



## **GOLDEN HOURS IN NICU**

#### **INTRODUCTION:**

The "Golden Hour," [the first 60 minutes] practice guidelines were used for infants born before the completion of 32 weeks' gestation. This period is the most important of his or her life. Specific attention to respiratory management, temperature regulation, and vascular access, undertaken via a standardized approach may have immeasurable long-term benefits, and make the difference between life and death.

#### **OBJECTIVES:**

- 1. To review the changes that occur during transition to extra-uterine life.
- 2. To appreciate the role of functional teams in facilitating smooth transition.
- 3. To review potentially better practices that can be applied during the Golden Hour.
- 4. To help ensure optimal outcome.
- 5. To share care maps and measurement tools that can be applied to improve performance.

## At delivery (0-20 minutes of age)

## **A.**Thermoregulation:

- Pre warm mode Radiant Warmer on
- Warm Blankets
- Hat
- Polyethylene Wrap
- Thermal Mattress/Embrace bag
- Warm Transport Incubator/Embrace bag
- Increased Delivery Room temperature to 25C

Hypothermia is associated with morbidities such as intraventricular hemorrhage, an increased risk of infection, delayed fatal-to-new-born circulatory adjustment, respiratory distress syndrome and increased mortality.





### **B. Plastic Bag and Hat:**

• Use a plastic bag to keep the infant warm immediately after birth and place under the radiant warmer. Do not dry the infant. Ensure the opening of the bag is at the neck and folded behind shoulders. Place a hat on head.

Cord clamping: Delay cord clamping if necessary.

**Cord Blood Gas:** Ensure the staff collect umbilical arterial and venous blood for gas analysis.

#### C. Oximeter:

- Attach the pulse ox meter probe to the right wrist for pre ductal saturation readings.
- Acceptable minimum oxygen saturations in preterm new-born babies: Time from birth in minutes and Acceptable right wrist or hand saturation:



## D. Respiratory management in the delivery suite/OT:

- < 28 wks. Infants are to be intubated and prophylactic surfactant given at birth and remain intubated for the transport to NICU. It is preferable to use auto-breath mode on Dragger resuscitation trolley rather than hand ventilate.
- 28+1 wks. 32 wks. Transport the infant on non-invasive CPAP (6-7 cm H2O) in NICU.
   Transport from the delivery suite/OT to NICU

## (20 minutes –1 hour of age): in NICU

- Measure weight and transfer the infant in the plastic wrap into the incubator (GE Omni bed, Fanem Incubator).
- Measure length and head circumference in the incubator.





- Deduct 25 g from the measured weight to obtain the accurate weight
  of the infant (Plastic bag and hat weigh 20 g, cord clamp 3 g, ox meter probe 2.5 g, ET tube 3 g, NG
  tube 3 g) Plastic Bag.
- Keep the plastic bag on until the commencement of central line insertion. Incubator Temperature and Humidification:
- Set the initial ambient temperature at 36C in air mode until the temperature is stable.
- Set the humidification at 85% for new-born <29+0 weeks or birth weight <1000 g. Ventilator/CPAP support</li>
- Connect the new-born to ventilator or CPAP as appropriate. Adjust the ventilator settings or CPAP settings as needed.
- Allow 10 minutes for the nursing staff to settle the baby in the incubator, attach all leads, ventilator tubing's and gastric tube. While waiting, medical staff to decide on the sizes and lengths of ETT, UVC, and UAC and plan the investigations needed in the first 2 hours (e.g.

Chest and Abdominal X-Ray, FBC, blood culture) and prescribe fluids and medications.

- <27+6 weeks: No need for ECG leads while they are monitored on pulse ox meter and UAC.</p>
- Preferred vascular access:
- <27+6 weeks or <1000 g UVC+ UAC within the first 1 hours of birth.
- ≥28 weeks peripheral IV cannula and PICC line or UVC+/-UAC.
- NOTE: <27+6 weeks or <1000 g If central venous access is getting difficult, please check blood glucose at 45-60 minutes of age. If BGL
- <46 mg/dl, try peripheral venous access
- Intravenous Fluids: Commence IV fluids at 80 ml/kg/day. Aim to start IV fluids within 45 -60 minutes of birth. Fluids (with the exception of inotropes) can be started through UVC by 45 minutes while waiting for x-ray to confirm the position.

#### **DOCUMENTATION**

- Integrated Clinical Notes.
- Neonatal Medication chart.
- Standard Neonatal Observation Chart.





#### Medscape

## Delivery Room Flowchart

DELIVERY ROOM TEAM RT/2nd RN NNP RN Prior to infant birth Prior to birth Collaborate with L/D staff to ensure 1 Confirm Neopuff 1 Collaborate with room set up prior is set-up RN on room set up to infant birth and equipment needed 2 Confirm initial 1 Room warmed settings with NNP 2 Collaborate with to 74-76° F RT/2nd RN on NeoPuff 3 Ensure working settings, surfactant laryngoscope handle 2 Pulse oximetry in delivery room. monitor available & blade function 3 Polyurethane bag open and in preheated Giraffe bed Upon delivery 4 Chemical mattress Place infant in available. Activate upon polyurethane bag entry to delivery room. 2 Place hats on infant 5 Two hats under chemical mattress 3 Auscultate breath sounds 6 NeoPuff set up 4 Assess infant's **Upon delivery** respiratory effort If < 25 weeks gestation, 1 Apply NeoPuff with intubate and give room air immediately surfactant within upon infant placement Assess need 15 minutes of birth. into bed for surfactant 6 If > 25 weeks assess in delivery room 2 Administer inspiratory respiratory effort hold immediately with on mask CPAP pressure as determined adjust PEEP or 1 PIP. with NNP - apply Start with room air, for 5 seconds (Count out loud) do not give oxygen in **Upon delivery** first 2-3 minutes 3 After inspiratory hold - assess pulse oximetry administer mask 1 Push Timer trend - if increasing CPAP continuously. then wait on oxygen 2 Apply 4 Assess need for temperature probe 8 Titrate oxygen oxygen after minimum in 2-3% increments 3 Apply pulse-oximetry of 2-3 minutes on monitor to right hand 9 Any intubated infant CPAP. Monitor trend - apply first then spontaneously of saturations. plug into machine breathing - consider Adjust oxygen extubation to CPAP in 2-3% increments. 4 Document Once infant stabilized. Transport to NICU. 2 Once in the NICU - if intubated and infant is spontaneously

breathing & clinically stable, consider extubation

to nasal ventilation within first hour of life.

Source: NAINR © 2012 Elsevier Science, Inc.





## Medscape

# Delivery Room Golden Hour Form

NNP:	RN:		RT/2nd RN	
aby MRN:			Gestational age:	Birth Time:
RE-BIRTH:				
eoPuff set up prior to del	ivery 🗆 yes I 🗆 no			
aryngoscope/blade checl	ked prior to delivery $\Box$ y	es I 🗆 no		QUESTIONS:
laced into polyurethane l	oag 🗆 yes l 🗀 no			What did team do well?
n chemical mattress	yes	m		!
wo hats applied or pl	astic barrier & one hat app	olied at	a.m.   p.m.	
nspiratory hold of	cm PIP x 5 secon	nds given 🗌 yes	l □no	
tarted on mask CPAP with	ncm H20	pressure @	a.m.   p.m.	
Adjusted to	cm H2O pressure		a.m.   p.m.	i
PV given  yes   nc	What settings?			
Oxygen initiated with initia	al setting of	% @	minutes of age	<b>!</b>
or sats of	-			•
Adjusted to	% at	a.m.   p.m.		What can the team improve upon?
Additional Adjustme	ents to%	at	a.m.   p.m.	
Percentage of oxyge	n needed to maintain sats	88-92	96	
ntubated at mini	utes of age with	ETT secure	ed @cm at lip	:
iurfactant given  uyes	□no @	_ minutes of age.	Dose:	
	utes of age to	- = WIDMING		:
	om temperature:			
			1 - 100-32 <b>M</b> _ 2023	
RANSFERI				•
ransferred to the NICU on	(PIP/PEEP/O2/mask or ET	T)	=	What follow-up if any is needed?
DMISSION TO	N I C U :			
Respiratory support setting				
	utes of age to	(resp suppor	t needed; ie, CPAP, O2)	
	°C taken at			:
	ite @ a.m		namental.	:
	d at a.m.	(f).84	v temp of "C	:
Disponenti con constituto de socio	polyurethane bag remove		·c	•
xmary temp I nour after	polyuretnane bag remove	U.		e: NAINR © 2012 Elsevier Science





Guideline prepared by	Dr. Shekar Subbaiah/Dr. Kishore Yerur/Dr. Ramapriya	
Guideline accepted date	June 2019	
Guideline review date	June 2020	

