Chapter 6: Micropremie Care Manual
Infants < 29 weeks Gestational Age (GA)

Nina Menda, MD & Claudette Adegboro, MD

Goal: To increase survival without morbidity for infants born < 29 wks GA.

A. Pre-Delivery

i. Set up for double lumen UVC and single lumen UAC in the NICU admission room Use NS for flush, but do not use heparin flush

ii. Pre-order IVF with heparin for both umbilical lines. RN may set up D10W for PIV

iii. Set IVF rates for total of 80 ml/kg/day

iv. T-piece (TP) resuscitator settings: FiO2 0.3 and 20/5

v. Team assignments: NICU provider (APP, fellow), neonatologist, charge nurse, resident, respiratory therapist, admitting RN

B. Delivery Room

a. Delayed cord clamping

i. Discuss and plan delayed cord clamping for 30–60 seconds with OB provider

b. Airway management by fellow, APP or neonatologist

i. Resuscitation to follow NRP & Meriter Algorithm

ii. Start with NCPAP+5, stabilize with appropriate-sized mask and TP

iii. Recommend intubation and surfactant for all infants < 25 wks GA OR < 500gms

iv. For all micropremies, if intubated in DR, obtain CXR in NICU prior to surfactant administration

c. Respiratory Therapist

i. Apply F&P Flexitrunk, and connect to BCPAP or NIPPV with ventilator

ii. For intubated infants: start volume ventilation following surfactant administration

d. Charge nurse:

i. Thermal mattress, plastic wrap & hat for thermoregulation; follow

algorithm

ii. Apply cardiac leads and SpO2 monitors

iii. Prior to intubation: measure length from nose to tragus +1cm for depth of ETT

iv. Weigh the infant, measure head circumference and apply tortle

- If 22-23 weeks, do NOT use Tortle due to skin fragility

C. NICU Admission

a. Admitting RN

i. Obtain weight if not done in DR

ii. Check temperature

iii. Ensure proper head placement

iv. Place cardiorespiratory monitor

b. Providers

i. Prioritize Lungs over Lines

ii. Intubate and give surfactant to:

- Infants < 25 wks GA OR infants < 500 gms at birth
- For all micropremies requiring ≥ 30% oxygen on admission, consider placing PIV to infuse D10W at 80 ml/kg/d before surfactant administration

iii. Umbilical lines efficiently placed by a skilled NICU provider

- UVC: Obtain blood glucose and start IVF immediately, prior to X-ray confirmation; the second lumen must be heparin locked
- Draw all admission labs from UAC or UVC during umbilical line placement
- **If lines are not placed within 30 minutes of starting, must call neonatologist for assistance**

Participate in Delivery room brief and post golden-hour debrief

D. Open Lung Policy

a. Load with caffeine and start maintenance caffeine on admission

b. First week: avoid hypocapnea and hypercapnia with goal pCO_2 = 45-55

c. After first week: Permissive hypercapnia; Goal pCO_2 50-60

d. Surfactant administration:

i. All infants < 25 wks GA OR < 500 gms: intubated in DR & CXR and surfactant in NICU

ii. All infants requiring ≥ 30% oxygen at admission or for ≥ 30 minutes

iii. For infants ≥25 wks, consider INSURE

iv. Give 2nd dose if: >12 hr from first AND < 48-72 hr of age AND > 30% oxygen

e. Ventilator Strategies: Initial Settings

i. Volume targeted ventilator: TV 6-7 ml/kg, R 40, PEEP 5-6, IT 0.35

ii. High Frequency Jet Ventilation:

PATIENT POPULATION	JET RATE	JET PIP	JET INSPIRATORY TIME	PEEP
22 - 23 weeks GA	300 bpm	24 - 26	0.02 seconds	5
24 - 25 weeks GA	360 bpm	22 - 24	0.02 seconds	5

- Obtain blood gas 30 min after converting to HFJV
- Obtain CXR 45-60 min after converting to HFJV
- See High Frequency Jet Ventilation Guideline for further details

iii. Non-Invasive: Provide support with BCPAP (PEEP 5-6 cm H_2O) or NIPPV

f. Extubation readiness:

i. Ventilator settings:

Volume ventilation: $FiO_2 \leq 0.3$, VT ≤ 6ml/kg, PEEP ≤ 8

OR HFJV: $FiO_2 \leq 0.3$, MAP ≤ 9, rate 240

OR SIMV: $FiO_2 \leq 0.3$, rate ≤ 25, PIP ≤ 18, PEEP ≤ 8

ii. pH ≥ 7.25, $pCO_2 \leq 55$

iii. Successful 3 min ET-CPAP trial

E. Brain Care

a. For infants < 25 wks GA, do not extubate for first 72 hrs

b. To consider **treatment of hypotension** with fluid bolus and/or inotrope during first 72 hrs, infant must have two or more of the following:
   i. Persistent HR > 160/min
   ii. Metabolic deficit > 8
   iii. Lactate >4
   iv. Capillary refill > 4 sec
   v. Urine output < 1 ml/kg/hr for infants > 24 hr of age
c. Feeds every 2 hrs until on full feeds and 29 weeks PMA OR by two weeks of age, whichever is later
d. Limit to 2 full assessments per care session and ask for help with containment during assessment
e. Maintain head in midline position for 72 hrs; no prone positioning for 72 hrs

F. Nutrition Support

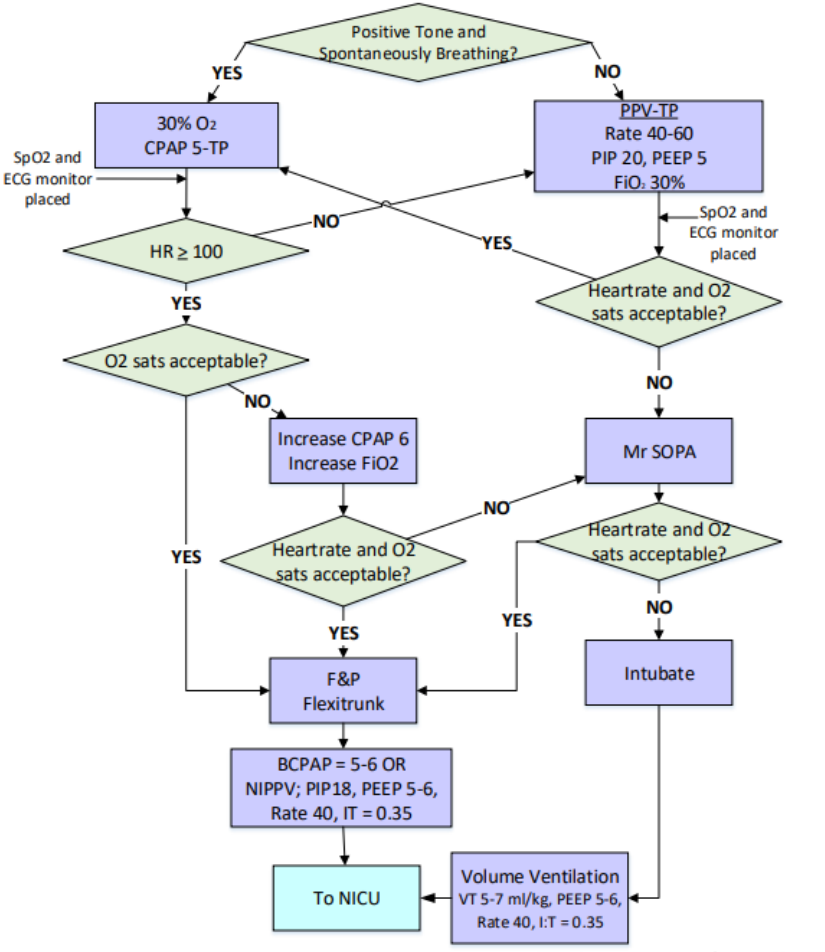
a. Initiate colostrum feeds as soon as available
b. Remove central line when feeds ≥ 120 ml/kg/day

G. Family Integration

a. Integrate parents in infant's care
b. Encourage parents to participate in daily rounds
c. Discuss timing of kangaroo care on rounds

Infant 25 0/7 to 28 6/7 wk gestation
Gentle Delivery Room Transition

All infants <25 wk or < 500 gm, should be intubated in the Delivery Room. CXR prior to surfactant delivery will be done in the NICU.



Rev. 01/12/2022

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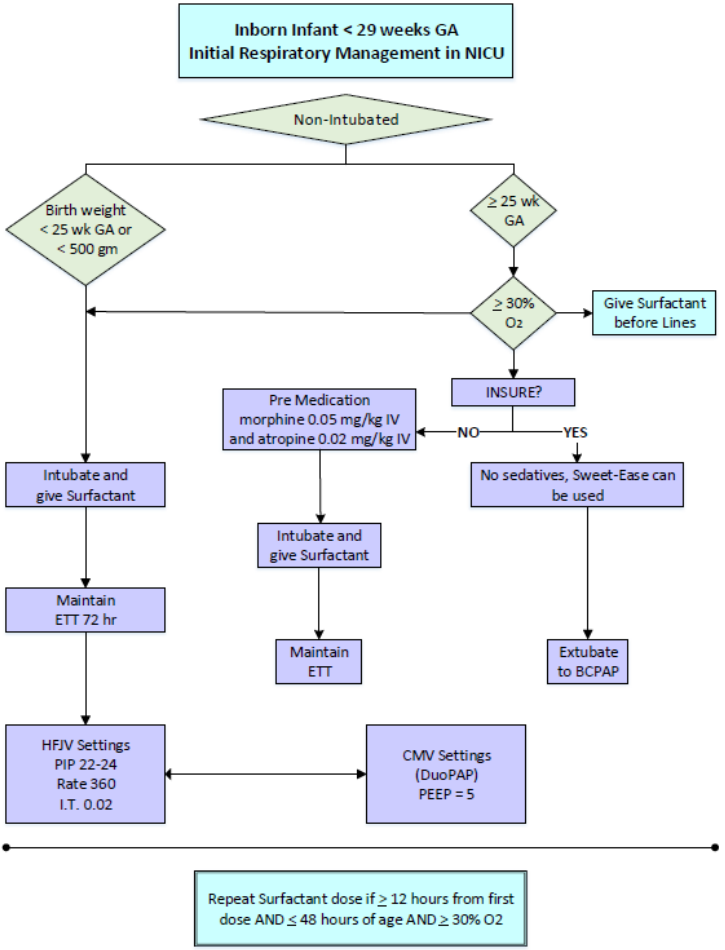

Rev. 05/10/2022

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