

# Supplemental Information

Definitions for infant and maternal characteristics captured during the Very Early Infant Diagnosis of HIV study.

## INFANT CHARACTERISTICS

- Failing to thrive (includes LBW).
  - $\leq 2.5$  kg.
    - Preterm growth charts.
  - World Health Organization growth charts  $-2$  z scores.
    - z score charts for male and female infants.
- Hematological abnormality like anemia or thrombocytopenia (if available on infants).
  - Reference ranges for age.
- Congenital pneumonia.
  - Diagnosis of pneumonia in the first 28 days of life presumed to be secondary to congenital exposure and/or causes.
  - Respiratory distress.
    - Tachypnoea  $>60$  breaths per minute, retractions, grunting, apnea, alar flare, cyanoses.
  - Maternal risk factors for congenital pneumonia to be documented.
    - Preterm rupture of membranes, maternal pyrexia, raised inflammatory markers in maternal blood, foul smelling liquor.
- Pneumonia.
  - According to the South African Essential Medicines List guidelines, any patient  $<60$  days must be classified as having very severe pneumonia.
- Nonsevere.
  - Cough and fast breathing  $>60$  breaths per minute.
- Severe (above plus 1 of the following).
  - Lower chest wall indrawing.
  - Auscultatory signs (ie, decreased breath sounds, bronchial breathing, crackles, increased vocal resonance, or pleural rub).
  - Dullness on percussion.
- Very severe (above plus at least 1).
  - Central cyanosis.
  - Inability to feed.
  - Convulsions, lethargy, or decreased level of consciousness.
  - Grunting.
  - Nasal flaring.
  - $<60$  days old.
- Hepatosplenomegaly.
  - Hepatomegaly defined as a palpable liver  $>1$  cm below the costal margin in the right midclavicular line.
  - Splenomegaly noted if the spleen is palpable.
- Extensive oral candidiasis.
  - Candida confined to the tongue and buccal mucosa and/or extending into the pharynx and/or esophagus. It must be painful and interferes with eating and swallowing to be extensive.
- Significant lymphadenopathy.
  - Palpable lymph nodes  $>1$  cm.
- Any opportunistic infections as defined in the Guidelines for the Prevention and Treatment of Opportunistic Infections Among HIV-Exposed and HIV-Infected Children.<sup>20</sup>

## MATERNAL CHARACTERISTICS

- Detailed PMTCT interventions and timing thereof (poor characteristic will be defined as no repeat HIV result in mother's chart after 32 weeks' gestation).
- Maternal HIV-positive status, date of diagnosis (diagnosed at or after delivery).
- Maternal VL  $\geq 1000$  copies per mL (date and value).
- CD4 T cell count (date and value).
- Antiretroviral (ART) history, including duration of maternal ART.
- Compliance with maternal antenatal ART (poor compliance will be defined as  $<95\%$  dose compliance by using self-reported data or visual analog scale).
- ANC received at any facility (poor ANC will be defined as first antenatal visit  $<4$  weeks before delivery or no known HIV results at delivery or  $<4$  antenatal visits in total).
- Birth gestation as indicated on the ANC card or documented by the attending obstetrician or estimated by Ballard score at birth if gestation is unknown (prematurity defined

- as infant born before 37 completed weeks' gestational age).
- Labor details (prolonged >4 hours, rapture of membranes).
- Other maternal comorbidities (tuberculosis, hypertension, documented urinary tract infection, documented vaginal discharge).

**SUPPLEMENTAL TABLE 5** Probability Scores of Infant HIV Acquisition per Infant Risk Model: Probability Values for Model 1

Probability	VL Group	cART Duration <4 wk
0.0008	1	No
0.0042	1	Yes
0.0228	2	No
0.1163	2	Yes
0.0966	3	No
0.3760	3	Yes

**SUPPLEMENTAL TABLE 6** Probability Scores of Infant HIV Acquisition per Infant Risk Model: Probability Values for Model 2

Probability	VL Group	Symptomatic
0.0008	1	No
0.0042	1	Yes
0.0228	2	No
0.1163	2	Yes
0.0966	3	No
0.3760	3	Yes

**SUPPLEMENTAL TABLE 7** Probability Scores of Infant HIV Acquisition per Infant Risk Model:  
Probability Values for Model 3

Probability	VL Group	cART Duration <4 wk	Symptomatic
0.0008	1	No	No
0.0018	1	Yes	No
0.0038	1	No	Yes
0.0084	1	Yes	Yes
0.0221	2	No	No
0.0481	2	Yes	No
0.0863	3	No	No
0.0958	2	No	Yes
0.1746	3	Yes	No
0.1918	2	Yes	Yes
0.3072	3	No	Yes
0.4983	3	Yes	Yes

**SUPPLEMENTAL TABLE 8** Probability Scores of Infant HIV Acquisition per Infant Risk Model:  
Probability Values for Model 4

Probability	VL Group	cART Duration <4 wk	SGA	Symptomatic
0.0008	1	No	No	No
0.0012	1	No	Yes	No
0.0019	1	Yes	No	No
0.0028	1	Yes	Yes	No
0.0033	1	No	No	Yes
0.0049	1	No	Yes	Yes
0.0077	1	Yes	No	Yes
0.0116	1	Yes	Yes	Yes
0.0212	2	No	No	No
0.0318	2	No	Yes	No
0.0491	2	Yes	No	No
0.0724	2	Yes	Yes	No
0.0815	3	No	No	No
0.0833	2	No	No	Yes
0.1183	3	No	Yes	No
0.1208	2	No	Yes	Yes
0.1742	3	Yes	No	No
0.1777	2	Yes	No	Yes
0.2418	3	Yes	Yes	No
0.2461	2	Yes	Yes	Yes
0.2709	3	No	No	Yes
0.3596	3	No	Yes	Yes
0.4690	3	Yes	No	Yes
0.5717	3	Yes	Yes	Yes