HIE) as defined below, and the worst stage observed during the 168 hours (7 days) following birth is that the infant is in deep stupor or coma. Infants in this category are not arousable in response to arousal maneuvers.

Select **Moderate** if the infant was diagnosed with Hypoxic-Ischemic Encephalopathy (HIE) as defined below, and the worst stage observed during the 168 hours (7 days) following birth is that the infant is lethargic or in mild stupor. Infants in this category are arousable, but have a diminished response to arousal maneuvers.

Select **Mild** if the infant was diagnosed with Hypoxic-Ischemic Encephalopathy (HIE) as defined below, and the worst stage observed during the 168 hours (7 days) following birth is that the infant is alert or hyper-alert, with either a normal or exaggerated response to arousal.

Select **None** if the infant was not diagnosed with Hypoxic-Ischemic Encephalopathy.

Select **Not Applicable** if the infant has a gestational age at birth of less than 36 weeks and your center does not participate in the VON expanded data collection. If your center participates in the VON expanded data collection, this item applies to all NICU admissions starting from 2017.

Select **Unknown** if this information cannot be obtained.

**HIE Diagnosis**

The diagnoses of Hypoxic-Ischemic Encephalopathy require the presence of all three of the following criteria:

1. The presence of a clinically recognized encephalopathy within 72 hours of birth. Encephalopathy is defined as the presence of 3 or more of the following findings within the first 72 hours after birth.
    - Abnormal level of consciousness: hyper-alertness, lethargy, stupor or coma;
    - Abnormal muscle tone: hypertonia, hypotonia or flaccidity;
    - Abnormal deep tendon reflexes: increased, depressed, or absent;
    - Seizures: subtle, multifocal or focal clonic;
    - Abnormal Moro reflex: exaggerated, incomplete, or absent;
    - Abnormal suck: weak or absent;
    - Abnormal respiratory pattern periodic, ataxic or apneic;
    - Oculomotor or pupillary abnormalities: skew deviation, absent or reduced Doll's eyes or fixed unreactive pupils

AND

2. Three or more supporting findings from the following list:
    - Arterial cord pH <7.00;
    - APGAR score at 5 minutes of ≤5;
    - Evidence of multi-organ system dysfunction (see below);
    - Evidence of fetal distress on antepartum monitoring: persistent late decelerations, reversal of end-diastolic flow on Doppler flow studies of the umbilical artery or a biophysical profile of 2 or less;

- Evidence on CT, MRI, technetium or ultrasound brain scan performed within 7 days of birth of diffuse or multifocal ischemia or of cerebral edema;
- Abnormal EEG: low amplitude and frequency, periodic, paroxysmal or isoelectric;

AND

3. The absence of an infectious cause, a congenital malformation of the brain or an inborn error of metabolism which could explain the encephalopathy. Multi-organ system dysfunction requires evidence of dysfunction of one or more of the following systems within 72 hours of birth:
    - Renal: oliguria or acute renal failure;
    - GI: Necrotizing enterocolitis, hepatic dysfunction;
    - Hematologic: Thrombocytopenia, disseminated intravascular coagulopathy;
    - Endocrine: Hypoglycemia, hyperglycemia, hypercalcemia, syndrome of inappropriate ADH secretion (SIADH);
    - Pulmonary: persistent pulmonary hypertension;
    - Cardiac: myocardial dysfunction, tricuspid insufficiency

## Congenital Malformations (tab 8, items 52-55):

### Item 52a. Congenital Anomalies

Select **Yes** if the infant had one or more of the congenital anomalies listed. Use the list of codes to check off the congenital anomalies present among those listed. You may check up to 5 defects.

Select **Yes** if the infant had congenital anomalies that are not explicitly listed on the form, which were lethal, or life threatening. In this case, use the defect code of "100" (in addition to any other applicable code) and describe the defects in detail in the space provided for description. Be specific. Do not use general descriptions such as "multiple congenital anomalies" or "complex congenital heart disease". To be considered as lethal or life threatening a congenital anomaly must either:

1. Be the primary cause of death or
2. Be treated prior to discharge with specific surgical or medical therapy to correct a major anatomic defect or a life threatening physiologic dysfunction.

Select **No** if an infant was not diagnosed as having one or more of the congenital anomalies listed on the form and did not have an unlisted congenital anomaly, which was lethal or life threatening.

Select **Unknown** if this information cannot be obtained.

### Item 52b. Congenital Anomaly Codes [BCD1-5]

The following congenital anomalies require a detailed description in the space provided on the form:

| Code | Description |
|---|---|
| 150 | Other CNS Anomalies |

| | |
|---|---|
| 200 | Other Cardiac Anomaly |
| 300 | Other Gastro-Intestinal Anomalies |
| 400 | Other Genito-Urinary Anomalies |
| 504 | Other Chromosomal Anomaly |
| 601 | Skeletal Dysplasia |
| 605 | Inborn Error of Metabolism |
| 800 | Other Pulmonary Anomalies |
| 900 | Other Lymphatic Anomalies |
| 100 | Other Lethal or Life-Threatening Anomalies not listed on the form |

The following conditions should NOT be coded as Major Birth Anomalies:

| |
|---|
| Extreme Prematurity |
| Intrauterine Growth Retardation |
| Small Size for Gestational Age |
| Fetal Alcohol Syndrome |
| Hypothyroidism |
| Intrauterine Infection |
| Cleft Lip without Cleft Palate |
| Club Feet |
| Congenital Dislocation of the Hips |
| Congenital CMV |
| Cystic Fibrosis |
| Persistent Pulmonary Hypertension (PPHN) |

| |
|---|
| Limb Abnormalities |
| Syndactyly |
| Polydactyly |
| Hypospadias |
| Patent Ductus Arteriosus |
| Pulmonary Hypoplasia (use code 401 for bilateral renal agenesis, or 604 for oligohydramnios sequence, if applicable) |

### Item 53. Maximum Level of Bilirubin [BILILEVEL]

For infants who were previously sent home, and then readmitted within 28 days of birth only, check the maximum level of bilirubin on THIS re-admission.

- Under 25 mg/dl (<25)
- 25 mg/dl to under 30 mg/dl (25 - <30)
- 30 mg/dl or higher (≥ 30)

Select **Unknown** if this information cannot be obtained.

**Note:** This item is **Not Applicable** if the infant was not previously home and re-admitted within 28 days.

### Item 54. Exchange Transfusion on THIS Re-Admission [EXCHANGE]

For infants who were previously sent home, and then readmitted within 28 days of life only, specify whether the infant received an exchange transfusion on THIS readmission.

Select **Yes** if infant received an Exchange Transfusion during THIS readmission.

Select **No** if infant did NOT receive an Exchange Transfusion during THIS readmission.

Select **Unknown** if this information cannot be obtained.

**Note:** This item is Not Applicable if the infant was not previously home and readmitted within 28 days.

### Item 55. Hospital that discharged the infant to home (prior to THIS re-admission) [LASTHOSPITAL]

For infants who were previously sent home, and then readmitted within 28 days of life, specify the OSHPD code of the last hospital the infant was discharged home from.

Use the list provided to select the correct location of home discharge.

You can use the search function built into the drop-down list to search for any name part of the transport location, or you can use the transport location's OSHPD ID.

**Note:** This item is **Not Applicable** if the infant was not previously home and readmitted within 28 days.

## Initial Disposition (tab 9, items 56-60)

### Item 56. Enteral Feeding at Discharge [ENTFEED]

Select **None** if the infant was not receiving any enteral feedings with either formula milk or human milk at discharge.

Select **Human Milk Only** if the infant was discharged receiving human milk as their only enteral feeding, either by breast fed and/or by receiving pumped human milk.

Select **Formula Only** if the infant was discharged receiving formula milk as their only enteral feeding.

Select **Human Milk in Combination with Either Fortifier or Formula** if the infant was discharged receiving human milk, plus human milk fortifier and/or formula milk.

Select **Unknown** if this information cannot be obtained.

**Note:**

- When completing this item, "Discharge" refers to initial disposition in most cases. If an infant is transported from your center to another hospital and readmitted to your center following transport, update this item based on the infant's enteral feeding status at the time of discharge after re-admission.
- Enteral feedings may be given by any method including breast, bottle, gavage tube, gastrostomy tube, feeding cup, etc. Formula milk includes all standard newborn formulas, premature formulas, and special formulas. Please answer this question based on the enteral feedings at discharge. Do not consider parenteral feedings when considering this item. For example, if an infant was discharged on IV TPN as well as human milk, the correct response would be Human Milk Only since human milk was the only enteral feeding. If an infant was discharged on IV TPN alone, the correct response would be None since the infant was not receiving any enteral feedings.
- If an infant were discharged only on sterile water or glucose water, the correct response would be **None** since the infant was not receiving either formula milk or human milk.
- Complete the item, Enteral Feeding at Discharge, based on enteral feedings received during the 24-hour period prior to discharge, transport, or death. For infants who remained in your hospital on their first birthday, complete the item, Enteral Feeding at Discharge, based on enteral feedings received on that day.

### Item 57. Initial Disposition from Your Hospital [FDISP]

Select the appropriate category that reflects the infant's initial disposition at discharge from your hospital. Initial disposition refers to the first time an infant was discharged from your hospital.

Select **Home** if the infant was discharged to home on or before his/her first birthday from your hospital without ever transporting to another hospital. Complete items 58, 59, and 60; data collection stops at this point. Do not complete the Transport-Out section of the form.

Select **Died** if the infant died on his/her first birthday at your hospital prior to being discharged home or transported. Complete items 58, 59, and 60; data collection stops at this point. Do not complete the Transport/Post-Transport section of the form.

Select **Transported to Another Hospital** if the infant was transported to another hospital or chronic care facility on or before his/her first birthday and before going home. Complete items 58, 59, and 60 of the form.

Select **Still Hospitalized as of First Birthday** if the infant was still at your center on the date of the infant's birthday. Complete items 58, 59, and 60; data collection stops at this point. Do not complete the Transport/Post-Transport section of the form.

Select **Unknown** if this information cannot be obtained.

**Note:**

- This item refers to the first time that the infant was discharged or transported from your hospital. Discharge occurs when an infant leaves your Center, not when he or she leaves the NICU. Do not change this item based on later dispositions following transport or re-admission.
- Infants transported from one unit to another within your hospital are not considered transports.

### Item 58. Weight at Initial Disposition [DWGT]

Enter the weight in grams obtained on the Date of Initial Discharge, Transport or Death.

If the answer to Initial Disposition from Your Hospital (Item 57) is Still Hospitalized as of First Birthday, enter the infant's weight in grams on the infant's first birthday. If the infant was not weighed on the date of his/her first birthday, enter the weight in grams from the previous day.

Select **Unknown** if this information cannot be obtained.

**Note:** The item refers to the first discharge or transport from your hospital. Do not change this item based on later dispositions following transport or re-admission.

### Item 59. Head Circumference at Initial Disposition [HEADCIRC]

Enter the head circumference as recorded in the chart or clinical flow sheets on the Date of Initial Disposition (Item W8 on the Patient Identification Worksheet). If the head circumference is not recorded on the Date of Initial Disposition, record the most recent head circumference measured up to 7 days prior to discharge.

Record the head circumference at discharge (transport, death, home or 1st birthday) to the nearest tenth of a centimeter. Record 31.24 as "31.2", Record 31.25 as "31.3". You must not leave the tenth of a centimeter blank. If the medical record states that the head circumference is 32 centimeters, please enter "32.0" on the data form.

Select **Not Done**, if head circumference at discharge or up to 7 days prior to discharge was not measured.

Select **Unknown** if this information cannot be obtained.

### Item 60. Initial Discharge Date [LOS1]

Enter the initial discharge date.

Select **Unknown** if this information cannot be identified.

**Note:**

- This item refers to the first discharge or transport from your hospital. Do not change this item based on later dispositions following transport or re-admission.
- If you enter an acceptable date the form will display the implied Initial Length of Stay just below the date entry box.
- Initial Length of Stay is the number of days from the date the infant was admitted to your hospital until the Date of Initial Discharge, Transport or Death. The Initial Length of Stay is calculated as:
  ([Date of Initial Discharge, Transport or Death] minus [Date of Admission] plus one)
- Infants who die on the day of birth will have an Initial Length of Stay of 1 day.
- The maximum value of Initial Length of Stay is 366 (or 367 if leap day must be added) because tracking ends on the infant's first birthday.
- For inborn infants, the Date of Admission is the Date of Birth. For outborn infants, the Date of Admission is the date the infant was admitted to your center.
- If the Date of Initial Discharge, Transport or Death is "Unknown", Initial Length of Stay will also be "Unknown".
- If an infant is still in your hospital on his or her first birthday, and has not been transported home, use the date of the infant's first birthday as the Date of Initial Discharge, Transport or Death.

## Transport/Post-Transport Form (items 61-67)

Use the Transport/Post-Transport Form to collect data for infants who transport from your center to another hospital.

**Note:** Infants who are transported from one unit to another within your hospital are not considered transports.

### Item 61. Reason for Transport-Out [TRANSCODE]

Select only one answer, the primary reason for transporting the infant to another facility.

Select **ECMO** if the infant was transported to another hospital for extracorporeal membrane oxygenation.

Select **Growth/Discharge Planning** if the infant is transported to another hospital for continuing care in preparation for eventual discharge home. This category includes "back transports" to a hospital closer to the parents' home. This may include cases where the transport is to a tertiary care facility, as long as the purpose of the transport is not the provision of surgical, medical or diagnostic services, or of long-term chronic care, which were unavailable at your hospital.

Select **Medical/Diagnostic Services** if the infant was transported to another hospital to receive medical care or diagnostic tests, which are not available at your Center. If an infant is transported to have a diagnostic work-up and the work-up results in surgery, the reason for transport is still "Medical/Diagnostic Services".

Select **Surgery** if the infant is transported to another hospital specifically to have surgery even if surgery is not actually performed after the transport.

Select **Chronic Care** if the infant is transported to an institution for long term chronic care. For these infants, follow up is required only through age one year. At that time, if the status has not changed, the record is considered final.

Select **Other** if the reason for transport does not meet any of the above criteria.

Select **Unknown** if the information cannot be obtained.

**Note:**

- Acute transport out: An infant with medical problems that require acute resolution for survival who is transported in order to obtain medical, diagnostic, or surgical therapy that is not provided, or that cannot be effectively provided due to temporary staffing/census issues, or that cannot be provided due to insurance restrictions at the referring hospital, is considered acute.
- Non-Acute transport out: A non-acute transport is an infant whose initial medical/surgical needs have been met, whose condition has been stabilized and who is transported to a facility in order to obtain growth care, discharge planning care, chronic care, and/or hospice care. The medical needs of non-acute transports may range from extensive and extremely complex care (e.g. an infant with lethal anomalies) to minimal care for feeding and growth (e.g. "maintenance").
- This item is Not Applicable if the initial disposition for this infant is not "transported". The online form only includes the Transport section and this item if the infant was transported out.

### Item 62. Hospital Location the Infant was Transported to [XFERLOCATION]

Specify the OSHPD code of the hospital the infant was transported to.

Use the list provided to select the correct transport location.

You can use the search function built into the drop-down list to search for any name part of the transport location, or you can use the transport location's OSHPD ID.

**Note:** This item is **Not Applicable** if the initial disposition for this infant is not "transported". The online form only includes the Transport-Out section and this item if the infant was transported out.

### Item 63. Post-Transport Disposition [F2DISP]

Select **Home** if the infant was discharged to home on or before his/her first birthday from the hospital to which he/she was transported. If this answer is checked, Items 64-66 on this Form are not applicable; only complete Item 67 on this Form.

Select **Transported Again to Another Hospital** if the infant was transported again to another hospital or to a chronic care facility from the hospital to which he/she was originally transported. If this answer is checked, Items 64-65 on this form are not applicable; complete Items 66-67 on this Form.

Select **Died** if the infant died on or before his/her first birthday at the hospital to which he/she was transported. If this answer is checked, Items 64-66 on this Form are not applicable; only complete Item 67 of this Form.

Select **Readmitted to Any Location in Your Hospital** if an infant on or before his/her first birthday (before ever having gone home) to any location in your hospital such as the neonatal intensive care unit, a step-down unit, newborn nursery, intermediate care, pediatric intensive care unit, pediatric ward, etc. If this answer is checked, continue with Item 64 on this Form.

Select **Still Hospitalized as of First Birthday** if infant was still in the transported to hospital on his/her first birthday. If this answer is checked, Items 64-66 on this Form are not applicable; only complete Item 67 of this form.

Select **Unknown** if this information cannot be obtained.

**Note:** This item is **Not Applicable** if the initial disposition for this infant is not "transported'. The online form only includes the Transport-Out section and this item if the infant was transported out.

### Item 64. Weight at Disposition After Readmission [F3WGT]

Enter the weight in grams obtained on the date at which the Disposition after Readmission, Item 65, occurred. If the infant was not weighed on the day of death, enter the weight in gramps from the previous day.

If the answer to Disposition after Re-Admission (Item 65) is **Still Hospitalized as of First Birthday**, enter the infant's weight on his or her first birthday. If the infant was not weighed on the date of the first birthday, enter the weight in grams from the previous day.

Select **Unknown** if this information cannot be obtained.

**Note:**

This item is Not Applicable if the initial disposition for this infant is not "transported". The online form only includes the Transport-Out Section and this item if the infant was transported out.

### Item 65. Disposition After Readmission [F3DISP]

Select **Home** if the infant was discharged to home on or before his/her first birthday from any location in your hospital after re-admission. If this answer is checked, Item 66 on this Form is not applicable; complete Item 67 on this Form.

Select **Died** if the infant died on or before his/her first birthday at any location in your hospital after re-admission. If this answer is checked, Item 66 of this Form is not applicable; complete Item 67 on this form.

Select **Transported Again to Another Hospital** if the infant was transported again to another hospital or to a chronic care facility on or before his/her first birthday after re-admission. If this answer is checked, complete Items 66-67 of this Form.

Select **Still Hospitalized as of First Birthday** if the infant was still in your hospital as of his/her first birthday. If this answer is checked, Item 66 on this Form is not applicable; complete Item 67 of this Form.

Select **Unknown** if this information cannot be obtained.

**Note:** This item is Not Applicable if the initial disposition for this infant is not "transported'. The online form only includes the Transport-Out Section and this item if the infant was transported out.

### Item 66. Ultimate Disposition [UDISP]

Select **Home** if the infant ultimately went home on or before the first birthday.

Select **Died** if the infant ultimately died on or before the first birthday.

Select **Still Hospitalized as of First Birthday** if the infant was still hospitalized on his/her first birthday, without ever having gone home.

Select **Unknown** if this information cannot be obtained.

**Note:** This item is **Not Applicable** if the initial disposition for this infant is not "transported". The online form only includes the Transport-Out section and this item if the infant was transported out.

### Item 67. Total Length of Stay [LOSTOT]

Enter the final discharge date.

Select **Unknown** if this information cannot be obtained.

**Note:**

- This item refers to the final discharge date on which the infant either went home, died or was still hospitalized on its first birthday. Do not change this item based on later dispositions following re-admission.
- If you enter an acceptable date, the form will display the implied total length of stay just below the date entry box.
- Total Length of Stay is the number of days from the date the infant was admitted to your and other hospitals until the Date of Final Discharge or Death. For infants Discharged home or infants who ultimately died the Total Length of Stay is calculated as: ([Date of Final Discharge or Death] minus [Date of Admission] plus one)
- The maximum value of Total Length of Stay is 366 (or 367 if leap day must be added) because tracking ends on an infant's first birthday.
- For inborn infants, the Date of Admission is the Date of Birth. For outborn infants, the Date of Admission is the date the infant was admitted to your center.

- If the Date of Final Discharge, Transport or Death is "Unknown", the Total Length of Stay will also be "Unknown".
- If an infant is still hospitalized on his or her first birthday, use the date of the infant's first birthday as the Date of Final Disposition.
- This item is **Not Applicable** if the initial disposition for this infant is not "transported". The online form only includes the Transport-Out section and this item if the infant was transported out.