

Small Baby Admission Guideline

For preterm newborns < 29 weeks or < 1000 grams

Note: The electronic version of this document contains [hyperlinks](#) to other resources.

Fluids, Electrolytes, Nutrition

- Obtain weight on admission and use BW as dosing weight (weigh infant with CPAP apparatus in place)
- Do not adjust dosing weight until infant's weight is over birthweight
- Initial total fluid goal of 100 ml/kg/day
 - Initiate starter PN (D10W with 3% AA and 15 mEq/L calcium), preferably via central line (*Note: If dextrose-containing fluids are started prior to central line placement, run D10W or D5W in PIV and save starter PN for central line*)
 - If < 27 weeks, run starter PN at 50-60 ml/kg/day (GIR 3.5-4.2 mg/kg/min and protein 1.5-1.8 g/kg)
 - If ≥ 27 weeks, run starter PN at 80-100 ml/kg/day (GIR 5.6-7 mg/kg/min and protein 2.4-3 g/kg)
 - *Note: The maximum rate for sPN in the first 24 hours of life is 100 ml/kg/day.*
 - UAC fluid – 0.45% (7.7 mEq/100 ml) sodium acetate with heparin (0.5 units/ml) at 0.5 ml/hr
 - Use D5W infusion to make up total IV fluid goal (TFG = starter PN + D5W + UAC fluids)
 - Flush volume of 0.5 ml is usually sufficient, can consider 0.4 ml flushes (need volume sufficient to clear line)
 - RN should document volume of all flushes given

- Provider to order x-ray for 6-12 hours post central line placement to re-confirm position
- Custom TPN should be ordered for infants born before 12:00pm (to start during night shift)
- Minimize fluctuations in blood pressure and cerebral blood flow by slowly flushing/withdrawing from lines (also see [instructions for Hummi device for UAC](#) and [PAL](#) blood draws)
 - Maximum rate for pushing/withdrawing from umbilical lines is 1 ml per 40 seconds (can use the timer on the isolette to facilitate this)
 - Consider giving fluid boluses slowly (e.g., 10 ml/kg over 1 hour) using an IV infusion pump, if patient condition allows
- Enteral feeding (also see separate guideline):
 - Begin [oral/buccal swabs](#) on admission with EBM/colostrum (or DBM, if EBM is contraindicated or birthing person does plan to provide breast milk) up to 0.1 ml every 2-6 hours
 - Obtain [DBM](#) assent from parent(s)
 - Unless contraindicated, initiate trophic enteral feeds of EBM/DBM within first 24 hours of life (use high-protein DBM for infants < 1000 g)
 - Initiate trophic enteral feedings
 - For infants < 1000 g, begin trophic feeds at 10 ml/kg/day
 - Trophic feeds may be given q3-q6, depending on volume
- Lab monitoring (also [see separate guideline](#)):
 - POC glucose and blood gases (with electrolytes, lactate, and Hgb) every 6 hours (for ≥ 24 weeks) or every 4 hours (< 24 weeks) and PRN
 - Serum bilirubin at 12 hours of life then daily with morning chemistry panel (can consider timing with other labs/gases)
 - BMP/Mg/Phos within first 24 hours of life (OK to time with other labs) and then qAM at 5:00am
 - Weekly TPN panel (BMP/Mg/Phos, Triglycerides, Direct bilirubin) while on TPN

(usually Tues)

Respiratory

- All patients < 24 weeks are intubated in the DR (no trial of CPAP)
 - ETT depth 5.5-6.0 cm at the gum
 - Have 2.0 ETT available for < 23 weeks, consider 2.5 ETT for ≥ 23 weeks
- For intubated patients, give endotracheal surfactant as soon as possible after ETT placement is confirmed on CXR (goal within 10 minutes of x-ray confirmation)
- Give loading dose of caffeine (20 mg/kg IV x 1) on admission and order maintenance dose (5-10 mg/kg IV daily; 8 mg/kg is default) to start the following day
- Mode of ventilation:
 - [HFJV is first-intention mode](#) of ventilation for intubated patients < 27 weeks
 - For conventional ventilation, Volume Guarantee (PRVC) A/C mode is preferred
- Target CO₂ level is 45-55 for the first 3 days (IVH window) and 45-60 for the next 4 days
- Consider ordering transcutaneous CO₂ monitoring
- Lab monitoring:
 - Blood gases every 6 hours (for ≥ 24 weeks) or every 4 hours (< 24 weeks) and PRN

Cardiovascular

- Treating hypotension:
 - Always assess infant's perfusion before treating hypotension (e.g., cap refill, urine output, presence of metabolic acidosis, or elevated lactate)
 - If fluid bolus (e.g., 10 ml/kg normal saline) is given, run over 30-60 minutes
 - Vasopressors/inotropes may be considered as the initial treatment for



symptomatic hypotension and should be considered if hypotension persists after administration of a fluid bolus

- Blood products should be given if concern for blood loss or coagulopathy (give pRBC transfusion over 3-4 hours, OK to give platelets/FFP/cryo over 1-2 hours)
- In this population, consider hydrocortisone for hypotension (but do not give with indomethacin)
- Echocardiogram
 - Obtain a screening echocardiogram for all infants on or before DOL7
 - Treatment of PDA is at the discretion of the primary team (see [PDA Management Guideline](#))
- Lab monitoring:
 - Blood gas with lactate (preferably arterial) PRN

Hematological

- Send cord blood for Type & Screen, if available (ordered as “Cord Blood Test” in EMR)
- If concern for bleeding, obtain blood consent from parent(s) ASAP
- Lab monitoring:
 - Follow hemoglobin on blood gas every 6-12 hours and PRN
 - Obtain CBC with differential at 6-12 hours of life, unless indicated earlier (OK to time with other labs)
 - Total serum bilirubin at 12 hours of life then qAM

Infectious Disease

- Sepsis screening is recommended for all infants < 27 weeks GA, particularly when there are risk factors are present. Sepsis risk factors include:
 - PPROM or preterm labor

- ROM > 18 hours
- GBS+ or unknown with inadequate intrapartum treatment
- Maternal fever/chorioamnionitis
- No prenatal care
- Order empiric antibiotics for anticipated sepsis rule-out (consider monitoring off antibiotics, if low risk for sepsis):
 - Gentamicin 5 mg/kg (for < 29 weeks GA) IV x 1 dose
 - Ampicillin 50 mg/kg IV q12 hours x 3 doses (or 100 mg/kg for meningitic dosing)
- Labs:
 - Blood culture (ideally obtained with umbilical line placement prior to antibiotic administration)
 - CBC with differential at 6-12 hours (or can send with blood culture when umbilical lines are placed)

Neurological

- Follow [IVH prevention bundle](#) for the first 72 hours of life (the “IVH Window”):
 - Keep head midline
 - Elevate head of isolette 30 degrees
 - Do not bathe
 - No weight/measurements after admission measurements
 - Avoid suctioning airway (and other noxious stimuli)
 - Avoid rapid flushing/withdrawing from lines (max 1 ml per 40 seconds)
 - Modified skin-to-skin (e.g., hand hugs) in lieu of kangaroo care
- Mindful handling until 3 weeks of life or 29 weeks CGA, whichever is earlier

- Consider limiting care times to q6h for stable infants
- Order screening head ultrasounds for 1 week and 1 month of life (if ordering as “Routine,” time the order for Monday or Thursday)
 - Consider earlier screening head ultrasound for unstable or high-risk infants
- Consider indomethacin for IVH prophylaxis for infants < 28 weeks GA (see [Indomethacin for IVH Prophylaxis](#) guideline)

Other

- Consult STEPS team for family support

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