MEDICAL CHRONOLOGY
Confidential and privileged information

Usage Guideline/Instructions

Verbatim Medical Chronology:
All the medical details have been included "word by word' or "as it is" from the provided medical records to avoid alteration of the meaning and to maintain the validity of the medical records. Type of information capture (all details/zoom-out model and relevant details/zoom-in model) is as per the demands of the case which will be elaborated under the 'General Instructions'

Reviewer's Comments:
*Comments on contradicting information and misinterpretations in the medical records, illegible handwritten notes, missing records, clarifications needed etc. are given in italics and red font color and will appear as * Reviewer's Comment*

Indecipherable Dates:
Illegible and missing dates are presented as "00/00/0000" (mm/dd/yyyy format)

Indecipherable Notes:
Illegible handwritten notes are left as a blank space "_____" with a note as "Illegible Notes" in the heading of the particular consultation/report.

Snapshot Inclusion:
If the provider' name is not decipherable, then the snapshot of the signature is included. Snapshots of significant examinations and pictorial representation have been included for reference.

Patient History:
Pre-existing history of the patient Joe Doe has been included in the history section.

General Instructions:

- *The medical summary focuses in detail on Joe Doe's prenatal visits at AB OB/GYN from 07/29/20xx to 03/04/20yy to know her clinical presentation, prenatal condition and treatment rendered.*
- *Hospitalization records for labor and delivery from 03/07/20yy to 03/08/20yy are summarized in detail to know progression of her labor, and treatment provided. Medical events on 03/07/20yy at Memorial Health from admission for labor and delivery to the birth of the child are summarized in timeline using 24-hour format.*
- *Hospitalization records of the infant Linda Doe from 03/08/20yy to 03/29/20yy are summarized in enough detail to know her condition and treatment provided.*
- *For ease of reference, we have summarized the baby records in Blue color font.*

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Flow of Events

AB OB/GYN (Dr. Frye, M.D.) (07/29/20xx-03/04/20yy)

Gravida 3 Para 0 Elective abortion 2

07/29/20xx-12/07/20xx: Initial prenatal visit on 07/29/20xx at gestation age 8 weeks 0 days; initial weight: 68.3 kg; BP: 122/68 – Obstetric ultrasound on 08/13/20xx revealed single intrauterine pregnancy of 10 weeks 2 days gestation age by ultrasound – Estimated Date of Delivery (EDD) 03/09/2002 – Regular prenatal visits on 08/27/20xx and 10/06/20xx - Complete obstetric ultrasound on 10/21/20xx revealed normal fetal anatomy survey - Regular prenatal visits on 11/09/20xx and 12/07/20xx

01/08/20yy: Prenatal follow-up visit at 31 weeks 2 days - Weight: 83.1 kg; Fetal heart rate: 130; Fetal movement active; Fundal height 33

01/29/20yy: Prenatal follow-up visit at 34 weeks 2 days - Weight: 85.4 kg; BP: 116/62 (Low); Fetal heart rate: 136; Fetal movement active; Fundal height 34

02/12/20yy: Prenatal follow-up visit at 36 weeks 2 days - Weight: 83 kg; Fetal heart rate: 140; Fetal movement active; Fundal height 36

02/19/20yy: Prenatal follow-up visit at 37 weeks 2 days – Weight: 86.4 kg; Fetal heart rate: 143; Fetal movement active; Fundal height 37

02/26/20yy: Prenatal follow-up visit at 38 weeks 2 days - Weight: 88.1 kg; Fetal heart rate: 145; Fetal movement active; Fundal height 38 - Assessment: Encounter for supervision of normal pregnancy in multigravida in third trimester

03/04/20yy: Prenatal follow-up visit at 39 weeks 1 day - Weight: 90.1 kg; Fetal heart rate: 145; Fetal movement active; Fundal height 39 - Good fetal movement, started having contractions last night - Labor precautions reviewed and recommended to Return to Clinic (RTC) in 1 week

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Memorial Health (03/07/20yy-03/08/20yy)

03/07/20yy: Gestation age 39 weeks 4 days - EDD 03/10/20yy - Patient presented with complaints of contractions since 0700 hours – Reported no baby movement since previous day

@ 1208 hours: Cervix: Soft; Dilation 2 cm; Effacement 50%; Station (-3) - FHR baseline 155 bpm; Variability minimal; Accelerations absent; Decelerations absent; Category II

@ 1226 hours: Recurrent late decelerations noted with minimal variability and absent accelerations - Category II

@ 1252 hours: Bolus started 20g LR IV

@ 1310 hours - @ 1355 hours: FHR baseline 155-160 bpm with no accelerations, no decelerations and minimal variability - Category II

@ 1409 hours: Artificial Rupture of Membranes (AROM) with thick Meconium - Dilation 2.5 cm; Effacement 80%; Station (-3)

@ 1410 hours: Late decelerations noted with minimal variability and absent accelerations - Category II

@ 1426 hours & @ 1515 hours: FHR baseline 160 bpm with no accelerations, no decelerations and minimal variability - Category II

@ 1544 hours-1630 hours: Late decelerations noted with minimal variability and absent accelerations - Category II

@ 1648 hours: Dilation 3 cm; Effacement 80%; Station (-3) - Uterine contraction frequency 3-5 minutes, duration 50-60 sec, intensity mild to moderate

@ 1710 hours - 1723 hours: Late decelerations noted with minimal variability and absent accelerations - Category II - Dr. LaForest called

@ 1731 hours: Obstetrician at bedside - Plan for Cesarian section
@ 1752 hours: Fetal monitor accelerations absent, decelerations episodic (late), long term variability minimal (3-5), contraction frequency 5, contraction intensity mild - Primary Low Transverse Cesarean Section (1LTCS) for non-reassuring fetal status
@ 1813 hours: Patient taken to OR
@ 1830 hours: Cesarian section performed for non-reassuring fetal heart tones and Meconium-stained fluid - @ 1841 hours delivered baby of weight 3300g with Apgars scores of 1, 5, and 9 - Resuscitation performed and transferred to nursery
Chest X-ray clear – Diagnosed with respiratory distress of newborn, meconium aspiration syndrome – Intubated and transferred to SS Hospital

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SS Hospital (03/07/20yy-03/29/20yy)

03/08/20yy: Baby required intubation and placed on SIMV for frequent apnea and seizure episodes – During transfer infant started on passive colling at 3 hours and 35 minutes of life - Phenobarbital 20 mg/kg/dose administered at approximately 5.5 hours of age - Upon admission, active cooling started at 7 hours of life - Ultrasound Encephalography report negative – Neonatology and Neurology consulted for cooling protocol – Diagnosed with Hypoxic-Ischemic Encephalopathy (HIE) – Recommended Phenobarbital, versed, and Keppra for management of subclinical seizures witnessed on continuous video EEG

03/12/20yy: CT of brain without contrast revealed findings suggestive of global anoxic injury - CT of brain on 03/13/20yy was stable – Total body cooling done for 72 hours and then weaned - On 03/1520yy, Pediatric Hematology/Oncology consulted for small intracranial hemorrhage incidentally found on CT head for HIE - Recommend repeating her fibrinogen level this week and Factor XIII activity evaluation 4 weeks after last cryoprecipitate infusion - On 03/16/20yy, MRI of brain revealed stable findings of diffuse hypoxic ischemic injury involving the cortex of the cerebral hemispheres, corpus callosum, internal capsules and cortical spinal tracts – On 03/17/20yy, Palliative care was consulted – No seizure activity on Phenobarbital and Keppra - Discharge to home on 03/29/20yy with recommendation to follow pediatric rehabilitation and pediatric Neurology

Patient History

Past Medical History: Asthma *(PDF Ref: 355)*

Obstetric History: Age of menarche 15; Gravida 3; Para 0; Term pregnancy 0; Preterm pregnancy 0; Elective abortion 2; Spontaneous abortion 0; Ectopic pregnancy 0; Multiple birth 0 *(PDF Ref: 103)*

Mental Health History: Depression, anxiety, suicidal thoughts *(PDF Ref: 128)*

Surgical History: Tonsillectomy and adenoidectomy *(PDF Ref: 102)*

Family History: Mother had asthma; Father had hypertension; Grandmother had chronic obstructive pulmonary disease and hypertension; Grandfather – diabetes mellitus; other- Multiple gestation *(PDF Ref: 102)*

Social History: Consumes marijuana. Never smoked tobacco and never consumed alcohol *(PDF Ref: 102)*

Allergies: Amoxicillin allergy causes nausea and vomiting. Peanut allergy causes swelling and itchy throat. Cat allergy causes itching and sneezing *(PDF Ref: 101-102, 233, 126)*

Detailed Chronology

DATE	PROVIDER	MEDICAL EVENTS	PDF REF
		AB OB/GYN (07/29/20xx-03/04/20yy)	
		** Reviewer's Comment: Detailed prenatal visits from 07/29/20xx to 12/07/20xx and their corresponding laboratory reports are not available for review to know the condition of the patient. The available details from the prenatal visit dated 01/08/20yy is summarized below.*	
07/29/20xx	AB OB/GYN Dr. Frye, M.D.	**Prenatal follow-up visit:** **Last Menstrual Period (LMP):** *Not obtainable from the available records* **Gestation age:** 8 weeks 0 days **Initial weight:** 68.3 kg BP: 122/68; Protein trace **Notes:** No visit notes to display **Labs:** *Direct lab reports are not available for review,* Thyroid Stimulating Harmon (TSH) 0.10 (low); Uric acid 3.1; Urine Chlamydia DNA negative; Urine N gonorrhoeae DNA negative; Urine Mycoplasma genitalium negative; Urine Mycoplasma hominis positive; Genital ureaplasma spp positive; Syphilis IgG antibody nonreactive; Hepatitis B surface antigen negative; HIV antigen/antibody combo nonreactive; Trichomonas vaginalis negative; Varicella Zoster IgG antibody 0.6 index; Rubella IgG antibody positive; HBsAG negative	103-104, 288-289
08/13/20xx	MM Main Campus Keith Morrow, DO	**Obstetric transabdominal and transvaginal ultrasound report:** **Ordered by:** Dr. Frye, M.D. **Indication:** Encounter for supervision of other normal pregnancy **Comparison:** None **Findings:** • **Pregnancy location:** Intrauterine • **Gestational sac:** Normal • **Yolk sac:** Normal • **Fetal pole:** Visualized • **Embryo heart rate:** 161 (normal) • **Placenta:** Too early to evaluate	109-110

DATE	PROVIDER	MEDICAL EVENTS	PDF REF
		• **Fetal position:** Early gestation, not applicable • **Gestation:** Singleton pregnancy • **Amniotic fluid:** Normal volume **Biometry:** • **Crown-Rump Length (CRL):** 3.38 cm • **Gestation age:** 10 weeks 2 days • **Estimated Date of Delivery (EDD):** 03/09/20yy • **Mean gestation sac size:** Not applicable • **Clinical gestation age from LMP:** 10 weeks 1 day • **EDD:** 03/10/20yy Best gestation age determined by ultrasound **Maternal pelvis:** • **Uterus:** No abnormality in the visualized uterus • **Cervix:** Unremarkable cervical, transabdominal technique • **Right ovary:** Normal • **Left ovary:** Not seen due to overlying bowel gas • **Cul-de-sac:** Unremarkable **Impression:** Single intrauterine pregnancy of 10 weeks 2 days gestation age by ultrasound. EDD 03/09/20yy	
08/27/20xx	AB OB/GYN Dr. Frye, M.D.	**Prenatal follow-up visit:** **Gestation age:** 12 weeks 1 days Weight: 69.4 kg; Fetal heart rate: 155; BP: 116/68; Protein negative; Edema absent; Contraction absent **Notes:** Labs reviewed Return To Clinic (RTC) 4 weeks Urea/Myco positive. Script sent however allergic to peanuts Declined genetic testing ** Reviewer's Comment: Direct lab reports are not available for review.* **Labs:** HPV genotype 16 negative; HPV genotype 18 negative	103-104, 289
10/06/20xx	AB OB/GYN Dr. Frye, M.D.	**Prenatal follow-up visit:** **Gestation age:** 17 weeks 6 days Edema absent; Contraction absent **Notes:** Colposcopy results – Cervical Intraepithelial Neoplasia (CIN) 1; repeat pap in 12 months Ultrasound ordered RTC 4 weeks	103-104
10/21/20xx	MM Main Campus	**Complete obstetric transabdominal ultrasound report:** **Indication:** Encounter for supervision of other normal pregnancy	106-108

DATE	PROVIDER	MEDICAL EVENTS	PDF REF
	Theodore Cunningham, M.D.	**Comparison:** 08/13/20xx **Findings:** **Fetal evaluation:** • **Pregnancy location:** Intrauterine • **Fetal heart rate:** 142 • **Fetal heart rhythm:** Normal • **Fetal presentation:** Cephalic • **Placenta:** Anterior; no placenta previa • **Placenta cord insertion:** Not seen • **Gestation:** Singleton pregnancy • **Amniotic fluid volume:** Normal • **Amniotic Fluid Index (AFI):** Not measured • **Single deepest pocket:** Normal **Biometry:** • **BPD:** 4.4 cm 19 weeks 2 days • **Head Circumference (HC):** 16.6 cm 19 weeks 2 days • **AC:** 14.2 cm 19 weeks 2 days • **FL:** 3.4 cm 20 weeks 5 days • **HC/AC:** 1.17 • **Cephalic index:** 75% • **FL/BPD:** 78% • **FL/AC:** 24% • **Estimated Fetal Weight:** 328 grams; 0 lbs. 12 ounces **Fetal dating:** • **Gestation age from LMP:** 20 weeks 0 day; EDD: 03/10/20yy • **Gestation age from current ultrasound:** 19 weeks 5 day; EDD: 03/12/20yy Best gestation age determined by LMP **Fetal anatomy:** • **Lateral ventricles:** Normal • **Choroid plexus:** Normal • **Cisterna magna:** Normal • **Cerebellum:** Normal • **Cavum septum pellucidum:** Normal • **Midline flax:** Normal • **Neck soft tissue:** Normal • **Upper lip:** Normal • **Cervical spine:** Normal • **Thoracic spine:** Normal • **Lumbar spine:** Normal	

DATE	PROVIDER	MEDICAL EVENTS	PDF REF
		• **Sacral spine:** Normal • **Four-chamber view:** Normal • **LVOT:** Normal • **RVOT:** Normal • **3-vessel view:** Normal • **Stomach:** Normal • **Abdomen cord insertion:** Normal • **Right kidney:** Normal • **Left kidney:** Normal • **Cord vessel number:** 3 vessels • **Bladder:** Normal • **Right upper/lower extremity:** Present • **Left upper/lower extremity:** Present • **Right hand/foot:** Visualized • **Left hand/foot:** Visualized • **Face profile:** Normal • **Orbits:** Normal • **Nasal bone:** Present • **Cardiac axis:** Normal • **Diaphragm:** Normal • **Bowel:** Normal • **Other findings:** None **Maternal pelvis:** • **Cervical length:** Transabdominal measurement 3.8 cm. normal length • **Uterus:** No abnormality in the visualized uterus • **Right ovary:** Not seen • **Left ovary:** Not seen • **Ovary doppler imaging:** Not ordered **Impression:** Single intrauterine pregnancy with a gestation age of 20 weeks 0 days. Fetal anatomy survey is normal.	
11/09/20xx	AB OB/GYN Dr. Frye, M.D.	**Prenatal follow-up visit:** **Gestation age:** 22 weeks 5 days Weight: 74.9 kg; Fetal heart rate: 147; Fetal movement active; BP: 122/68; Fundal height 23; Edema absent; Contraction absent **Notes:** RTC 4 weeks Ultrasound reviewed - normal	103-104
12/07/20xx	AB OB/GYN Dr. Frye, M.D.	**Prenatal follow-up visit:** **Gestation age:** 26 weeks 6 days Weight: 77.7 kg; Fetal heart rate: 145; Fetal movement active; BP: 122/70; Fundal height 27; Protein trace; Edema absent; Contraction absent	103-104

DATE	PROVIDER	MEDICAL EVENTS	PDF REF
		Notes: Glucola ordered RTC 4 weeks All questions answered	
01/08/20yy	AB OB/GYN Dr. Frye, M.D.	**Prenatal follow-up visit:** **Gestation age:** 31 weeks 2 days **Estimated Date of Delivery (EDD):** 03/10/20yy (LMP) **Vitals:** Weight: 83.1 kg; BMI: 28.7; BP: 124/68; Respiration 16 Fetal heart rate: 130; Fetal movement active; Fundal height 33; Protein negative; Edema absent; Contraction absent **Urinalysis:** Appearance clear; Color yellow; pH 6.5; Negative: Glucose, ketones, blood, proteins, nitrite and leukocyte **Issues:** Good fetal movement, is having tooth pain **Notes:** Glucola reviewed RTC 2 weeks ** Reviewer's Comment: Lab reports are not available for review.* **Assessment and plan:** Encounter for supervision of normal pregnancy in multigravida in third trimester	101-105
01/29/20yy	AB OB/GYN Dr. Frye, M.D.	**Prenatal follow-up visit:** **Gestation age:** 34 weeks 2 days **EDD:** 03/10/20yy **Vitals:** Weight: 85.4 kg; BMI: 29.5; BP: 116/62 (Low); Respiration 16 Fetal heart rate: 136; Fetal movement active; Fundal height 34; Protein negative; Edema absent; Contraction absent **Urinalysis:** Appearance clear; Color yellow; pH 6; Negative: Glucose, ketones, blood, proteins, nitrite and leukocyte **Issues:** Good fetal movement, is having tooth pain **Notes:** RTC 2 weeks Group B Streptococcus (GBS) next visit	96-100

DATE	PROVIDER	MEDICAL EVENTS	PDF REF
		Assessment and plan: Encounter for supervision of normal pregnancy in multigravida in third trimester	
02/12/20yy	AB OB/GYN Dr. Frye, M.D.	**Prenatal follow-up visit:** **Gestation age:** 36 weeks 2 days **EDD:** 03/10/20yy **Vitals:** Weight: 83 kg; BMI: 28.6; BP: 116/68; Respiration 16 Fetal heart rate: 140; Fetal movement active; Fundal height 36; Protein trace; Edema absent; Contraction absent **Urinalysis:** Appearance cloudy; Color yellow; pH 6; Protein trace; Negative: Glucose, ketones, blood, nitrite and leukocyte **Issues:** Good fetal movement **Notes:** RTC 1 weeks GBS collected Discussed birth plans with patient. She states that she filled one out and that never turned it in. will try to bring next visit. **Assessment and plan:** Encounter for supervision of normal pregnancy in multigravida in third trimester.	91-95
02/19/20yy	AB OB/GYN Dr. Frye, M.D.	**Prenatal follow-up visit:** **Gestation age:** 37 weeks 2 days **Vitals:** Weight: 86.4 kg; BMI: 29.8; BP: 126/72; Respiration 16 Fetal heart rate: 143; Fetal movement active; Fundal height 37; Edema absent; Contraction absent **Issues:** Good fetal movement, denies any issues **Notes:** RTC 1 weeks Patient left birth plan at home. Will bring next visit. **Assessment and plan:** Encounter for supervision of normal pregnancy in multigravida in third trimester.	87-90
02/26/20yy	AB OB/GYN Dr. Frye, M.D.	**Prenatal follow-up visit:** **Gestation age:** 38 weeks 2 days **Vitals:** Weight: 88.1 kg; BMI: 30.4; BP: 130/76; Respiration 16 Fetal heart rate: 145; Fetal movement active; Fundal height 38; Edema absent; Contraction absent	82-86

DATE	PROVIDER	MEDICAL EVENTS	PDF REF
		Issues: Good fetal movement, denies any issues **Notes:** RTC 1 weeks Birth plan reviewed and signed. Labor precautions reviewed. **Assessment and plan:** Encounter for supervision of normal pregnancy in multigravida in third trimester.	
03/04/20yy	AB OB/GYN Dr. Frye, M.D.	**Prenatal follow-up visit:** **Gestation age:** 39 weeks 1 days **Vitals:** Weight: 90.1 kg; BMI: 31.1; BP: 124/70; Respiration 16 Fetal heart rate: 145; Fetal movement active; Fundal height 39; Edema absent; Contraction absent **Issues:** Good fetal movement, started having contractions last night. **Notes:** RTC 1 week Labor precautions reviewed. **Assessment and plan:** Encounter for supervision of normal pregnancy in multigravida in third trimester. **Orders:** Covid-19	77-81
		Memorial Health (03/07/20yy-03/08/20yy)	
		** Reviewer's Comment: Medical records from admission on 03/07/20yy till delivery of the infant are summarized in timeline to know the details of care provided to the patient.*	
03/07/20yy	Memorial Health Amy Hoperberger, RN	**Nurse notes:** **@ xxxx hours: SB comment:** Feeling contractions since 0700 hours. Denies Spontaneous Rupture of Membrane (SROM) or vaginal bleeding, has not felt baby move since yesterday. Denies problems with pregnancy. EDD: 03/10/20yy; G1P0 *(Must be G3)* **@ xxxx hours: Vitals:** Temperature 36.7; BP 122/79; Pulse 96 **@ xxxx hours: Vitals:** Temperature 98; Respiration 16 **@ xxxx hours: Examination:** • **Cervix:** Soft • **Cervical exam:** Dilation 2 cm; Effacement 50%; Station -3	139

DATE	PROVIDER	MEDICAL EVENTS	PDF REF
		• **FHR evaluation:** Baseline: 155 bpm; Variability: Minimal; Accelerations: Absent; Decelerations: Absent • **Category:** Category II **@ xxxx hours:** • **Position:** Left lateral • **FHR evaluation:** Baseline: 155 bpm; Variability: Minimal; Accelerations: Absent; Decelerations: Late; Recurrent: Yes • **Category:** Category II **@ xxxx hours:** • Primary IV initiated – 20G LR 1000 ml. Bag 1 • Bolus started • **FHR evaluation:** Baseline: 155 bpm; Variability: Minimal; Accelerations: Absent; Decelerations: Absent • **Category:** Category II • Comment: Poor pickup, patient on left side **@ xxxx hours: Notes:** Dr. LaForest reviewed strip, aware of G1P0, EDD, cervical exam. Decision to admit. Aware of IV started. **@ xxxx hours: Notes** Dr. LaForest at bedside **@ xxxx hours:** • **FHR evaluation:** Baseline: 155 bpm; Variability: Minimal; Accelerations: Absent; Decelerations: Absent • **Category:** Category II **@ xxxx hours:** • **FHR evaluation:** Baseline: 160 bpm; Variability: Minimal; Accelerations: Absent; Decelerations: Absent • **Category:** Category II **@ xxxx hours: Vitals:** Temperature 36.8; BP 138/73; Pulse 80 **@ xxxx hours:** • **FHR evaluation:** Baseline: 160 bpm; Variability: Minimal; Accelerations: Absent; Decelerations: Absent • **Category:** Category II • Uterine contraction: Mode: TOCO transducer repositioned. Position: Semi fowlers • Patient is aware that she is at increased risk for cesarean due to Fetal Heart Tracing (FHT) pattern as discussed earlier by Dr. LaForest.	

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		@ xxxx hours: • **FHR evaluation:** Baseline: 160 bpm; Variability: Minimal; Accelerations: Absent; Decelerations: Absent • **Category:** Category II • Uterine contraction: Mode: TOCO; frequency 2-4 minutes; Duration: 80-90 sec; Intensity: Mild; Resting soft to palpation **@ xxxx hours:** • Uterine contraction: Mode: TOCO; frequency 4-5 minutes; Duration: 60-90 sec; Intensity: Mild; Resting soft to palpation • **FHR evaluation:** Baseline: 160 bpm; Variability: Minimal; Accelerations: Absent; Decelerations: Absent • **Category:** Category II **@ xxxx hours: Examination:** • Examination by Dr. Jessica LaForest • **Membranes:** Artificial Rupture of Membranes (AROM); Meconium thick; Small amount • **Cervical exam:** Dilation 2.5 cm; Effacement 80%; Station -3 **@ xxxx hours:** • FECG initiated • **FHR evaluation:** Baseline: 160 bpm; Variability: Minimal; Accelerations: Absent; Decelerations: Late; Recurrent: No • **Category:** Category II **@ xxxx hours:** • Uterine contraction: Mode: TOCO; frequency 4-5 minutes; Duration: 60-90 sec; Intensity: Mild; Resting soft to palpation **@ xxxx hours:** Position: High fowlers. Primary IV added LR 1000 ml; Bag 2 **@ xxxx hours:** • **FHR evaluation:** Baseline: 160 bpm; Variability: Minimal; Accelerations: Absent; Decelerations: Absent • **Category:** Category II **@ xxxx hours:** OB hemorrhage: Low risk, no previous uterine incision, singleton pregnancy, < or = to 4 previous vaginal birth, no history of PPH	

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		@ xxxx hours: • **FHR evaluation:** Baseline: 160 bpm; Variability: Minimal; Accelerations: Absent; Decelerations: Absent • **Category:** Category II **@ xxxx hours:** • **FHR evaluation:** Baseline: 160 bpm; Variability: Minimal; Accelerations: Absent; Decelerations: Late; Recurrent: Yes • **Category:** Category II • Uterine contraction: Mode: TOCO; frequency 5-6 minutes; Duration: 60-60 sec; Intensity: Mild to moderate; Resting soft to palpation **@ xxxx hours:** • Position: Right tilt • IV rate increase **@ xxxx hours:** IV bolus started. Patient remains Nil Per Oral (NPO) **@ xxxx hours:** • **FHR evaluation:** Baseline: 160 bpm; Variability: Minimal; Accelerations: Absent; Decelerations: Variable; Recurrent: Yes • **Category:** Category II **@ xxxx hours:** • Intervention: Position change • Position: Left lateral • **FHR evaluation:** Baseline: 160 bpm; Variability: Minimal; Accelerations: Absent; Decelerations: Late; Recurrent: No • **Category:** Category II • Uterine contraction: Mode: TOCO; frequency 2-6 minutes; Duration: 60-60 sec; Intensity: Mild to moderate; Resting soft to palpation **@ xxxx hours: Vitals:** Temperature 36.9; BP 119/66; Pulse 85; Respiration 16; SpO2 99% **@ xxxx hours:** • **FHR evaluation:** Baseline: 165 bpm; Variability: Minimal; Accelerations: Absent; Decelerations: Late; Recurrent: No • **Category:** Category II **@ xxxx hours:** • **FHR evaluation:** Baseline: 165 bpm; Variability: Minimal; Accelerations: Absent; Decelerations: Early	

DATE	PROVIDER	MEDICAL EVENTS	PDF REF
		• **Category:** Category II • Uterine contraction: Mode: TOCO; frequency 3-5 minutes; Duration: 50-60 sec; Intensity: Mild to moderate **@ xxxx hours: Examination:** • **Cervical exam:** Dilation 3 cm; Effacement 80%; Station -3 • **Position:** Left latera • **FHR evaluation:** Baseline: 160 bpm; Variability: Minimal; Accelerations: Absent; Decelerations: Absent • **Category:** Category II • Uterine contraction: Mode: TOCO; frequency 3-5 minutes; Duration: 50-60 sec; Intensity: Mild to moderate **@ xxxx hours:** • **FHR evaluation:** Baseline: 165 bpm; Variability: Minimal; Accelerations: Absent; Decelerations: Absent • **Category:** Category II • Uterine contraction: Mode: TOCO; frequency 3-5 minutes; Duration: 50-60 sec; Intensity: Mild to moderate **@ xxxx hours:** • **FHR evaluation:** Baseline: 165 bpm; Variability: Minimal; Accelerations: Absent; Decelerations: Late; Recurrent: No • **Category:** Category II • Dr. LaForest called unit, states she will be up in 10 minutes to evaluate **@ xxxx hours:** • **FHR evaluation:** Baseline: 170 bpm; Variability: Minimal; Accelerations: Absent; Decelerations: Late; Recurrent: No • **Category:** Category II • Uterine contraction: Mode: TOCO; frequency 2-5 minutes; Duration: 50-60 sec; Intensity: Mild to moderate **@ xxxx hours:** • Dr. LaForest aware of fetal heart tone pattern and last vaginal exam. States she will be coming up to evaluate. • **FHR evaluation:** Baseline: 175 bpm; Variability: Minimal; Accelerations: Absent; Decelerations: Late; Recurrent: No • **Category:** Category II **@ xxxx hours:** Obstetrician at bedside **@ xxxx hours:** Plan for Cesarian section	
03/07/20yy	Memorial Health	**@ 1740 hours: Consent for primary cesarean section:** *Patient signed the consent form*	114

DATE	PROVIDER	MEDICAL EVENTS	PDF REF
	Jessica LaForest, M.D.	I have had the opportunity to ask questions and I have no further questions of my physician. If the patient is a minor, the signature of the parent or legal guardian is necessary. Time: 1740 Date: 3/7/21 Patient/Legal Guardian Signature: [signature] Time: 1740 Date: 3/7/21 Witness Signature: Amy Hoperberger If the patient is unable to consent due to incompetency, the signature of the spouse, closest relative, or other legally authorized person is necessary. Relationship to person with authority to sign:_____ Time:_____ Date:_____ Signature:_____ Time:_____ Date:_____ Witness Signature:_____ Physician Attestation: I have explained to the patient and/or personal representative of the patient, the procedure, its necessary or advisability, risks and benefits, possible complications, and possible alternative treatments. The patient explained that he/she has understood from our discussion and wishes to proceed. Time: 1740 Date: 3/7/21 Physician Signature: [signature]	
03/07/20yy	Memorial Health Amy Hoperberger, RN	**@ 1745 hours:** • **FHR evaluation:** Baseline: 165 bpm; Variability: Minimal; Accelerations: Absent; Decelerations: Variable; Recurrent: No • **Category:** Category II • Uterine contraction: Mode: TOCO; frequency 4-5 minutes; Duration: 50-80 sec; Intensity: Moderate; Resting soft to palpation	141
03/07/20yy	MM Main Campus Jessica LaForest, M.D.	**@ 1752 hours: History and Physical:** **Chief complaint:** Labor Gravida 3; Para 0 **Indication for induction:** Other (decreased fetal movement and contractions) Patient is G3P0020 at 39 weeks 4 days by EDD 03/10/20yy L = 10-week scan. Patient states has not been feeling baby move today and started having contractions last evening. Now every 6-8 minutes. No Loss Of Fluid (LOF) or vaginal bleeding. Baby usually moves well and was very concerned this morning. No fevers/chills, no fundal pain. No URI symptoms or other complaints besides pelvic pain. **Complication of pregnancy:** • Varicella non-immune • THC first trimester **History of present pregnancy:** **Dating criteria:** LMP confirmed by 1st trimester ultrasound **Prenatal care:** Good care **Ultrasound:** Normal 1st trimester ultrasound and normal mid trimester ultrasound **Medical complications:** None **Prenatal labs:** Blood type: A+ GBS status: Negative	288-294

DATE	PROVIDER	MEDICAL EVENTS	PDF REF
		PAP: ASCUS, + HR HPV – CIN 1 on colposcopy Anatomy: Within normal limits *Labs @ 1416 hours and @ 1509 hours reviewed* **Review of systems:** **Constitutional:** Reports fatigue **Gastrointestinal:** Reports abdominal pain and nausea **Genitourinary (GU):** Denies abnormal vaginal bleeding, dysuria. Reports amenorrhea, pelvic pain and vaginal discharge **Musculoskeletal:** Reports back pain **Endocrine:** Reports fatigue and denies palpitations *Otherwise, unremarkable* **Home medications:** *Recorded 07/29/20xx* Doxylamine succinate 25 mg; Pediatric multivitamin no. 76; Pyridoxine 100 mg **Vitals @ 1606 hours:** Temperature 98.4; pulse 85; respiration 16; BP 119/66 **Physical examination:** **Constitutional:** No acute distress, average body habitus and cooperative **Abdominal exam:** Present normal bowel sounds and soft, absent tenderness **Routine GU exam:** Perineum normal *Otherwise, unremarkable* **Detailed labor and delivery exam:** • Dilation 3 cm • Effacement: 80% • Cervix position: Posterior • Fetal station: -3 • Consistency: Soft • Amniotic membrane: Ruptured • Amniotic fluid: Thich meconium • Baseline fetal heart rate: 170 • Fetal monitor accelerations: Absent • Fetal monitor decelerations: Episodic (Late) • Long term variability: Minimal (3-5) • Contraction frequency: 5 • Tachysystole: No • Contraction intensity: Mild **Problem details:** Patient G3 P0020 at 39 weeks 4 days with contraction likely latent	

DATE	PROVIDER	MEDICAL EVENTS	PDF REF
		labor and DFM with non-reassuring fetal heart tones. Initial cat 2 tracing with decision for amniotomy. No onset of contractions or cervical change in last 4 hours and now fetal tachycardia with continued minimal to absent variability with spontaneous decelerations. Now decision for Primary Low Transverse Cesarean Section (1LTCS). Fetal status now non-reassuring GBS negative Varicella non-immune **Assessment and plan:** Admit for 1LTCS. All risk, benefits and alternatives of surgery including but not limited to risk of anesthesia, bleeding, infection, damage to abdominal structures including organs, major blood vessels and nerves, need for further or future surgery. All questions answered, information given, and informed consent obtained. Expecting female infant Linda, and wishes to breast feed, will offer Varivax post-delivery. Feal heart rate non-reassuring affecting management of mother **Procedures:** Vaginal delivery **Amniotic fluid:** Thick meconium	
03/07/20yy	Memorial Health Amy Hoperberger, RN	**Nurse notes:** **@ 1755 hours:** **Cesarian preparation:** Preoperative teaching, consent signed, abdominal preparation, abdominal hair clipped, preoperative medications given, preoperative checklist complete **@ 1759 hours:** • Bicitra 30 ml given • **FHR evaluation:** Baseline: 165 bpm; Variability: Minimal; Accelerations: Absent; Decelerations: Late; Recurrent: No • **Category:** Category II • Uterine contraction: Mode: TOCO; frequency 2-5 minutes; Duration: 50-60 sec; Intensity: Moderate **@ 1813 hours:** Monitor off patient taken to OR via labor bed	141
03/07/20yy	MM Main Campus Jessica LaForest, M.D. Adams Dawn, RN	**@ 1830 hours: Operative report:** **Preoperative and diagnosis:** • Intrauterine pregnancy at 39 weeks and 4 days of gestation • Non-reassuring fetal heart tones • Meconium-stained fluid **Procedure:** Primary low transverse cesarean section via Pfannenstiel skin incision with tap block	281-282

DATE	PROVIDER	MEDICAL EVENTS	PDF REF
		Complications: None **Anesthesia:** Spinal with tap block **Estimated blood loss:** 1432 ml QBL **Intravenous fluids:** 500 ml of lactated Ringer's with 20 unit of Pitocin **Urine output:** 30 ml of clear urine via Foley at the end of the procedure **Indications:** Patient G3P0020 presents at 39 weeks and 4 days of gestation with decreased fetal movement and onset of contractions. On admission, the patient was found to have minimal variability with spontaneous decelerations. She was admitted and begun on IV fluids which briefly improved the tracings slightly. There was no accelerations pattern noted. She had rupture of membranes @ 1409 hours of very thick meconium-stained fluid. The patient was then observed for approximately 4 hours through which intermittent spontaneous decelerations were noted and continued minimal variability. No accelerative pattern was noted. Slowly over the next 4 hours, the fetus became tachycardic in the 170s with minimal cervical change to 3 cm, 80% and still -2 station. Given the lack of cervical change and lack of onset of labor and worsening fetal status and out inability to start Pitocin due to category 2 tracing, we elected to recommend, and the patient is agreeable to primary cesarean section. **Findings:** Female infant, cephalic presentation, direct OA position, thick meconium fluid. Apgars of 1, 5, and 9. Weight 3300 g. Resuscitation per RN staff. Normal uterus, fallopian tubes and ovaries bilaterally. Cord blood gases arterial 7.19 and venous of 7.198. placenta to pathology. Delivery time 1841 hours. ** Reviewer's Comment: Resuscitation notes of the infant are not available for review.* **Specimen to pathology:** Placenta with culture **Procedure:** ... A low transverse uterine incision is made with the scalpel and extended superiorly and laterally bluntly. Meconium thick fluid is still present. The infant is delivered in direct occiput anterior position cephalically without complication. After delivery of the head, bulb suction was performed of the oronasopharynx to remove any secretions and infant is taken immediately to the warmer for evaluation and resuscitation by RN staff. Apgars of 1,5, and 9. Weight 3300 g. The infant is taken to the nursery. At this time, cord blood is then obtained. Placenta was then removed from the uterus without difficulty and appears grossly normal and will be sent for pathologic evaluation as well as culture. The uterus is exteriorized, and endometrial cavity cleared of all remaining production of conception... ...The patient did receive 900 mg of Clindamycin and 80 mg of	

<table>
<tr><th>DATE</th><th>PROVIDER</th><th>MEDICAL EVENTS</th><th>PDF REF</th></tr>
<tr><td></td><td></td><td>Gentamycin prior to the procedure, and she was then taken to the recovery room in good condition. At this time, the infant is breathing on nasal cannula oxygen with 100% saturation and Dr. Creighton Sovis is on her way to evaluate the patient. She is overall stable.</td><td></td></tr>
<tr><td>03/07/20yy</td><td>MM Main Campus

Julie Sovis, DO</td><td>
Pediatric History and Physical:
Birth information:

Date and time of birth: 03/07/20yy @ 1841 hours
Birth weight: 3.3 kg
Height: 19.25 in
Head circumference: 13.75 in
Chest circumference: 13.25 in
Waist circumference: 12.5 in

Apgar:
<table>
<tr><th>APGAR Scores</th><th>1 minute</th><th>5 minutes</th><th>10 minutes</th></tr>
<tr><td>Heart rate</td><td>Below 100 bpm</td><td>> 100 bpm</td><td>> 100 bpm</td></tr>
<tr><td>Respiratory effort</td><td>No spontaneous effort</td><td>Slow respiration/ weak cry</td><td>Spontaneous/ strong cry</td></tr>
<tr><td>Muscle tone</td><td>Limp</td><td>Limp</td><td>Minimal flexion/ extension</td></tr>
<tr><td>Reflex response</td><td>No response</td><td>No response</td><td>Prompt response</td></tr>
<tr><td>Color</td><td>Pallor or cyanosis</td><td>Pink/ no cyanosis</td><td>Pink/ no cyanosis</td></tr>
<tr><td>Total score</td><td>1</td><td>5</td><td>9</td></tr>
</table>
Gestation age: 39 weeks 4 days
Mothers GBS status: Negative
Amniotic membrane rupture date: 03/07/20yy
Amniotic membrane rupture time: @ 1409 hours
Fluid description: Meconium stained
Infant delivery method: Emergency cesarean section

Newborn examination:
Activity: Quiet (will cry with stimulation)
Skin color: Normal for race
Anterior fontanel: Flat
Ear: Normal appearance bilateral
Eye: Normal appearance bilateral and clear
Palate: Intact
Tongue: Midline
Neck: Supple full Range Of Motion (ROM), no torticollis and no enlarged lymph nodes.
</td><td>71-73</td></tr>
</table>

DATE	PROVIDER	MEDICAL EVENTS	PDF REF
		Chest: Symmetrical, good air exchange. Some accessory muscle use. + grunting intermittently at rest and with stimulation **Cardiovascular:** Regular rate and rhythm, no murmurs, good capillary refills and femoral pulses adequate **Abdomen:** Soft and nontender, no rebound, no guarding, no organomegaly, normal bowel sounds and 3 vessel cord **GU:** Normal external genitalia and Tanner stage I **Musculoskeletal:** Well perfused extremities, no deformities, no swelling or redness. Negative Barlow and Ortolani. No sacral dimple **Skin:** Warm and dry and no rash **Neurological:** Moro reflex, sensation normal and intact strength **Other findings:** Low muscle tone. Limp **Vitals @ 1910 hours:** Pulse oxygen 90 (Low) **Assessment and plan:** • Single liveborn infant delivered *vaginally*: Provider was called to delivery. Pregnancy uncomplicated except for THC use in first trimester. UDS negative on admission. Maternal serology negative including GBS except Varicella non-immune. Mom is A+. Baby born at 38 4/7 week *(must be 39)* via emergency C-section secondary to category 2 FHR. Strip was showing minimal variability and some late decelerations. There was thick meconium at rupture of membranes. Apgars were 1, 5, and 9. See nursing notes for resuscitation details but in summary baby received Positive Pressure Ventilation (PPV) immediately after birth for 3.5 minutes followed by CPAP for 16 minutes. ** Reviewer's Comment: Resuscitation notes of the infant are not available for review.* Baby was transferred to nursery and started on 2 L NC at 50% oxygen. When provider arrived, baby was on O2 via NC with increased Work Of Breath (WOB), grunting and poor tone. Baby was made NPO and started on D10W at 80 ml/kg/hour. Initial BG was 48. CBC, CBG, blood culture are pending. Chest X-ray (CXR) was negative. Amp started at 150 mg/kg/day and Gentamycin at 4 mg/kg/dose. Provider discussed patient's status, workup and need for transfer with Alyse Strahm who accepted transfer to Sparrow NICU under the care of Dr. Olomu. • Thick meconium-stained amniotic fluid • Respiratory distress of newborn • Meconium aspiration syndrome • No passive smoke exposure • Intrauterine drug exposure: + THC in first trimester. UDS negative on admission.	
03/07/20yy	MM Main	**@ 1926 hours: Chest X-ray report:**	74-75

DATE	PROVIDER	MEDICAL EVENTS	PDF REF
	Campus Wendy Brown, M.D.	**Indication:** Newborn, respiratory distress. **Comparison:** None **Findings:** • Lines/tubes/deices: None • Mediastinum: Rotated frontal projection but cardiothymic silhouette appears normal • Lungs: Clear • Pleura: No pneumothorax. No pleural effusion • Bones: No acute findings • Other structures: unremarkable **Impression:** Lungs appear clear. No pneumothorax.	
03/07/20yy	MM Health Laboratory	**Labs:** **High:** NRBC 3.75, 11.1%; AST 1001; ALT 700. **Low:** Sodium 137; CO2 13; Glucose 39; Globulin 1.7 **Normal:** WBC 33.8; RBC 4.4; Hemoglobin 16.3; Hematocrit 49; Platelet 150; Potassium 4.5; Chloride 101; BUN 10; Creatinine 0.9; Total bilirubin 1.1; Total proteins 5; Albumin 3.3. **Newborn screening:** **Normal:** Amino acids; fatty acids; organic acid; enzyme disorder; hemoglobinopathy; cystic fibrosis; SCID; SMA; LSD; X-ALD **Inconclusive:** Endocrine disorder **Cord Blood Gas report:** **Cord artery:** pH 7.19; pCO2 51.4; pO2 12.9; Carbon monoxide 0.7 **Cord vein:** pH 7.20; pCO2 54.8; pO2 14.8 **Capillary Blood Gas report:** **Low:** pH 7.19; HCO3 13; TCO2 14; Base Excess (BE) -14.8 **Normal:** pCO2 36; pO2 85; oxygen saturation 95.3 **Arterial Blood Gas (ABG) report:** **Low:** pH 7.26; pCO2 30; pO2 70; HCO3 13; TCO2 14; Base Excess (BE) -12.7; oxygen saturation 93 Cord DAT interpretation: Negative	7-9
03/07/20yy	MM Main Campus Brian Fedeson, M.D.	**@ 2247 hours: Chest X-ray report:** **Indication:** Intubation **Comparison:** 03/07/20yy **Findings:** • ET tube is 2.5 cm above the carina. NG tube reaches the stomach. • Cardio mediastinal silhouette is normal • There is minimal hazy infiltrate bilaterally	76

DATE	PROVIDER	MEDICAL EVENTS	PDF REF
		Impression: Status post intubation. Mild RDS.	
03/07/20yy	MM Main Campus Julie Sovis, DO	**Newborn discharge summary:** *Labs reviewed* **Vitals:** **@ 1910 hours:** Temperature 36.3 (97.3° F) (low); Pulse 167 (high); Respiration 33; Pulse oxygen 95 **@ 1940 hours:** Temperature 98.2; Pulse 163 (high); Respiration 20 (low); Pulse oxygen 99 **@ 2010 hours:** Temperature 98.9; Pulse 167 (high); Respiration 48; Pulse oxygen 100 **@ 2040 hours:** Temperature 98.3; Pulse 170 (high); Respiration 31; Pulse oxygen 94 (Low) **Newborn examination:** **Activity:** Lethargic (poor tone but crying and responsive to exam) **Skin color:** Normal for race **Anterior fontanel:** Flat **Ear:** Normal appearance bilateral **Eye:** Normal appearance bilateral and clear **Palate:** Intact **Tongue:** Midline **Neck:** Supple full ROM, no torticollis and no enlarged lymph nodes. **Chest:** Symmetrical, good air exchange. + accessory muscle use and grunting. No nasal flaring. **Cardiovascular:** Regular rate and rhythm, no murmurs, good capillary refills and femoral pulses adequate **Abdomen:** Soft and nontender, no rebound, no guarding, no organomegaly, normal bowel sounds and 3 vessel cord **GU:** Normal external genitalia and Tanner stage I **Musculoskeletal:** Well perfused extremities, moving all 4 extremities when stimulated. Full ROM. No deformities, no swelling or redness. Negative Barlow and Ortolani. No sacral dimple **Skin:** Warm and dry and no rash **Neurological:** Sensation normal, intact strength and + decreased tone/ limp **Assessment and plan** • Single liveborn infant delivered *vaginally*: Provider was called to delivery. Pregnancy uncomplicated except for THC use in first trimester. UDS negative on admission. Maternal serology negative including GBS except Varicella non-immune. Mom is A+. Baby born at 38 4/7 week *(must be 39)* via emergency C-section secondary to category 2 FHR. Strip was showing minimal variability and some late decelerations. There was thick meconium at	67-70

DATE	PROVIDER	MEDICAL EVENTS	PDF REF
		rupture of membranes. Apgars were 1, 5, and 9. See nursing notes for resuscitation details but in summary baby received PPV immediately after birth for 3.5 minutes followed by CPAP for 16 minutes. Baby was transferred to nursery and started on 2 L NC at 50% oxygen. When provider arrived, baby was on O2 via NC with increased WOB, grunting and poor tone. Baby was made NPO and started on D10W at 80 ml/kg/hour. Initial BG was 48. CBC showed H/H 16/49, WBC 33.8; and platelets 150. CBG and blood culture are pending. CXR was negative. Amp started at 150 mg/kg/day and Gentamycin at 4 mg/kg/dose. Provider discussed patient's status, workup and need for transfer with Alyse Strahm who accepted transfer to Sparrow NICU under the care of Dr. Olomu. Baby was transferred to Sparrow requiring oxygen supplementation but in stable condition. • Thick meconium-stained amniotic fluid • Respiratory distress of newborn • Meconium aspiration syndrome • No passive smoke exposure • Intrauterine drug exposure: + THC in first trimester. UDS negative on admission. ** Reviewer's Comment: Culture report is summarized and placed as per the final reported date 03/13/20yy.*	
03/08/20yy	MM Main Campus Jessica LaForest, M.D.	**Progress notes:** **Subjective:** Postoperative day 1 overall doing well, some pain but tolerable with medications. Infant not doing well at sparrow. + voiding, no flatus, scant lochia. Patient comments: Pain well controlled, incisional pain and tolerating diet, no flatus present. Newborn baby status: NICU **Vitals:** Temperature 97.89; pulse 95; respiration 20; BP 132/78; SpO2 99% **Objective:** **Constitutional:** No acute distress, average body habitus and cooperative **Abdomen:** Present normal bowel sounds, soft and tenderness (appropriate). Fundus present firm **Extremities:** Present pedal edema trace bilaterally **Wound management:** Drains none. Present dressed, clean, dry and intact. Absent erythematous, bloody drainage and serosanguinous drainage *Otherwise, unremarkable* *Labs reviewed*	301-304

DATE	PROVIDER	MEDICAL EVENTS	PDF REF
		Assessment and plan: **Delivery by cesarean section using transverse incision of lower segment of uterus** Patient is postoperative day 1 status post 1LTCS for Non-Reassuring Fetal Heart Tones (NRFHTs). Overall doing well, pain controlled, tolerating diet and normal lochia, normal voiding, no flatus as of yet. Infant now doing well at Sparrow NICU. Discharged home today to see infant. • Routine post-operative care, Lovenox prior to discharge home. Restrictions discussed. Follow-up in 2 and 6 weeks. • Lactation as needed **Postoperative anemia due to acute blood loss:** Hemoglobin 8.7, normal vitals. No symptoms. Home FeSO4/Colace **Care and examination of lactating mother**	
03/08/20yy	MM Main Campus Jessica LaForest, M.D.	**Discharge summary:** **Discharge diagnosis:** • Delivery by cesarean section using transverse incision of lower segment of uterus Patient is postoperative day 1 status post 1LTCS for NRFHTs. Overall doing well, pain controlled, tolerating diet and normal lochia, normal voiding, no flatus as of yet. Infant now doing well at Sparrow NICU. Discharged home today to see infant. All postoperative restrictions discussed. Follow-up in 2 and 6 weeks. • Postoperative anemia due to acute blood loss. HGB 8.7, normal vitals. No symptoms. Home FeSO4/Colace • Care and examination of lactating mother **Physical examination:** **Constitutional:** Cooperative, healthy appearing and no acute distress. Nutritional appearance: overweight **Gastrointestinal:** Inspection: Normal to inspection and incision (intact, steri strips in place, no erythema or bruising. Minimal tenderness). Palpation: Soft and no hepatosplenomegaly Auscultation: Normal bowel sounds *Otherwise, unremarkable* **Patient disposition:** Discharged home	283-287
		SS Hospital (03/08/20yy-03/29/20yy)	
03/08/20yy	SS Hospital Mohammed Abdulmageed,	**Regional Neonatal Intensive Care Unit (RNICU) admission note:** **Date and time of admission:** 03/07/20yy @ 2055 hours Birth weight: 3360 g	350-358

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	M.D.	Length: 19.75 in Head circumference: 13.75 in Apgars: 1/5/9 **Vitals:** Temperature 91.6-97.7; Pulse 93-170; Respiration 10-75; BP 44-89/23-69; SpO2 85-100% **Physical examination:** **General:** Sluggish reaction to stimulation, AGA, term infant; intubated on SIMV, lying over the cooling blanket. **Head:** Fontanels open - soft and flat, normocephalic, molded head. **Eyes:** Normal in shape and position, bilateral miosis, red reflex positive bilaterally. **Ears:** Auricles normally formed and placed, external canals patent. **Throat:** ETT in place. Moist - pink mucosa. **Chest:** Clear breath sounds throughout both lung fields, no retractions. **Cardiovascular:** Regular rate and rhythm, normal S1, S2, no murmur, Brachial and Femoral pulses equal, capillary refill less than 2 sec. **Extremities:** Symmetrically formed - full range of motion, no hip clicks. **Abdomen:** Soft, nontender, nondistended, bowel sounds present in all quadrants, no palpable masses or viseromegaly, UVC in place. **Spine:** Back straight - without palpable bony defects or sacral dimple. **Anus:** Patent. **Genitourinary:** Normal female genitals appropriate for gestation. **Neurological:** Weak suckling reflex, weak palmar grasp, Moro present bilaterally, generalized hypotonia, positive Babinski bilaterally. **Skin:** No rash or lesions, pink. **Hips:** No hip clicks. **Labs:** **High:** Direct bilirubin 0.5; BUN 21; Creatinine 1.21; ALT 750; AST 877; pCO2 48 L**ow:** Potassium 3.5; Calcium 7.47; Arterial PO2 48; pH 7.29; pO2 23.9 **Normal:** Total bilirubin 2.2; Chloride 99; CO2 24; Glucose 94 **Medications:** Ampicillin IV 100 mg/kg/dose; Cefotaxime IV 50 mg/kg/dose; Heparin IV 7.7 ml/hour; Lorazepam 0.16 mg IV 0.05 mg/kg/dose; Sodium acetate IV; Sodium bicarbonate; Zinc oxide 40% paste **Problem list:**	

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		Meconium aspiration: Baby was born via emergency C-section for NRFHT. AROM 2 hours PTD with thick meconium. Baby's APGARs were 1,5 and 9 at 1, 5 and 10 minutes of age. Baby required PPV at birth for 3.5 minutes, then CPAP for 16 minutes then transitioned to 2 LPM NC at 100%. Baby was still retracting and desating, so a STAT CXR and blood culture was done, and Ampicillin and Gentamycin were started. Baby required intubation and placement on SIMV due to frequent apnea and seizure episodes. **Healthcare maintenance** Prophylactic Vitamin K and Erythromycin ophthalmic ointment given at Owosso Memorial Hospital. Initial Newborn Screen sent early (< 3 hours of age) at Owosso Memorial. Discharge planning: • PCP • Hearing Screen • CCHD Screen • Car Seat Test • Hepatitis B Vaccine given 03/07/20yy at Owosso Memorial Hospital • CPR Instruction **HIE:** Baby required PPV after birth for 3.5 minutes due to apnea; switched to CPAP 5 that was used for 16 minutes then switched to 2L NC, FiO2 100% (that was weaned down to 60% at time of transport to RNICU). Per transport RN report, "Infant with low tone, intermittent grunting, and pale. Infant had had a second apneic episode requiring PPV between the phone call for transfer and transport team arrival. While assessing infant at Owosso Hospital, infant had another apneic episode witnessed by transport team. During this event, infant began to lip/tongue smack. So, plan was to start passively cooling infant at 3 hours and 35 minutes of life, radiant warmer turned off. Due to frequent apneic events with seizure like activity, infant intubated at 2230 with 3.5 ETT, taped securely at 9 cm at the lip on second attempt. Chest X-ray obtained to verify placement. OG placed at 21 cm prior to chest X-ray. Infant placed on ventilator at 20/5, rate of 30. FiO2 100%. Unable to wean FiO2 at this time due to frequent apnea events and desaturations. A NS bolus (10 ml/kg), and 20 mg/kg of Phenobarbital were given and D10 infusion. PIV then was not flushing, so a low lying UVC inserted by transport team. Infant had a total of 8 apnea/desaturation episodes with lip smacking and bicycling noted. A low lying UVC	

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		was inserted as a PIV was difficult to obtain. Upon admission to the RNICU, active cooling was started immediately at 7 hours of life (patient temp at time of starting cooling was at target temp of 33.5C) **Need for observation and evaluation of newborn for sepsis** History of decreased fetal movement. NRFHTs (Cat 2) prompted an emergency C section. AROM approximately 2 hours PTD with MSAF. No evidence of chorioamnionitis. Onset of respiratory distress following birth. Limited septic work up initiated at the referral hospital and started on Ampicillin and Gentamicin. **Term birth of infant** A term female AGA (birth weight is 3.3 kg) infant born at 39 4/7 weeks via emergency C-section for NRFHT. Baby is born on 03/07/20yy at 1841 at Owosso Memorial Hospital. Mom had decreased fetal movement 24 hours prior to delivery. Prenatal labs: A+/Antibodies negative: HIV/Hep B/GC/Chlamydia/RPR/COVID are negative, rubella Immune, GBS negative. Mom denies alcohol, or tobacco, but tested positive for THC during 1st trimester (negative UDS on admission). Prenatal meds: Unison, B6, Prenatal vitamins and Tylenol (for toothache per Mom). AROM 2 hours PTD with thick meconium fluid and no signs of Chorioamnionitis. APGARs were 1, 5 and 9 at 1, 5 and 10 minutes respectively. Baby required PPV at birth for 3.5 minutes followed by CPAP for 16 minutes. CPAP was then transitioned to NC at 100% (weaned down to 60% at time of transport). Baby had multiple apnea and seizure-like movement. So, intubation was done by the transport team at 4 hours of life. Passive cooling was started at 3 hours and 35 minutes; active cooling was started at 7 hours of life (there was a delay in transporting the baby to the RNICU due to difficulty to obtain a PIV and due to frequent apnea and seizure-like episodes requiring endotracheal intubation and placing the baby on SIMV. Baby is admitted to the RNICU for management of moderate HIE, seizures, and meconium aspiration on mechanical ventilation. **Alteration in nutrition in infant** NPO since birth for management of respiratory distress and HIE. Initially PIV placed at referral hospital and with subsequent low lying UVC when peripheral access lost. UAC / UVC placed. IVF D10/heparin and 0.45 Na Acetate/heparion. **Seizures in newborn** History of decreased fetal movement; NRFHTs (Cat 2). Therapeutic hypothermia initiated for suspect HIE with passive cooling started at	

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		referral hospital at approximately 3 hours 35 minutes of age and cooling blanket started on arrival to Sparrow. Onset of apnea at referral hospital requiring PPV for recovery and intubated (10+ events) with report of some bicycling, lip smacking. Given Phenobarbital 20 mg/kg/dose x 1 at the referral hospital at approximately 5.5 hours of age. On RNICU admission started BRAINZ monitoring. **Assessment:** A term AGA female infant born at 39 4/7 weeks via emergency C-section for NRFHT requiring PPV and CPAP. GBS was negative. AROM with thick meconium 2 hours PTD. Baby had multiple apnea and seizure-like episodes requiring mechanical ventilation. Baby is admitted to the RNICU for management of moderate HIE (lethargy, hypotonia, weak suck, miosis, bradycardia, decreased activity, and periodic breathing); is under cooling that was started passively at 3 hours and 35 minutes of life and then active cooling started at 7 hours of life. Patient is status post 30mg/kg of Phenobarbital and 1 x Ampicillin and 1 x Gentamicin. Liver and kidney also seem affected given high liver enzymes and serum creatinine level with elevated troponin and lactate. **Plan of care:** **CNS:** Moderate HIE, seizure-like activity, apnea (a total of 11 episodes prior to admission); no cord blood gases are recorded in the baby's chart at time of transport Plan: • Management per HIE cooling protocol • Cooling was started at 3 hours and 35 minutes of age to target of 33.5C • Patient received a dose of Phenobarbital at 6 hours of life at 20 mg/kg/dose during transport and another loading dose of 10 mg/kg/dose after admission. • Monitor brain activity via BrainZ • STAT Head US • Consult to Neurology • Continue monitoring with Sarnat Scoring every 12 hours **CVS:** Cooling, elevated lactate (13.3) and troponin (106); low BP Plan: • Continue cardiopulmonary monitoring • Follow-up lactate after 6 hours and daily • Troponin daily • STAT ECHO • Received 2x NaCl boluses for low perfusion and low BP with metabolic acidosis; now improved • Pre- and post-ductal SPO2 as baby is at risk of PPHN	

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		• Monitor HR, BP, UOP **Respiration:** Meconium aspiration, apnea; status post PPV, CPAP, NC; now on SIMV; initial ABG shows severe metabolic acidosis (CBG at Owosso: 7.19/36/85/13/-14.8; First gas on admission to RNICU: 7.23/27/70/10.7/-15.6); ETT is fixed at 9 cm at the lip. Placement confirmed by X-ray at T2-3; status post 1x curosurf at 7.5 hours of life Plan: • On SIMV 18/5, RR 25, PS 10 • Titrate FIO2 >95% as baby is at risk of PPHN • CXR on admission and as needed • ABG on admission and as needed **FEN/GI:** Alteration in nutrition; elevated transaminases; elevated BUN and Creatinine; severe metabolic acidosis Plan: • NPO • D10% infusion at 60 ml/kg/day • 0.45% Na Acetate with heparin in the UAC • Status post 2 x NaHCO3 blouses 2 meq/kg • P6, hepatic panel, Phosphorous, Mg and Ca and iCal daily • Continue to monitor UOP **Heme/Bili:** Mom is A +, Antibody negative; baby is O + with DAT negative Plan: • Monitor Bilirubin per protocol • CBC on admission and daily • DIC panel daily **ID:** GBS negative, AROM at 3.5 prior to delivery, no evidence of chorioamnionitis; meconium aspiration and HIE; patient received a dose of Ampicillin and Gentamycin. Blood culture was obtained at Owosso Hospital • Will continue Amp • Will switch Gentamycin to Claforan given Acute Kidney Injury (AKI) and no UOP • Follow-up blood culture from Owosso • Repeat blood culture here on admission • CRP STAT • Follow-up placental pathology **Lines:** • Umbilical Artery Catheter (UAC) 18cm deep at T6 • Umbilical Venus Catheter (UVC) 10.5 cm deep at T6-7 (just	

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		above the diaphragm in the cross-table view) **Social:** Family was called and updated with the plan over the phone. History of THC in maternal UDS in first trimester (negative UDS on admission) • Will order UDS for the baby (no meconium) **Healthcare maintenance:** Hepatitis B, Vitamin K and Erythromycin ointment were given after birth at Owosso Hospital. Plan is discussed with Dr. Olomu	
03/08/20yy	SS Hospital Ellen Meadows, M.D.	**Ultrasound Encephalography report:** **History:** Term baby with apnea and possible HIE **Comparison:** None **Findings:** Ventricles are not dilated. No areas of abnormal echogenicity are seen to suggest hemorrhage. There are no cystic changes. Study has some technical limitation because of size of the fontanelle. **Impression:** Negative study	515
03/08/20yy	SS Hospital Mohammed Abdulmageed, M.D. Tarek Mohamed, M.D.	**Neonatology History and Physical:** Full Term (FT), with Hypoxic Ischemic Encephalopathy (HIE), transferred from Owosso hospital. Decreased fetal movement for past 24 hours reported by referring hospital. Thick meconium reported. Cooling started with on-call team (Dr. Nicholas Olomu, Dr. Mohammed Abdulmageed, and Alyse Strahm, NNP) as baby fit criteria for cooling and being encephalopathic). Baby received passive cooling on referring hospital and during transport, then started on active cooling in SS Hospital Per report, C-section for NRFHT, APGAR 1/5/9. Got PPV for 3.5 minutes, then CPAP till 16 minutes Baby fit HIT criteria (-15 base deficient) and had early seizures (started on early Phenobarbital). No cord gases available at moment per transferring hospital. HIE on cooling per protocol with labs planned per protocol **Neuro:** • Phenobarbital 30 mg/kg so far. We appreciate Peds Neurology recommendation • Head ultrasound normal • Status post BRAINZ monitor. Video EEG	349-350

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		• Modified Sernat scoring moderate HIE **Respiration:** • Meconium Aspiration Syndrome. Respiratory failure • CXR MAS. curosurf X1 • SiMV 18/5 X20, 28-35% • CBG at Owosso: 7.19/36/85/13/-14.8 • First gas at Sparrow: 7.23/27/70/10.7/-15.6 **Cardiovascular:** • ECHO: Normal Left Ventricle (LV) systolic function. Trace Tricuspid Regurgitation (TR)- insignificant to assess Right Ventricle (RV) systolic pressure. • BP stable • Overnight, Normal saline x 2 (low BP) • Has Foley's cath. Watch Urine Output (UOP) closely **FENGI:** • TFG running at moment is 60ml/kg/day • UAC 0.45 Na acetate • D10W @ UVC • NaHCo3 2mEq/K twice over night **Heme:** • Hemoglobin stable • Platelets 156 • PTT 38 • PT 28 • Fibrinogen 75 -> cryo **Metabolic:** • Lactate 13.3 -> repeat • AST and ALT high • Creatinine 1.25 (status post Gentamicin x 1) **ID:** • Ampicillin and Cefotax • Leukocytosis • Rule out sepsis • CRP <1 • Blood culture at referring hospital and at Sparrow **Lines:** • UVC and UAC good position (AP and cross table lateral) **Assessment and plan:** FT, MAS, with moderate HIE, seizures, on SiMV and therapeutic total body cooling • Follow up with Peds neurology recommendations: (Video EEG, MRI DOL when?) • ABG as needed • CXR abdomen X-ray morning • PPHN fear (keep normal pH, normal CO2)	

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		• Watch UOP • TFG 60ml/kg/day -> TPN D10 1.5 AA 0 Na 1 KP 2 Ca • Follow up DIC profile • Daily labs per cooling protocol • No meconium -> send Urine Drug Screen (UDS) (History of THC first Trimester) Rounded with Fatima Rudd, NNP Baby examined; case discussed thoroughly on rounds with NNP/Fellow/resident as well as nursing team. Took over care at 0800 hours on 03/08/20yy. We appreciate oncall team effort for transport and management. Updated father at length at bedside, then updated parents together at length (at Triage 4). I discussed at length the critical baby condition. I explained at length what is Hypoxic Ischemic Encephalopathy, and very high chance of devastating morbidity and mortality. I discussed that we do not know the effect on baby's neurological status, and unfortunately baby could be severely handicapped with morbidity including and not limited to; inability to walk, talk, or see, etc. Parents would like to continue current care. Parents were appropriate, parents had time to ask questions and verbalized understanding.	
03/08/20yy	SS Hospital Kabelo Thusang, M.D. Michael Aronov, DO	**Neurology consultation report:** **Chief complaint:** Seizure like activity **Requesting provider:** Isoken Olomu, M.D.; Service: RNICU **History of present illness:** The patient is a 1-day female born AGA at 39 4/7 via emergent C-section due to NRFHT who presents with seizure like activity and apnea on HIE protocol. Patient's seizure like activity is reported as bicycling, lip smacking, and tonic dorsiflexion of bilateral lower extremities lasting several seconds at a time. She received one dose of phenobarbital at 6 hours of life (20 mg/kg) and another dose at ~9 hours of life (10 mg/kg). There continues to be witnessed seizure-like events after admission. **Vitals:** Temperature 92.3; Heart rate 97; Respiration 45; BP 44/29; FiO2 35% **Physical examination:** **General:** Arousable and responsive **HEENT:** Fontanels open - soft, flat, head wrapped leads in place, moist mucous membranes, nares with normal mucosa without discharge and oropharynx without erythema or exudate **Respiratory:** Intubated, coarse breath sounds bilaterally **Cardiovascular:** Normal rate and rhythm **Abdomen:** Soft and normal active bowel sounds **Musculoskeletal:** Full range of motion in all extremities, no bony	359-363

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		tenderness, no joint swelling and no joint tenderness **Skin:** No lesions **Neurological examination:** **Overview:** Normal grasp, Head: normocephalic, Defects: none **Mental status:** Responsive to touch, spontaneous movements in all 4 extremities **Cranial nerves:** Pupils brisk bilaterally, eyes midline, tongue midline, no overt facial asymmetry **Motor:** Antigravity strength x4 **Tone:** Normal-to-mildly decreased tone throughout **Bulk:** Normal bulk throughout **Sensation:** Unable to assess **Reflexes:** • Jaw jerk (Cranial nerve V): Unable to assess • Biceps (C5, 6): Unable to assess • Supinator (C5, 6): Unable to assess • Triceps (C7,8): Unable to assess • Knee (L2, 3, 4): Normal • Ankle (S1,2): Normal • Plantar (Score ↑↓): Extensor **Gait:** Unable to assess **Coordination:** • Alternating motion rates: Unable to assess • Finger to nose: Unable to assess **Impression and recommendations:** Seizure like activity of multiple semiologies, in the setting of moderate hypoxic-ischemic encephalopathy • Continue HIE cooling protocol x72 hours • MRI brain or other neuroimaging as tolerated after rewarming and stabilized • Phenobarbital, versed, and Keppra for management of subclinical seizures as witnessed on continuous video EEG • Remainder of medical management to neonatology team	
		** Reviewer's Comment: From 03/07/20yy to 03/29/20yy infant continued to be hospitalized and underwent treatment for seizures, meconium aspiration syndrome, HIE, etc. We have summarized the consultation reports, Significant diagnostic studies, and discharge summary in detail to know the general condition of the patient and treatment provided. To avoid repetition of details daily progress notes are not summarized, these can be included on further request.*	
03/12/20yy	SS Hospital Steven Clerc, DO	**CT of brain without contrast:** **History:** Seizure (neonate) **Comparison:** None. **Findings:**	524-525

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		No acute fracture identified. Paranasal sinuses. The mastoid air cells and middle ears. Soft tissues of the orbits appear normal. There is diffuse sulcal effacement and hypodensity involving the supratentorial white matter with sparing the precentral and postcentral gyrus. There is sparing of the deep gray nuclei. Brainstem and cerebellum grossly intact. Findings suggestive of global anoxic injury. Hyperdensity noted along the right brain parenchyma. Hemorrhages the spleen measures approximately 10 x 10 mm. There is no midline shift. The lateral ventricles are effaced. The basal cisterns are maintained. No extra-axial fluid collection identified. **Impression:** Diffuse sulcal effacement and loss of gray-white matter differentiation suggestive of diffuse hypoxic ischemic injury. There is effacement of the lateral ventricles. There is no midline shift or mass effect. Hyperdensity seen within the white matter of the right frontal parietal region could represent hemorrhage. This measures up to 10 mm.	
03/13/20yy	MM Health Laboratory	**Blood culture report:** **Collected date:** 03/07/20yy **Report:** No growth. Small specimen volume. No anaerobic isolation attempted.	9
03/13/20yy	SS Hospital Steven Clerc, DO	**CT of brain without contrast:** **History:** HIE **Comparison:** CT brain performed on 03/12/20yy. **Findings:** No acute calvarial fracture is identified. There is opacification of the mastoid air cells and middle ears. Skull base is intact. Fontanelles and sutures are open. Soft tissues of the orbits appear grossly intact. There is scalp soft tissue edema. There remains diffuse sulcal effacement, diffuse loss of gray-white matter differentiation with preservation of the deep gray nuclei and pre/postcentral gyrus. There is hyperdensity of the cerebellum and brainstem. There is a focal area of hyperdensity along the right frontal parietal coronal radiata white matter unchanged from prior study. The ventricles remain effaced. The basal cisterns are maintained. There is no midline shift or mass effect. No extra-axial fluid collection identified. **Impression:** Stable head CT without interval change from prior study performed on 03/12/20yy. Stable findings of hypoxic ischemic injury with complete effacement of the sulci, loss of gray-white matter differentiation and effacement of the lateral ventricles. Stable hyperdensity noted along	529-530

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		the right frontal parietal coronal radiata white matter possibly representing a small amount of hemorrhage unchanged. No new intracranial findings.	
03/15/20yy	SS Hospital Laura Agresta, M.D.	**Pediatric Hematology/Oncology consultation report:** **Reason for consult:** Small intracranial hemorrhage incidentally found on CT head for HIE **History of presenting illness:** Patient is an 8-day old FT infant born with HIE who demonstrated decreased fetal movement for 24 hours leading up to delivery per referring hospital. Thick meconium reported at delivery. Baby received passive cooling until arrival here, started on active cooling, now status post cooling protocol for HIE. Per referring hospital report, C-section for NRGHT, APGAR 1/5/9. Got PPV for 3.5 minutes, then CPAP till 16 minutes. Baby fit HIT criteria (-15 base deficient) and had early seizures (started on early phenobarbital). CT head done on Day Of Life (DOL) 6 showed small frontoparietal hemorrhage, which was stable on repeat CT head done on DOL 7. Per bedside RNs, the patient has not had any bruising, mucosal oozing, or oozing from umbilical cord. Phlebotomy sites have not bled abnormally. **Medications:** Phenobarbital 2.5 mg/kg/dose IV; Levetiracetam 15 mg/kg/dose IV; Fat emulsion fish oil/plant based 2.06 ml/hour; Neonatal TPN 15.3 ml/hour; Heparin flush; zinc oxide **Vitals:** Temperature 98.4-98.6; Pulse 113-141; respiration 28-60; BP 46-59/34-35 **Physical examination:** **General:** Sleeping term infant with ETT and NG tube in place **Head:** NCAT, AFOSF **Eyes:** Closed **Nose:** No evidence of recent epistaxis **OP:** Oral mucosa pink and moist **CV:** RRR, central cap refill < 2 sec without flash **Respiratory:** Easy breathing on ventilator; lungs CTAB anterior fields only **Abdomen:** Soft, NT/ND, no HSM **GU:** Deferred **MSK:** Hypotonia **Skin:** No ecchymoses or petechiae on limited exam; no bleeding at umbilical site or PICC site **Labs:** • Fibrinogen 75 on DOL 2 - cryo given - fibrinogen 412 on DOL 5 (fibrinogen has a 4-day half-life). • PTT prior to cryo infusion: 38.1 (normal for age)	415-417

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		• PT prior to cryo infusion: 28.1 (elevated for age) - PT after cryo infusion 15.1 • CBC: Platelet count down trending from 156 to 98 • WBC and hemoglobin/red cell indices all normal for age/clinical setting **Assessment and recommendations:** Infant born with HIE who has a small frontoparietal ICH on CT head. Her family history is negative for clinically evident bleeding disorders. Her PTT prior to cryoprecipitate was normal for age; this in addition to her female sex, is reassuring against either hemophilia. Factor XI deficiency is also less likely. Since cryoprecipitate does not contain Factor VII, the post-infusion normalization of the PT likely reflects the fibrinogen. Her platelet count, while down trending in the setting of her HIE, has always been well above the threshold concerning for spontaneous ICH. The small ICH was most likely a complication of the cause of the overall HIE, with or without an acute coagulopathy such as the demonstrated hypofibriginemia. However, to assess for Cryoprecipitate contains fibrinogen, Factor VIII, VWF, and FXIII. Fibrinogen has a half-life of roughly 4 days. Factor XIII has a half-life of 6-12 days. • Recommend repeating her fibrinogen level this week to make sure her levels remain > 100 a week out from cryo infusion. • Her Factor XIII activity should be evaluated but should not be drawn for 4 weeks after last cryoprecipitate infusion (April 5th, as of now), as a sooner draw will reflect infused factor.	
03/16/20yy	SS Hospital Steven Clerc, DO	**MRI of brain without contrast:** **History:** Hypoxic ischemic encephalopathy [HIE] **Comparison:** CT brain 03/13/20yy **Findings:** • There is restricted diffusion involving the cortex of the frontal, temporal, parietal and occipital lobes. There is restricted diffusion involving the internal capsules and corpus callosum. There is restricted diffusion involving the cortical spinal tracts within the brainstem. • No extra-axial fluid collection is identified. No acute intracranial hemorrhage. • The ventricles are normal in size and configuration. The basal cisterns are maintained. • There is diffuse FLAIR hyperintense signal involving the cortex of the cerebral hemispheres bilaterally. There is T2 hyperintense signal noted along the internal capsules. There is T2 hypointense signal seen along the cortex predominantly posteriorly which could represent laminar	533-534

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		necrosis. • The brainstem and cerebellum appear grossly intact. T2 hyperintense signal is noted along the cortical spinal tracts of the brainstem. • The orbits appear intact. There is fluid within the mastoid air cells. There is fluid within the middle ears. **Impression:** • Stable findings of diffuse hypoxic ischemic injury involving the cortex of the cerebral hemispheres, corpus callosum, internal capsules and cortical spinal tracts. No definitive evidence of acute intracranial hemorrhage. Possible developing cortical laminar necrosis noted in the posterior cerebral hemispheres. • No midline shift or mass effect. Ventricles remain stable. • Bilateral mastoid fluid with possible opacification of the middle ears.	
03/17/20yy	SS Hospital Cheri Salazar, NP	**Pediatric Palliative Care consultation report:** Patient is a term infant born at 39 4/7 weeks via emergency C-section for NRFHT. Baby is born on 03/07/20yy at Owosso Memorial Hospital. Mom had decreased fetal movement 24 hours prior to delivery. AROM 2 hours PTD with thick meconium fluid and no signs of Chorioamnionitis. APGARs were 1, 5 and 9 at 1, 5 and 10 minutes respectively. Baby required PPV at birth for 3.5 minutes followed by CPAP for 16 minutes. CPAP was then transitioned to NC at 100% (weaned down to 60% at time of transport). Baby had multiple apnea and seizure-like movements and intubation was done by the transport team at 4 hours of life. Passive cooling for HIE was started at 3 hours and 35 minutes; active cooling was started at ~ 7 hours of life (there was a delay in transporting the baby to the RNICU due to difficulty to obtain a PIV and due to frequent apnea and seizure-like episodes requiring endotracheal intubation and placing the baby on SIMV. Baby is admitted to the RNICU for management of moderate HIE, seizures, and meconium aspiration on mechanical ventilation. **Physical examination:** **General assessment:** No acute distress, well hydrated, well nourished, lethargic **Skin:** no lesions, jaundice, petechiae, pallor, cyanosis, ecchymosis **Head:** Anterior fontanelle: open - soft, flat **Eyes:** Spontaneous eye opening, PERRL **Ears:** Right ear normal, left ear normal **Nose:** nasal mucosa, septum, turbinates normal bilaterally **Mouth:** Mucous membranes moist, abnormal tongue movements with persistent protrusion **Neck:** Supple, full range of motion, no mass, normal	424-431

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		lymphadenopathy, no thyromegaly **Chest:** Clear to auscultation, no wheezes, rales, or rhonchi, no tachypnea, retractions, or cyanosis **Lungs:** Respiratory effort normal, clear to auscultation, normal breath sounds bilaterally **Heart:** Regular rate and rhythm, normal S1/S2, no murmurs, normal pulses and capillary fill **Abdomen:** Normal bowel sounds, soft, nondistended, no mass, no organomegaly. **Extremity:** Abnormal tremors, fisting, moving all extremities **Neuro:** Abnormal tremors, tongue protrusion **Medications:** Phenobarbital 2 mg/kg/dose IV; Levetiracetam 15 mg/kg/dose IV; Fat emulsion fish oil/plant based; Neonatal TPN; Dextrose 12.5% with electrolytes neonatal 17.3 ml/hour IV infusion **Intake/ output:** Intake: 506.68 ml; Output: 473.4 ml; Net: 33.28 ml **Assessment and plan:** Patient is a 10-day old female born at full term at Owosso hospital with seizure like activity and apnea after birth, intubated and transferred to Sparrow. Cooled for HIE now warmed and weaned off ventilator on RA. Repeat MRI shows persistent HIE and laminar necrosis. Long term prognosis with HIE due to perinatal asphyxia is varied and can be minimal or profound such as cerebral palsy, hearing loss, visual impairment, memory and attention issues, cognitive delay, behavior issues and neurodevelopment issues. There is a family meeting tomorrow to discuss this with including the RNICU team and Dr Khalil, Neurology. I hope to offer the family some support for the short and long term.	
03/24/20yy	SS Hospital Anthony Salvador, DO	**Ultrasound of head neck soft tissue:** **History:** Evaluate masses on occiput for abscess (suspect decubitus) **Comparison:** CT brain dated 03/13/20yy **Findings:** Diffuse subcutaneous and cutaneous induration is noted along the occipital region with areas of hyperechoic cutaneous shadowing predominantly along the left aspect. Small echogenic foci are noted within the rectus capiti musculature near the occipital insertion. No organized fluid collection. **Impression:** • Diffuse subcutaneous edema and skin thickening of the occipital region, suggestive of either cellulitis or generalized third spacing. • Nonspecific echogenic foci within the rectus capiti musculature may relate to nonspecific myositis or sequela periosteal reaction from birth trauma.	541-543

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		• No organized fluid collection.	
03/26/20yy	SS Hospital Bradley Ruehle, M.D. Stephanie Bray, M.D.	**Plastic Surgery consultation report:** **Chief complaint:** Scalp lesions **History of presenting illness:** Patient is a full-term c-section delivered baby who is in the RNICU due to seizures after birth. She has had a prolonged course in the RNICU with cooling to help treat her seizures. Currently she has not had a seizure in two weeks. Plastic surgery was consulted to evaluate some areas of possible necrosis or pressure sores on the child's scalp. Per parents they first noticed them about 1.5 weeks ago as red spots and progressed to small areas of scab-like material. No fever/chills/nausea/vomiting/diarrhea/constipation. There is no drainage from the area **Physical examination:** **General:** No acute distress, resting comfortably **HEENT:** Moist mucus membranes, extra-ocular movements intact, atraumatic and normocephalic. Two areas of scab-like material, possible eschar on nape of neck, one on occiput of head *Otherwise, unremarkable* **Assessment:** Patient with history of seizures at birth. Plastic surgery was consulted to evaluate scalp lesions/pressure sores **Plan:** • No acute surgical intervention • Pressure offloading to area • Wound team consult to provide foam for soft area on head • Can follow up in two weeks **Attestation notes:** 2-week-old with concern for pressure ulcers. She had seizures and was monitored with EEG leads for a time. It was suspected that she was laying on one of the leads and developed possible pressure ulcers on the posterior scalp/neck. On exam, there are small eschars on the posterior occiput and neck (3 in total) with no open areas that look to be in various stages of healing. I discussed with mom and dad at bedside that in a neonate, these should heal well without surgery or intervention. I recommend foam to cushion the areas and dry dressings. Follow in clinic with me in 2 weeks from discharge.	480-483
03/29/20yy	SS Hospital Ranga Thiruvenkatara mani, M.D.	**Discharge summary:** **Summary:** *History reviewed.* Transferred to RNICU from outlying hospital for management of moderate HIE, seizures, and meconium aspiration. Now 22 days and Post Menstrual Age: 42.6 weeks. Status post 72 hours therapeutic	499-510

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	Laura Sykes, NP	body cooling. Receiving Keppra and Phenobarbital for history of seizures. Stable in room air. Tolerating full enteral feeding and nipple feeding well. Weight: 3.657 kg (8 lb. 1 oz); Length: 49.8 cm; Head circumference: 34.2 cm **Vitals:** Temperature 97.7-98.4; Pulse 130-169; Respiration 37-58; BP 57-91/40-57; SpO2 94-100% **Discharge physical examination:** • AGA, term female infant in open crib, in room air, no obvious distress • Active and appropriate with spontaneous movement, mild hypotonia • A/P fontanels open - soft and flat; normocephalic • Occipital scalp nodules x 2 ~1-1.5 x 1 cm (L > R), some surrounding erythema, and eschar formation at surface also has eschar on ulcerated lesion at crown • Eyes clear, PERRLA, normal shape / position • Supple neck, moist - pink mucosa; high narrow palate and appears intact • Equal chest excursion, bilateral breath sounds clear / equal, easy WOB, no tachypnea • Heart sounds normal, RRR, no murmur, capillary refill 3 seconds • Abdomen soft, flat, nontender, active bowel sounds • No rash or lesions, pink / pale • Movement of extremities equal / spontaneous. No hip clicks **Problem list:** **HIE:** Baby required PPV x 3.5 minutes due to apnea --> CPAP +5 for 16 minutes --> 2L NC, FiO2 100% (weaned down to 60% at time of transport to RNICU). Infant with repetitive apnea episodes and suspect seizure activity around 3 hours of life; started passively cooling infant. Intubation / mechanical ventilation around 4 HOL due to recurrent apnea and seizure activity; loaded with 20 mg/kg of Phenobarbital. Noted total 8 apnea/desaturation episodes with lip smacking and bicycling prior to transport. A low lying UVC was inserted as a PIV was difficult to obtain. Passive cooling was started from delivery hospital and active cooling was started from HOL 7 upon admission to RNICU. completed 72 hours. Per Pediatric Neurology on consult, seizures noted on continuous EEG. Status post multiple Phenobarbital boluses. Initial HUS on (3/8) negative. Infant on Phenobarbital, and Keppra since admission. Status post	

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		Versed drip, discontinued DOL 6. HIE labs stable, with Troponin, LFT, and kidney function were elevated and then was down trending prior to discharge. CT on DOL 6 consistent with diffuse hypoxic ischemic injury with hyperdense area right frontal parietal region could represent hemorrhage (~10 mm). Heme/Onc consulted on DOL 6. DOL 7 - 9 Phenobarbital held due to elevated level and baby with global hypotonia; resumed DOL 10 with level 46. Plan for discharge home on Phenobarbital and Keppra. Outpatient follow up with Peds Rehab, DAC, Early On, and Peds Neurology. Hematology consulted due to suspect small area of hemorrhage (small brain bleed right frontal parietal coronal radiata area) noted on CT scan. Recommend Factor XIII to be drawn for 4 weeks after last cryoprecipitate infusion (4/5), as a sooner draw will reflect infused factor. **Term birth of infant** *History reviewed* Baby is admitted to the RNICU for management of moderate HIE, seizures, and meconium aspiration on mechanical ventilation. **Alteration in nutrition in infant** NPO on admission due management of respiratory distress and HIE. TPN D10/heparin, no AA (metabolic labs pending). Parental intake delayed due to concern for protein load with impaired kidney function. DOL 7 started TPN / IL (SMOF) and advanced AA daily with stable renal function labs. DOL 10 started feedings and tolerated well and advanced to goal feedings by DOL 15. Infant has been nippling all feeds of breast milk or Enfamil newborn, with last gavage feeding on 3/24. **Neonatal seizure** History of decreased fetal movement; NRFHTs (Cat 2) and need for resuscitation at birth PPV --> CPAP. Status post therapeutic hypothermia per guideline x 72 hours for suspect HIE (repetitive apnea episodes and suspect seizure activity). Given phenobarbital 20 mg/kg/dose x1 at the referral hospital at approximately 5.5 hours of age. On RNICU admission started BRAINZ monitoring. Peds Neurology consulted; EEG started 3/8 with seizure activity noted. Started on versed drip, Phenobarbital, Keppra overnight 3/8-3/9. Metabolic work-up negative. DOL 6 weaned off Versed. DOL 26 acute desaturation event, which did not respond to HFNC. Considered if this was seizure related, although no other symptoms. Discussed with Dr. Khalil, given 10 mg/kg Phenobarbital bolus, maintenance increased to 5 mg/kg/day. No further seizure activity noted. **Fibrinogen decreased**	

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		Status post cryo transfusion on DOL 2 with subsequent levels within normal limits. Peds Heme/Onc recommends follow up one month after discharge with Factor VIII one month after cryoprecipitate (due 04/05/20yy). **Nodule of soft tissue of scalp** Scalp nodules x 2 with eschar formation at surface, and flat eschar at crown (suggestive of decubitus ulcerations) appreciated in 2nd week of life. Ultrasound of soft tissue/scalp obtained 03/24/20yy: subcutaneous edema suggestive of either cellulitis or generalized third spacing. Nonspecific echogenic foci within the rectus capiti musculature may relate to nonspecific myositis or sequela periosteal reaction from birth trauma. No organized fluid collection. Consulted Plastics (Dr. Bray): no recommended change in plan of care, continue to monitor; avoid pressure to areas, and follow up in 2 weeks if needed. **Resolved: Acute respiratory failure with hypercapnia** Baby was born via emergency C-section for NRFHT. AROM 2 hours PTD with thick meconium. Baby's APGARs were 1, 5 and 9. Baby required PPV at birth for 3.5 minutes, then CPAP for 16 minutes then transitioned to 2 LPM NC at 100%. Around 4 HOL baby required intubation (per RNICU transport team) and SIMV due to frequent apnea and seizure episodes. DOL 9 changed to IN-NAVA. DOL 10 extubated to NI-NAVA. DOL 11 changed to RAM CPAP + 5 then later that day to RA. On DOL 12-13 baby began having desaturations, so she was placed back on CPAP. On DOL 17 she was wean back to room air and has been stable since. **Resolved: Need for observation and evaluation of newborn for sepsis** History of decreased fetal movement. NRFHTs (Cat 2) prompted an emergency C/S. AROM approximately 2 hours PTD with MSAF. No evidence of chorioamnionitis. Onset of respiratory distress following birth. Limited septic work up initiated at the referral hospital and started on Ampicillin and Gentamicin. Changed to Amp and Cefotaxime after arrival to RNICU, low UOP. Screening labs reassuring with blood cultures NO Growth Till Date (NGTD), and CRP <1 (x3) Antibiotics discontinued after 72 hours. Placental pathology: Negative for acute chorioamnionitis, villitis or neoplasm. Increased calcifications, mild. **Resolved: Encounter for central line placement** UVC placed on transport. UVC replaced upon admission, in addition a UAC was placed. Status post UAC DOL 1-5 & UVC DOL 1-6. Right cephalic vein PICC line DOL 6-15. **Resolved: Neonatal thrombocytopenia**	

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		Baby presented with HIE, and initial downward trend of platelet count; no transfusion required during hospitalization. Platelets within normal limits / > 100 K by DOL 12. **Assessment / Discharge Plan:** **Neuro / moderate HIE / history seizures:** • Status post total body cooling x 72 hours. Peds Neurology following. MRI done 03/16/20yy showed moderate/severe HIE. • No recent seizure activity. Phenobarbital level 33.5 on 03/26/20yy. Continues on maintenance dosing Phenobarbital and Keppra • PT/OT following 3-5 x per week while inpatient Plan: • Continue Phenobarbital 5mg/kg/day and Keppra maintenance at 30 mg/kg/day • Scripts to parents and medication teaching complete PTD • Recommended follow up with Peds Rehab one month after discharge • DAC and Early On after discharge • Follow up with Peds Neurology Dr. Thusang or Dr. Khalil (MSU Peds Neurology in SPB): 1 month after discharge **Scalp nodules** x 2 with eschar formation at surface, and flat eschar at crown. US (03/24/20yy) subcutaneous edema suggestive of either cellulitis or generalized third spacing. No erythema or drainage Plan: • Consulted plastics (Dr. Bray): no recommended change in plan of care, continue to monitor; avoid pressure to areas, and follow up in 2 weeks if needed **CVS:** ECHO DOL 1 with normal LV function, PFO (L>R), tiny PDA, & trace TR (no evidence of PPHN). Hemodynamically stable Plan: • Consider outpatient follow up with Peds Cardiology (~ 3 months of age) if clinically indicated **Feeding and nutrition:** Full enteral feeds. Infant nippling all feeds and tolerating well. Plan: • Continue feedings of BM or Enfamil NB: 70 ml Q 3 hours **Heme/Bili:** Status post cryo transfusion on DOL 2 for low Fibrinogen level, now normalized Plan: • Factor XIII activity in 4 weeks from cryoprecipitate infusion around (April 5th), and follow up with peds Heme/Onc per	

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		recommendation **Social / Healthcare maintenance:** Plan: • Follow up with PCP, Peds Neurology, Peds Heme/Onc, DAC, Early On, and Peds Rehab as planned after discharge **Attestation notes:** **Clinical summary:** Passive cooling was started on birth hospital and active cooling was started at 7 HOL. The baby was admitted for whole body cooling for 3 days and rewarmed without any complications. The baby developed seizures and was controlled by Phenobarbital and Keppra. The MRI showed severe HIE changes and punctate bleed. Pediatric Neurology and Pediatrics Hematology were involved in the care and will be following in out-patient basis. All the hematology work-up for the baby was negative to date and needs Factor XIII to be done in week [1 month from last cryoprecipitate transfusion]. The baby was intubated at delivery hospital and was extubated to RAM-CPAP and then to room air and the baby did well for 2 days and on DOL 12-13 the baby developed desaturations and the baby was placed back on RAM-CPAP and then eventually weaned to room air on DOL 17 and has been stable on room air upon discharge. The baby was then started with feeds slowly and tolerated full feeds and nippling all the feeds for more than 72 hours prior to discharge. The baby received antibiotics for 72 hours and all the cultures and blood work-up were negative. The baby has 2 nodules in the base of the scalp [decubitus ulcer], well healed, Pediatric Plastic Surgery was consulted and no new recommendation and might follow-up in 2 weeks if required. Avoid pressure on the nodule area. Parents were notified and they agree with the plan. Vitals are within normal limits and Physical examination is as below **Discharge planning:** Discharge today Prophylactic Vitamin K and Erythromycin ophthalmic ointment given at Owosso Memorial Hospital. Initial Newborn Screen (NBS) sent early (< 3 hours of age) at Owosso Memorial. Repeat NBS sent 03/08/20yy (25 HOL) with all tests normal Second repeat NBS sent prior to discharge on DOL 22 (03/28/20yy), results pending **Healthcare Maintenance** **PCP:** MSU Pediatrics on Wednesday **Hearing screen:** Passed bilaterally 03/27/20yy CCHD Screen N/A (ECHO done) Car seat test: Passed 03/28/20yy	

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		Hepatitis B Vaccine given 03/07/20yy at Owosso Memorial Hospital CPR instruction: completed 03/25/20yy Car seat: Passed on 03/28/20yy **Out-patient:** • Peds Neurology in 1 month • PCP on Wednesday • Peds OT/ PT in 1 months • DAC in 6 months • Early-on referral • Peds Plastic surgery if needed • Peds Heme- Onc in 1 month [for thrombophilia work-up] **Labs:** Factor XIII to be tested on 04/05/20yy, report to be followed to Dr. Agresta **Medications:** Phenobarbital 5 mg/kg/day twice a day; Keppra 30 mg/kg/day twice a day **Feeds:** • Ad lin feeds of breast milk or Enfamil Newborn / Neuropro • Minimum of 70 ml every 3 hours	