

## EP5 - Cooling

## Admission Discharged

8/6/2016  
The Newborn Center Level 2 at West Tower

Default Flowsheet Data (all recorded)

Care Progression Rounds					
Date	08/17/16 1200	08/16/16 1000	08/15/16 1100	08/14/16 1050	08/13/16 1000
Attendees	Bedside Nurse; Physician Rep.	Bedside Nurse; Physician Rep.	Bedside Nurse; Physician Rep.	Bedside Nurse; Physician Rep.	Bedside Nurse; Physician Rep. NRP
Medical Milestones for DC/Transfer	Diet Respiratory	Diet Respiratory, Other	Diet Respiratory, Other	Diet Respiratory	Diet, Other
Barriers for Discharge	Translator, Classes	Translator, Classes, Other	Classes, Other	Classes, Prescriptions, Translator	Translator, Classes
Anticipated Discharge or Transfer Date	Discharge	Discharge	Discharge	Discharge	Transfer
Anticipated Discharge/Transfer Time	08/17/16	08/17/16	08/16/16	08/22/16	08/13/16
Comments	1400	1400	1400	1400	--
Discharge Education Initiated	Yes	Yes	Yes	Yes	Yes
Discharge Transportation Confirmed	No	No	No	No	No
Discharge Prescriptions Written	No	No	No	No	No
Comments	MRI scheduled for 2115 with sedation			Continue with trials. Continue with discharge teaching	Increase feeds today. D/C PIV

Care Progression Rounds					
Date	08/12/16 1000	08/10/16 1000	08/09/16 1000	08/07/16 1000	
Attendees	Bedside Nurse; Physician Rep. S Joco NRP	Bedside Nurse; Physician Rep.	Bedside Nurse; Physician Rep.	Bedside Nurse; Physician Rep.	
Medical Milestones for DC/Transfer	Diet, Respiratory, Labs/Tests	Diet, Respiratory, Medication	Diet, Respiratory, Pain Control, IM/Medication, Labs/Tests, Surgery/Procedures	Diet, Respiratory, Pain Control, IM/Medication, Labs/Tests, Surgery/Procedures	
Barriers for Discharge	Translator, Classes	Translator, Classes	Translator, Classes	Translator, Classes	
Anticipated Discharge or Transfer Date	Discharge	Discharge	Discharge	Discharge	--
Anticipated Discharge/Transfer Time					
Comments	Yes	Yes	Yes	Yes	No
Discharge Education Initiated	No	No	No	No	No
Discharge Transportation Confirmed	No	No	No	No	No
Discharge Prescriptions Written	No	No	No	No	No
Comments	MRI scheduled for 2115 with sedation				

Suresh, Gautham K, MD	Physician	Signed	Neonatology	MD Progress Note	Date of Service: 08/17/16 1339
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Expand All Collapse All

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## Attending Neonatologist Daily Progress Note

I evaluated Babyboy [REDACTED] on patient care rounds today and discussed the history, physical exam, assessment and plan of care with the healthcare team. I have reviewed the clinical labs, radiological and other medical tests, and discussed results with appropriate personnel. For the following problems, infant requires critical care:

## Patient Active Problem List

Diagnosis	Date Noted
• Normal nutrition monitoring encounter [Z71.3]	08/16/2016
• HIE (hypoxic-ischemic encephalopathy) [P91.60]	08/05/2016
• 40 weeks gestation of pregnancy [Z3A.40]	08/05/2016



TEXAS CHILDREN'S ROI LOCATION

DOB: 8/5/2016, Sex: M  
Adm: 8/5/2016, D/C: 8/17/2016

## Texas Children's Hospital\*

Description: Male DOB: 8/5/2016 Department: Wt Newborn Cntr Lvl 2

8/5/2016 12:56 PM Admission

## MD Progress Note by Garcia-Prats, Joseph Arthur, MD at 08/06/16 0315

Author: Garcia-Prats, Joseph Arthur, MD

Service: Neonatology

Filed: 08/06/16 0319

Date of Service: 08/06/16 0315

Author Type: Physician

Editor: Garcia-Prats, Joseph Arthur, MD (Physician)

Status: Signed

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## Neonatology Faculty Note:

Infant on cooling and stable although patient has had no urine output. Foley catheter in place to monitor urine output. Also has had abnormal coagulation studies that have been slowly correcting with FFP. Do not believe that the anuria is due to low preload after these two FFP infusions since HR slow and BP normal to slightly elevated. Most likely cause of anuria is renal in etiology.

Cont to watch urine output and obtain Chem 10 now to assess K level and other chemistries.

Joseph A. Garcia-Prats, M.D.  
Neonatology Section  
Pager # 713-813-9015

## Patient Information

DOB  
Home Phone  
Work Phone

08/05/2016

Male



TEXAS CHILDREN'S ROI LOCATION

Adm: 8/5/2016, D/C: 8/17/2016

## Texas Children's Hospital\*

Description: Male DOB: 8/5/2016 Department: Wt Newborn Cntr Lvl 2

8/5/2016 12:56 PM Admission

## MD Progress Note by Hockaday, Chrystal O at 08/06/16 0905

Author: Hockaday, Chrystal O

Service: Neonatology

Filed: 08/06/16 1727

Date of Service: 08/06/16 0905

Author Type: NURSE PRACTITIONER

Editor: Hockaday, Chrystal O

Status: Signed

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## Neonatology Daily Progress Note

## Plan discussed with Dr. Reyes

This is a term infant now 1 day old that was transferred from OSH for HIE and Total Body Cooling. Currently stable on SIMV ventilation, NPO, on TPN, and on continuous EEG monitoring.

## Subjective

Significant events overnight: Received 2nd aliquot of FFP 15 ml/kg, stable on SIMV  
Procedures Done (last 24 hrs): UVC placed

## Objective

Gestational age at Birth: 40	Birth weight:
Birth length:	Birth FOC:
Sex: male	DOL: 1 day
PMA: 40w1d	
Temp: 92.5 °F (33.6 °C)	Temp Avg: 92.2 °F (33.4 °C) Min: 91.8 °F (33.2 °C) Max: 93.4 °F (34.1 °C)
Temp src: Esophageal	
Pulse: (P) 80	Pulse Avg: 85.9 Min: 74 Max: 110
Resp: (P) 41	Resp Avg: 44.8 Min: 28 Max: 65
BP: (I) 69/52	BP Min: 69/52 Max: 69/52
SpO2: (P) 99 %	SpO2 Avg: 97.5 % Min: 91 % Max: 100 %
CRIES Score: 1	

Vent Mode: (P) PC-SIMV(VG)  
Set Rate (/min): (P) 20  
Ti (s): (P) 0.3  
PIP (cm H2O): (P) 22 cm H2O (measured)  
Vt Set (ml): (P) 14 ml  
PEEP (cm H2O): (P) 5 cm H2O  
Vent FiO2 (%): (P) 21 %  
PS (cm H2O): (P) 0 cm H2O  
Paw (cm H2O): (P) 6  
Vent FiO2 (%) Avg: 22.4 % Min: 21 % Max: 35 %

Height: 48 cm (1' 6.9")	Head Cir: 36 cm (14.17")
Weight: 3.53 kg (7 lb 12.5 oz) (previous weight; did not weigh pt; not 24 hrs old )	
Weight change: no weight done	

In: 247.95 (70.24 mL/kg) [I.V.:148.45 (1.75 mL/kg/hr)]  
Out: 44 (12.46 mL/kg) [Urine:22 (0.26 mL/kg/hr)]

Weight: 3.53 kg

#### Using BW 3.53 kg for calculations:

Total intake 70 ml/kg/day

FFP 15 ml/kg x 2

AT3 x 1

Meds/Flushes: 7.2 ml/kg

Total urine output 0.4 ml/kg/hour

Stool: x 1

#### Nutrition

Source of Nutrition: D10W at 50 ml/kg/day from OSH, then Starter TPN at 50 ml/kg/day  
Nutrition Intake: 1.09 gm/kg/day protein, 4.31 mg/kg/min glucose

#### Plan

##### Term male infant:

- Provide developmentally appropriate care
- Keep parents updated on plan of care
- Lactation to see mother
- Developmental Consult

##### Encephalopathy/HIE:

- Neurology Consulted- notify when MRI results are known
- Continue Total Body Cooling (Active cooling was initiated at five hours of life, 8/05/16 at 10 AM)
  - Will need MRI on Tuesday 8/9 after rewarmed
- Continue Continuous EEG monitoring
  - No seizure activity has been observed
- Continue Morphine drip 0.01 ml/kg/hr
- Monitor for multi-organ dysfunction and SIADH- Follow electrolytes and renal function

##### Coagulopathy: Thrombocytopenia

- Prolonged INR, PTT and PT on admission, plt 93K
  - Received FFP 15 ml/kg x 2 and AT3 on 8/05/16 due to platelets 70s
- Transfuse Cryoprecipitate 1 unit now due to platelets continuing to drop to 68 today
- No active bleeding
- Follow coags- ECMO panel this afternoon following Cryo for antithrombin level

##### Respiratory failure:

- Continue SIMV/VG ventilation- Plan to keep intubated until MRI is done -Pull ETT back 1 cm today
  - Titrate Oxygen to maintain sats >95%
  - Wean vent settings as able
- 8/05 Chest/Abdominal xray on admission with bilateral pneumothoraces-improved on todays xray, will continue to monitor
- If respiratory status worsens due to increase in pneumothorax will insert chest tube/s
- Follow arterial blood gases and Daily Xrays until resolved

##### Oliguria/Electrolyte Disturbance:

- Continue Foley Catheter
- Monitor urine output closely
- Follow Daily Chem 10

##### Feeding Difficulties:

- NPO
- Change Starter TPN to Custom TPN and decrease to 40 ml/kg/hr due to oliguria and HIE
  - Increased GIR and Ca on 8/06
- Continue 1/2 NS w/Hep 1:1 in UAC at TKO
- Continue NS w/Hep 1:1 in 2nd lumen UVC at TKO
- Monitor blood glucose closely

**Sepsis Evaluation:**

- Maternal labs negative with no risk factors for infection
- Follow blood culture from OSH until final
  - 979-776-2564, [REDACTED]
- Continue Ampicillin and Gentamicin for minimum 48 hours or until blood culture final negative
- Monitor renal function closely

**Line Plan:** Discussed in rounds on 08/06/2016 that the current lines are needed and cannot be removed due to continued need for TPN/IVF, completion for medication course, hemodynamic monitoring, and frequent blood draws.. Lines without complications

- PIV as needed
- UAC placed at OSH (8/05/16-present)
- UVC (8/05/16-present)

**Lab Plan:**

- ECMO panel, lyses at 1700
- Gent peak/trough, TSB, Chest xray in AM
- Daily LFTs, Coags, Chem 10, CBC w/diff & platelets
- ABG w/Lactate Q 6 hours and PRN

**Screening Plan:**

- Newborn Screen #1: 8/06/16-pending
- Newborn Screen #2: due 10-14 days of life
- Hearing Screen: PTD
- CCHD #1: PTD
- CCHD #2 PTD
- Car seat test: PTD

**Immunization Plan:**

- Hepatitis B vaccine due at DOL 30 (9/05/16)

**Consult Plan:** Developmental, Neurology, Social work, Lactation Team

**Signature:**

Chrystal Hockaday, MSN, APRN, NNP-BC  
Texas Childrens Hospital  
NNP Service  
Voalte Phone 33306

Description: Male DOB: 8/5/2016 Department: Wt Newborn Cntr Lvl 2

MD Progress Note by Reyes, Maria K, MD at 08/06/16 1414

Author: Reyes, Maria K, MD

Filed: 08/06/16 1426

Editor: Reyes, Maria K, MD (Physician)

Service: Neonatology

Date of Service: 08/06/16 1414

Author Type: Physician

Status: Signed

**Neonatology Daily Progress Note**

I have examined Babyboy [REDACTED] reviewed vital signs, lab results and discussed the management and plan of care with the medical team during rounds.

Briefly, this is a former full term infant born at Gestational Age: 40w0d now 40w1d who is critical with the following problems:

Patient Active Problem List

Diagnosis

- Feeding difficulties
- HIE (hypoxic-ischemic encephalopathy)
- Respiratory failure
- 40 weeks gestation of pregnancy
- Coagulopathy
- Need for observation and evaluation of newborn for sepsis

**Subjective**

Stable respiratory status on minimal vent settings  
 Now making some urine output  
 Continues to have coagulopathy

**Objective**

Gestational age at Birth: 40	Birth weight:
Birth length:	Birth FOC:
Sex: male	DOL: 1 day
PMA: 40w1d	
Temp: 92.1 °F (33.4 °C)	Temp Avg: 92.2 °F (33.4 °C) Min: 91.8 °F (33.2 °C) Max: 92.5 °F (33.6 °C)
Temp src: Esophageal	
Pulse: 114	Pulse Avg: 84.8 Min: 74 Max: 124
Resp: 48	Resp Avg: 43 Min: 23 Max: 62
BP: (1) 69/52	No Data Recorded
Spo2: 97 %	Spo2 Avg: 97.2 % Min: 91 % Max: 100 %
CRIES Score: 0	

Conventional Vent: Vent Mode: PC-SIMV(VG)

Set Rate (/min): 20

Ti (s): 0.3

PIP (cm H2O): 11 cm H2O

Vi Set (ml): 14 ml

PEEP (cm H2O): 5 cm H2O

Vent FiO2 (%): 25 %

PS (cm H2O): 0 cm H2O

Paw (cm H2O): 5.7

Vent FiO2 (%) Avg: 22.1 % Min: 21 % Max: 34 %

Height: 48 cm (1' 6.9")	Head Cir: 36 cm (14.17")
Weight: 3.53 kg (7 lb 12.5 oz) (previous weight; did not weigh pt; not 24 hrs old )	
Weight Change: N/A	

In: 247.95 (70.24 mL/kg) [I.V.:148.45 (1.75 mL/kg/hr)]  
 Out: 44 (12.46 mL/kg) [Urine:22 (0.26 mL/kg/hr)]

Weight: 3.53 kg

**Using BW 3.53 kg for calculations:**

Total intake: 70 mL/kg/day

FFP 15 mL/kg x 2

AT3 x 1

Meds/Flushes: 7.2 mL/kg

Total urine output 0.4 mL/kg/hour

Stool: x 1

**Nutrition**

Source of Nutrition: TPN @ 50mL/kg/day

**Physical Exam**

General Appearance: pink, in no acute distress

Hydration: well hydrated, mucous membranes moist, good skin turgor

Head: Open, soft, and flat

Face: facies unremarkable

Eyes: deferred

Ears: deferred

Nose: patent nares bilaterally, no drainage

Mouth: ETT in place

Neck: neck supple, trachea midline

Resp/Chest: breath sounds clear and equal bilaterally

Cardiovascular: normal sinus rhythm, no murmurs, heart sounds normal

Neuro: sedated

Abdomen: soft, no masses, no tenderness

GU: normal external genitalia

Skin: warm, dry, no rash, no lesions

Lines: Clean/dry/intact

**Active LDAs:**

**Lines, Drains, and Airways**

CVC Line

UVC Double Lumen - 08/05/16	less than 1 day
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PIV Line

Peripheral IV - 08/06/16 Right Hand	less than 1 day
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Drain

Gastric Tube - 08/05/16 OG tube 8 Fr Center mouth	less than 1 day
Urethral Catheter - 08/05/16 3 Fr	less than 1 day

Airway

ETT - 08/05/16 3.5 Lip	1 day
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ART Line

UAC - 08/05/16	1 day
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Active LDAs Reviewed: All lines/drains reviewed

Imaging/Diagnostics Reviewed: Yes

Labs Reviewed: Yes

Social: Parent(s) not present during rounds

**Active Scheduled Medications:**

	100 mg/kg (Order-Specific)	
ampicillin	Q12	
And sterile water gentamicin	Q12 4 mg/kg Q24	

**Active Continuous Infusions:**

heparin in NS (PF) Injection 1 unit/mL (20 mL) Flush	Last Rate: 0.5 mL/hr at 08/06/16 0700
Infant Central TPN (Neonate/Infant Form) IV Infusion	Last Rate: 0.01 mg/kg/h (08/05/16 1604)
morphine (preservative-free) Continuous Infusion 0.2 mg/mL	Last Rate: 7.3 mL/hr at 08/05/16 1604
Infant Peripheral TPN (Neonate/Infant Form) IV Infusion	Last Rate: 0.5 mL/hr at 08/05/16 1604
heparin in NS (PF) Injection 1 unit/mL (20 mL) Flush	Last Rate: 0.5 mL/hr at 08/05/16 1607

**Active PRN Medications:**

sucrose	0.2 mL	PRN
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**Assessment**

## Principal Problem:

HIE (hypoxic-ischemic encephalopathy)

## Active Problems:

Feeding difficulties

Respiratory failure

40 weeks gestation of pregnancy

Coagulopathy

Need for observation and evaluation of newborn for sepsis

**Plan**

## Term male infant:

- Provide developmentally appropriate care
- Keep parents updated on plan of care
- Lactation to see mother
- Developmental Consult

## Encephalopathy/HIE:

- Neurology Consulted- continue to follow recommendations
- Continue Total Body Cooling (Active cooling was initiated at five hours of life, 8/05/16 at 10 AM)
- Continuous EEG monitoring
- Continue Morphine drip 0.01 mg/kg/hr

## Coagulopathy:

- Give cryo now and check ECMO panel at 1700
- Continue to correct coagulopathy as necessary, monitor for bleeding

## Respiratory failure:

- Continue SIMV/VG ventilation
- Titrate Oxygen to maintain sats >95%
- Residual pneumothorax improved on CXR today. Repeat in AM or with clinical change. Adjust ETT
- If respiratory status worsens due to increase in pneumothorax will insert chest tube/s

## Feeding Difficulties:

- NPO
- Continue to fluid restrict given AKI. Order TPN at 40 ml/kg/day, can adjust fluids if urine output increases
- Monitor blood glucose closely

## Sepsis Evaluation:

- Maternal labs negative with no risk factors for infection
- Follow blood culture from OSH until final
- Continue Ampicillin and Gentamicin for minimum 48 hours or until blood culture final negative
- Monitor renal function closely

**Line Plan:** Discussed that the current line is needed and cannot be removed due to continued need for TPN/IVF, completion for medication course, hemodynamic monitoring, and frequent blood draws.. Lines without complications

## Lab Plan:

- Repeat coags, sodium at 1700
- HIE protocol labs as ordered

## Screening Plan:

- Newborn Screen #1: due 24-48 hours life
- Newborn Screen #2: due 10-14 days of life
- Hearing Screen: PTD
- CCHD #1: PTD
- CCHD #2 PTD
- Car seat test: PTD

## Immunization Plan:

- Hepatitis B vaccine due at DOL 30 (9/05/16)

## Consult Plan: Developmental, Neurology, Social work, Lactation Team

## Signature:

Maria Kristine Reyes, MD  
Neonatal-Perinatal Medicine  
Baylor ID # 170723



TEXAS CHILDREN'S ROI LOCATION

DOB: 8/5/2016, Sex: M  
Adm: 8/5/2016, D/C: 8/17/2016

8/5/2016 12:56 PM Admission

Description: Male DOB: 8/5/2016 Department: Wt Newborn Cntr Lvl 2

**Plan of Care by Mangondaya, Margarita H, RN at 08/07/16 0125**

Author: Mangondaya, Margarita H, RN

Filed: 08/07/16 0125

Editor: Mangondaya, Margarita H, RN (REGISTERED NURSE)

Service: (none)

Date of Service: 08/07/16 0125

Author Type: REGISTERED NURSE

Status: Signed

**Problem: Psychosocial****Goal:** Provide Support & Promote Coping for the Caregiver**Outcome:** Met at this time

Measurable Outcomes for Provide Support &amp; Promote Coping:

- Exhibits minimal anxiety & fear
- Caregiver participates in infant's care needs
- Beliefs & cultural practices are integrated into care

**Goal:** Provide Support & Promote Coping for the Newborn**Outcome:** Met at this time

Measurable Outcomes for Provide Support &amp; Promote Coping:

- Exhibits minimal stress cues related to socially focused interactions/interventions
- Maintains neurobiological stability during socially aimed interventions

**Problem: Pain****Goal:** Prevent, Minimize, & Alleviate Pain**Outcome:** Met at this time

Measurable Outcomes for Prevent, Minimize, &amp; Alleviate Pain:

- Acceptable pain scores:

CRIES less than 4

Levels of CRIES greater than or equal to 4 require treatment.

PIPP = 0 – 6 mild pain acceptable.

These levels require pain medication!

7 – 12 moderate pain

13 – 21 severe pain

**Intervention: Provide non-pharmacologic & pharmacologic measures**

On Morphine drip.

**Problem: Metabolic/Nutritional Management****Goal:** Maintain &/or Attain Hydration & Nutrition**Outcome:** Met at this time

Measurable Outcomes for Maintain &amp;/or Attain Hydration &amp; Nutrition:

- Maintain fluid balance
- Nutritional support adequate to promote growth
- Absence of metabolic/nutritional adverse outcomes

**Intervention: Administer fluids**

On TPN at 5.9 ml/hr. NPO.

**Goal: Promote Fluid & Electrolyte Balance****Outcome:** Met at this time

Measurable Outcomes for Promote Fluid &amp; Electrolyte Balance:

- Absence of metabolic/nutritional adverse outcomes

**Problem: Safety****Goal:** Prevent Adverse Events During Hospitalization**Outcome:** Met at this time

Measurable Outcomes for Prevent Adverse Events During Hospitalization:

- Experiences no preventable adverse event
- Receives therapeutic interventions safely

**Problem: Discharge****Goal:** Prepare for Discharge**Outcome:** Ongoing during hospitalization

Measurable Outcomes for Prepare for Discharge:

- Caregiver demonstrates skills & knowledge for continuing care needs
- Caregiver understands when & how to administer medications at home
- Caregiver knows who, how & when to contact support services

**Problem: Impaired Respiratory Function****Goal:** Effective Breathing: Respirations Easy & Unlabored, WNL for Age**Outcome:** Met at this time

Measurable Outcomes for Effective Breathing: Respirations Easy &amp; Unlabored, WNL for Age:

- Effective respiratory function

**Intervention:** Monitor oxygen saturation

ABG and Lactate Q 6 hrs.

On 21-23% FIO<sub>2</sub>.**Goal: Patent Airway****Outcome:** Met at this time

Measurable Outcomes for Patent Airway:

- Effective respiratory function

**Goal: Adequate Gas Exchange****Outcome:** Met at this time

Measurable Outcomes for Adequate Gas Exchange:

- Effective respiratory function
- 
- 

**Patient Information**DOB  
Home Phone  
Work Phone

08/05/2016

Author: Soto, Elaine S, MD at 08/07/16 0840	Service: (none)	Author Type: Physician
Editor: Soto, Elaine S, MD (Physician)	Date of Service: 08/07/16 0840	Status: Addendum
Procedure Orders: 1 EEG Monitoring - Continuous [164326224] ordered by Thomas, Shino S, NNP, RN at 08/05/16 1319		

Texas Children's Hospital  
Neurophysiology Department  
EEG Report

Date of Examination: 08/07/2016

EEG Number: 16-2903

Patient's Age: 2 days

Start Date: 08/08/2016 Time: 1105

End Date: 08/07/2016 Time: 1012

Referring Physician: Shino Thomas, NNP, RN

## EEG TECHNOLOGIST HISTORY:

Personnel medical history	Term infant delivered via C-section due to failed BVMC and non-reassuring fetal heart tones - APGARS were 1/26. Infant transferred to NICU for further management and passive cooling - infant developed left sided pneumothorax which was evacuated - on arrival infant was stable on minimal vent settings
Reason for EEG	DSM cooling protocol

Description of event	arches when stimulated and crying
Frequency of events:	several episodes
Length of episode:	several seconds
Preceding symptoms?	No
Behavior after event is over:	back to baseline
Date/time of last event:	8/5

This bedside monitoring study recorded the electroencephalogram and video continuously during the designated time period. Electrodes were placed according to the 10-20 electrode placement system with at least 16 recording electrodes. Electrodes F7, F8, P7, P8, A1, A2, Fz, Cz, and Pz are absent. Monitoring was maintained and continuously attended by the neurophysiology technical staff. Interpretation of the EEG was made retrospectively at designated time periods unless abnormal activity was noted. The medical team was informed of the EEG findings as needed to allow for real-time changes in medical care to occur during the course of the study.

TECHNICAL SUMMARY: There is continuous background activity during wakefulness but during sleep, there are periods of discontinuity lasting up to 5 seconds in duration. During periods of continuity, the background activity consists of polyfrequency activity in all regions. There are rare multifocal sharp waves present.

IMPRESSION: The study has not significantly changed from the previous recording period. The study continues to be abnormal due to the presence of excessive background discontinuity for age, a finding indicative of a diffuse disturbance in cerebral function. There are no seizures recorded.

Elaine Soto, MD PhD  
Neurophysiology

Description: Male DOB: 8/5/2016 Department: Wt Newborn Cntr Lvl 2

Nsg/Anc Progress Note by Toruno, Rose M, OT at 08/08/16 1405

Author: Toruno, Rose M, OT

Service: (none)

Filed: 08/08/16 1410

Date of Service: 08/08/16 1405

Editor: Toruno, Rose M, OT (OCCUPATIONAL THERAPIST)

Author Type: OCCUPATIONAL THERAPIST

Status: Signed

08/08/16 1405	
<b>**Preliminary Assessment**</b>	
Preliminary assessment completed by	Occupational Therapist
Start time	1405
Stop time	1409
Session length	4
Additional details	OT consult received per admission orders. Per chart review pt is a term infant now 3 days old that was transferred from OSH for HIE and Total Body Cooling. OT will defer initial evaluation until cooling protocol is completed. OT will return later this week to monitor pt's OT needs and readiness.

Rose Toruno, OTR  
Vocall: 30950  
8/8/2016  
2:10 PM



# Texas Children's Hospital<sup>®</sup>

TEXAS CHILDREN'S HOSPITAL  
6621 Fannin St  
Houston TX 77030

Description: Male DOB: 8/5/2016 Department: Wt Newborn Cntr Lvl 2

## Care Management Discharge Planning by Williams, Jacqueline P, RN at 08/08/16 1422

Author: Williams, Jacqueline P, RN

Service: (none)

Filed: 08/08/16 1423

Date of Service: 08/08/16 1422

Editor: Williams, Jacqueline P, RN (REGISTERED NURSE)

### Care Management Progress Note:

**S:** Pt. remains in NICU 4 level of care.

**B:** Current plan of care per NICU Medical Team to continue total body cooling.

**A:** Anticipated discharge needs at this time are to early to determine.

**R:** Care Management will continue to follow pt with interdisciplinary team to assess for needs.

Care Manager  
Jacqueline P. Williams MSN, RN

832-824-1365

8/5/2016 12:56 F  
MR

Description: Male DOB: 8/5/2016 Department: Wt Newborn Cntr Lvl 2

## MD Progress Note by Sansotta, Whitney A, NNP, RN at 08/09/16 0930

Author: Sansotta, Whitney A, NNP, RN

Service: Neonatology

Filed: 08/09/16 1822

Date of Service: 08/09/16 0930

Editor: Sansotta, Whitney A, NNP, RN (NURSE PRACTITIONER)

Author Type: NURSE PRACTITIONER

Status: Signed

### Neonatology Daily Progress Note

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Plan discussed with Dr. Suresh

This is a term infant now 4 days old that was transferred from OSH for HIE and Total Body Cooling. Currently stable on SIMV ventilation, NPO, on TPN. S/o rewarmed following cooling protocol on 8/8/16.

#### Subjective

Significant events overnight: Infant rewarmed following 72 hours of cooling with continuous EEG  
Procedures Done (last 24 hrs): None

#### Objective

Gestational age at Birth: 40	Birth weight:
Birth length:	Birth FOC:
Sex: male	DOL: 4 days
PMA: 40w4d	
Temp: 99.1 °F (37.3 °C)	Temp Avg: 96.6 °F (35.9 °C) Min: 92.7 °F (33.7 °C) Max: 99.1 °F (37.3 °C)
Temp src: Axillary	
Pulse: 120	Pulse Avg: 116.8 Min: 92 Max: 130
Resp: 64	Resp Avg: 45.1 Min: 27 Max: 64
BP: (l) 74/42	BP Min: 74/42 Max: 74/42
SpO2: 95 %	SpO2 Avg: 94.7 % Min: 88 % Max: 99 %
CRIES Score: 2	

Active LDAs Reviewed: All lines/drains reviewed

Imaging/Diagnostics Reviewed: None

Labs Reviewed: Yes Electrolytes improved with resolved hyponatremia and hypokalemia. Coags stable with improved thrombocytopenia

Pending labs:

- Blood culture at OSF 8/05: Negative to date

Social: Parent(s) not present during rounds. Updated via phone with interpreter this afternoon. Discussed that [REDACTED] is more stable today and is improved. He is rewarmed and is beginning to wake up. Mother consented to the use of donor breast milk until she is able to provide EBM. All questions answered. Mother to be at bedside tomorrow.

**Active Scheduled Medications:****Active Continuous Infusions:**

Infant Central TPN (Neonate/Infant Form) IV Infusion	Last Rate: 5.9 mL/hr at 08/08/16 1600
morphine (preservative-free) Continuous Infusion 0.2 mg/mL	Last Rate: 0.02 mg/kg/hr (08/08/16 1811)
lipid 20%	Last Rate: 10 mL/kg/day (08/08/16 1600)
heparin in NS (PF) Injection 1 unit/mL (20 mL) Flush	Last Rate: 0.5 mL/hr at 08/08/16 1600

**Active PRN Medications:**

sucrose 0.2 mL PRN

**Assessment**

Principal Problem:

HIE (hypoxic-ischemic encephalopathy)

Active Problems:

Feeding difficulties

Respiratory failure

40 weeks gestation of pregnancy

Coagulopathy

Need for observation and evaluation of newborn for sepsis

Thrombocytopenia

Oliguria

Electrolyte disturbance

Vt Set (ml): 14 ml

PEEP (cm H2O): 6 cm H2O

Vent FiO2 (%): 64 %

PS (cm H2O): 8 cm H2O

Paw (cm H2O): 8.2

Vent FiO2 (%) Avg: 46 % Min: 21 % Max: 65 %

Height: (deferred on TBC protocol)	Head Cir: (deferred, on TBC protocol, EEG leads in place to scalp)
Weight: 3.92 kg (8 lb 10.3 oz)	
Weight change: -0.04 kg (-1.4 oz)	

In: 247.17 (63.06 mL/kg) | I.V.: 191.17 (2.03 mL/kg/hr)

Out: 161.5 (41.2 mL/kg)

Weight: 3.92 kg

Using BW 3.53 kg for calculations:

Total Intake: 70 mL/kg/day

Blood product intake: Platelets 10 mL/kg

Total urine output: 1.8 mL/kg/hour

Stool: x 0

Net Balance: + 86 mL

**Nutrition**

Source of Nutrition: D19W TPN at 40 mL/kg/day, IL @ 10 mL/kg/day

Nutrition Intake: 55 Kcal/kg/day, 2.21 gm/kg/day protein, 6.29 mg/kg/min glucose

**Physical Exam**

General Appearance: Term male infant, in no acute distress, reactive, on open warmer

Hydration: well hydrated, mucous membranes moist, good skin turgor

Head: Anterior fontanelle open, soft, and flat, normocephalic, atraumatic, bruising to head with moderate bogging

Face: facies unremarkable

Eyes: clear, no issues, mild edema to both eyes

Ears: Non dysmorphic, in normal position

Nose: no drainage, nares appear patent

Mouth: no perioral or gingival cyanosis, tongue is normal in appearance, palate intact, ETT secured with Neobar and OG tube secured to chin without redness or breakdown

Neck: neck supple, trachea midline, no masses, back and spine normal

Resp/Chest: Breath sounds clear and equal bilaterally, adequate chest rise with ventilator breaths, comfortable work of breathing

Cardiovascular: hemodynamically stable, no murmur, pulses +2 and equal x 4 extremities, capillary refill &lt; 3 seconds both central and peripheral

Neuro: sedated, calm, moves all 4 extremities, grasp intact

Back: no deformity or masses

Extremities: full range of motion, no bony defects or deformities

Abdomen: soft, without masses, organomegaly or tenderness; bowel sounds normal, cord stump present, UVC secured to abdomen without redness or breakdown

GU: normal term male features, uncircumcised, anus patent

Skin: pink/pale, warm, dry, no rash, no lesions

Lines: UVC, PIV dressings clean/dry/intact, no complications

**Plan****Term male infant:**

- Provide developmentally appropriate care
- Keep parents updated on plan of care
- Lactation to see mother
- Developmental Consult

**Encephalopathy/HIE; s/p cooling protocol, rewarmed 8/8/16**

- Neurology Consulted
- Obtain MRI of brain without contrast and with spectroscopy tomorrow per cooling protocol
- Discontinue Continuous EEG monitoring per cooling protocol
  - Findings of background discontinuity and burst suppression pattern which are both indicative of diffuse disturbances in cerebral function. No seizure activity noted
- Discontinue Morphine drip

**Coagulopathy: Thrombocytopenia; anemia; Improved**

- Prolonged INR, PTT and PT on admission, plts 93K
  - Received PRBC x 15 mL/kg in last 24 hours
- No active bleeding
- Last platelet transfusion 8/8/16

**Respiratory failure; hx pneumothorax 8/5/16**

- Continue SIMV/VG ventilation
  - Increase TV to 21 as PIP appears hypoventilated on TV 14 with increased oxygen requirement
  - Titrate Oxygen to maintain sats >95%
  - Wean vent settings as tolerated

**Oliguria/Electrolyte Disturbance; resolved****Feeding Difficulties:**

- Begin feeds of EBM/ Donor EBM at 20 mL/kg/day
- Increase TPN to 50 mL/kg/day
- Continue IL at 10 mL/kg
- Continue NS w/Hep 1:1 in 2nd lumen UVC at TKO
- Monitor blood glucose closely

**Sepsis Evaluation:**

- Maternal labs negative with no risk factors for infection
- Continue to follow blood culture from OSH until final
  - (979) 778-2564, MRN M000952781

**Line Plan:** Discussed in rounds on 08/09/2016 that the current lines are needed and cannot be removed due to continued need for TPN/IVF. Lines without complications.

- PIV as needed
- UVC (8/05/16-present)

**Lab Plan:**

- Now: plt, TSB
- Daily am: Lyles

**Screening Plan:**

- Newborn Screen #1: 8/06/16-pending
- Newborn Screen #2: due 10-14 days of life
- Hearing Screen: To be completed prior to discharge
- CCHD #1: To be completed prior to discharge
- CCHD #2 To be completed prior to discharge

**Immunization Plan:**

- Hepatitis B vaccine due at DOL 30 (9/05/16)

**Consult Plan:** Developmental, Neurology, Social work, Lactation Team**Signature:**

Whitney A. Sansotta, MSN, APRN, NNP-BC  
Texas Children's Hospital Newborn Center  
Voalte #: 33306

**Addendum 1745**

Infant extubated to HFNC 2 LPM. Infant tolerated well. Remains stable at this time with adequate spontaneous respiration. Will monitor for increased oxygen and increased work of breathing.

Whitney A. Sansotta, MSN, APRN, NNP-BC  
Texas Children's Hospital Newborn Center  
Voalte #: 33306

# Evidence EP5a-e, Care Progression Rounds, Patient Electronic Medical Record Notes

Hypercare - RESPIRATORY CARE Topic Production - JULIA B LAWRENCE

Epics Schedule Patient Lists In Basket Chart Apps Arrived Dept Apps View Sched Wait List Clinical References Confirm Resolved Scheduled Orders Account Maintenance Patient Workqueue Batch Charge Entry Charge Entry Batches Log Out

Bastropetech Atte Age: 10 Mos, Male DOB: 08/05/2015 Unit: WTPNY Room: None

Last Prov: None Height: 69.2 cm (2' 3 1/4") Weight: 8.645 kg (19 lb 0.9 oz) Last Visit: None Last EMR: 18.05 kg<sup>2</sup> Allergies: No Known Drug Allergy, Food No Known... Lab Prof: QUEST DIAGNOSTICS HOUSTON First Language: Spanish Blood Type: None

Admit Day: 1 Walther List: None Isolation: None HAT Due: MyChart: No proxy exists PCP: PROVIDER NOT IN SYSTEM

Flowsheets Summary Chart Review Demographics Synopsis MAR Flowsheets Intake/Output Notes Education Care Plan Growth Chart Modify Order Order Review Order Entry Results Review Letters Visit Navigator RT Navigator Sedation Customizations More Uncheck All Check All

**Respiratory Flowsheet**

**Simple Vital Signs | ECLS Flow Sheet**

**Lines, Drains, Alarms, Tubes, and Wounds Properties**

**[REMOVED] ETT - 08/05/16 3.5 Lip**

Property	Value
Admission date	8/5/2016
Placement Time	Comment placed in OSH
Intubation site	Planned
Size	3.5
ETT taped location	Lip
Inserted by	Comment OSH
Placement Verified By	Chest X-ray/Auscultation
Removal/Active Date	8/9/2016
Removal Time	1732
Removal Reason	Planned extubation
Extubation site	Planned
Removed by	

**Respiratory Therapist**

Value: 8/5/2016 Comment: Time Recd: 08/05/16 1333 User Taken: Galan, Sasha M, RT User Recd: SG Share Audit: Edited by: (c)

**ETT Properties**

ETT cuffed	
ETT taped cm	
ETT taped at	
ETT secured	
ETT securing method	
ETT Relaced	
Was ETT Moved	
Cass regulator	
Depth of suction	
Inline suction catheter	
Inline suction catheter size	

**Respiratory Flowsheet**

Created On: 07/09 | Reset Now: 08/09/16 1600

\$O2 Device

1800

08/08/2016	08/13/2016	MRI Spectroscopy	Final result	Sansotta, Whitney...
08/08/2016	08/13/2016	MRI Brain w/o Contrast	Final result	Sansotta, Whitney...



## Result Information

## Status

Final result (Exam End: 8/13/2016 3:55 AM)

## Provider Status

Open

STUDY TEXT  
EXAM: MR SPECTROSCOPY.

## CLINICAL HISTORY: Term Infant status post HIE and cooling protocol

TECHNIQUE: Multi-voxel MR spectroscopy with a short TE was performed over the central aspect of the brain, including the bilateral basal ganglia and thalamus. Single voxel MR spectroscopy was obtained over the left basal ganglia with an intermediate TE.

## COMPARISON: None

## FINDINGS:

The major metabolite peaks, including choline, creatine and N acetyl aspartate (NAA) appear normal. There are low level peaks at 1.3 ppm which appear to be related to lipid. No definite doublet is present to indicate lactate. The spectra is otherwise unremarkable. There is a modest sized myoinositol peak with a small scylloinositol peak.

## IMPRESSION

:

Normal MR spectroscopy of the brain. In particular no evidence for lactate doublet.

Dictated by: Hunter, Jill V, MD  
 Attending: Hunter, Jill V, MD  
 Signed by: Hunter, Jill V, MD on 8/13/2016 10:09 AM

## Lactation Note by Castillo, Sonia J at 08/11/16 0912

Author: Castillo, Sonia J

Filed: 08/11/16 0913

Editor: Castillo, Sonia J (LACTATION ASSISTANT)

Service: Lactation Support

Date of Service: 08/11/16 0912

Author Type: LACTATION ASSISTANT

Status: Signed

Tour, supplies and hand-outs given to mom in our Milk Bank at West Tower.

Reviewed collection and storage techniques and encouraged to pump every three hours and utilize breast massage or hand expression with pumping to maximize milk supply. Discussed pumping plan and type of pump obtained for use when away from hospital.

Discussed using cold packs between pumping sessions for engorgement relief and warm during pumping to assist with milk removal. Encouraged to continue to contact Milk Bank for questions/concerns as needed.

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Description: Male DOB: 8/5/2016 Department: Wt Newborn Cntr Lvl 2

MD Progress Note by Sansotta, Whitney A, NNP, RN at 08/17/16 0831

Author: Sansotta, Whitney A, NNP, RN

Service: Neonatology

Date of Service: 08/17/16 0831

Author Type: NURSE PRACTITIONER

Status: Signed

Filed: 08/17/16 1413

Editor: Sansotta, Whitney A, NNP, RN (NURSE PRACTITIONER)

**Neonatology Daily Progress Note** Hide copied text**Plan discussed with Dr. Suresh**

This is a term infant now 12 days old that was transferred from OSH for HIE and Total Body Cooling s/p rewarming on 8/8/16. Currently stable on room air and tolerating full enteral feeds.

**Subjective**Significant events overnight: Stable  
Procedures Done (last 24 hrs): None**Objective**

Gestational age at Birth: 40	Birth weight: 3.53 kg (7 lb 12.6 oz)
Birth length:	Birth FOC:
Sex: male	DOL: 12 days
PMA: 41w5d	
Temp: 98.5 °F (36.9 °C)	Temp Avg: 98.5 °F (36.9 °C) Min: 98 °F (36.7 °C) Max: 98.8 °F (37.1 °C)
Temp src: Axillary	
Pulse: 128	Pulse Avg: 132.8 Min: 124 Max: 140

**Assessment**Principal Problem:  
HIE (hypoxic-ischemic encephalopathy)Active Problems:  
40 weeks gestation of pregnancy  
Normal nutrition monitoring encounter**Plan****Term male Infant:**

- Provide developmentally appropriate care
- Keep parents updated on plan of care

**Encephalopathy/HIE: s/p cooling protocol, rewarmed 8/8/16**

- Neurology following
- 8/13/16 MRI of brain: Normal MR spectroscopy of the brain. In particular no evidence for lactate doublet. There appears to be some slight restriction returned from the ventral lateral thalamus and left striatum. There is no other parenchymal signal abnormality or abnormal susceptibility. Myelination is otherwise appropriate for age. There is a modest sized left middle cranial fossa arachnoid cyst.
- EEG findings of background discontinuity and burst suppression pattern which are both indicative of diffuse disturbances in cerebral function. No seizure activity noted
- Follow-up in Neurology clinic in 4-6 weeks as scheduled

**Normal nutrition of the newborn**

- Continue feeds of EBM or Similac advance 20 kcal/oz minimum 150 mL/kg/day PO ad lib
- Infant may breastfeed as tolerated

**Screening Plan:**

- Newborn Screen #1: 8/06/16: Abnormal with elevated immunoreactive trypsinogen, indicating possible CF
  - To be repeated on second Newborn screen
- Newborn Screen #2: Drawn 8/16/16: Pending
- Hearing Screen: Passed bilaterally 8/14/16
- CCHD #1 Passed 8/8/16
- CCHD #2 Passed 8/14/16

**Immunization Plan:**

Immunization History  
 Administered Date(s) Administered  
 • Hepatitis B Vaccine INJ NOS 08/16/2016  
 - Continue immunizations per CDC guidelines

Consult Plan: Developmental, Neurology, Social work, Lactation Team

**Discharge Planning:****Follow-up Appointments**

- Pediatrician: HealthPoint Bryan/ College Station, Appointment 8/18/16 at 830 AM
- F/U Neurology: Appointment with Dr Espineli at The Woodlands location, 9/23/16 at 1120 am
- Developmental: Consult sent 8/14/16
- ECI referral: Completed 8/16/16 and faxed
- WIC form & waiver: Completed 8/16/16. Given to mother on 8/17/16

**Parent Teaching**

- Car Seat Education for parents: Completed 8/17/16
- CPR education: Watched video 8/17/16
- Purple cry video: Watched video 8/17/16

**Procedures:**

- Circumcision: Mother declines

**Signature:**

Whitney A. Sansotta, MSN, APRN, NNP-BC  
 Texas Children's Hospital Newborn Center  
 Voalte #: 33306