

Early Infant Diagnosis

Case Studies-1



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Case 1: Sam

- Grace is an 18 year-old woman who was diagnosed with HIV during her first pregnancy
- She is enrolled in the PMTCT program. She was not eligible for ART during pregnancy and took nevirapine at the onset of labor.
- Her baby, Sam, received nevirapine at birth.
- Grace was counseled on the various safe infant feeding options and she opted for exclusive breastfeeding



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Case 1: Sam

- When Grace and Sam return for their first postpartum check at 6 weeks, both are doing well.
- Sam is breastfeeding without difficulty and has gained weight as expected.
- Grace wants to know if Sam has HIV



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Case 1: Sam

- What do you tell her?
- What test should be used?
- What other interventions should be performed?
- Who is involved?
- What linkages are needed?
- When should Grace bring Sam back to clinic for his next appointment?



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Case 1: Sam

- You tell Grace that you will do the first test to check for HIV today
- You weigh Sam, measure his length, and head circumference, and plot them on the growth chart
- You check his development- he has a social smile
- You complete your physical examination which is normal



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Case 1: Sam

- You prick his heel for blood for DNA PCR, and explain prescribe cotrimoxazole for Sam.
- You provide counseling about infant feeding (exclusive breast feeding)
- You encourage Grace to go for follow-up care and CD4 testing, cotrimoxazole prophylaxis, multivitamin supplementation and counseling on proper nutrition, safe water practices, safer sex practices to prevent HIV re-infection and prevention of malaria using bed nets.



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Case 1: Sam

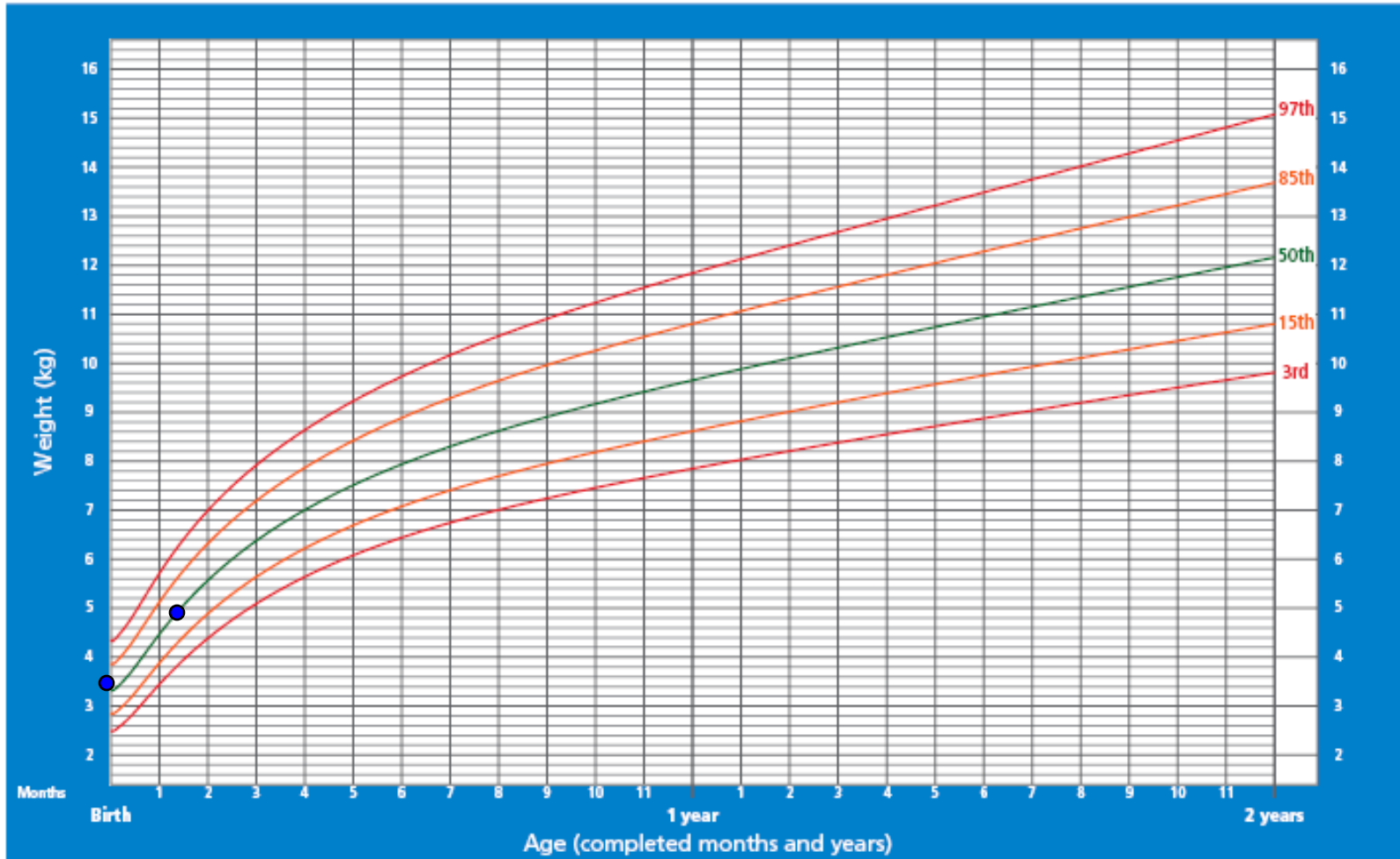
- Sam's growth parameters

Age	Weight	Length	Head circumference
Birth	3.5kg	50cm	34cm
6 weeks	4.8kg	57cm	36.5cm

Sam's Growth Curve

Weight-for-age BOYS

Birth to 2 years (percentiles)



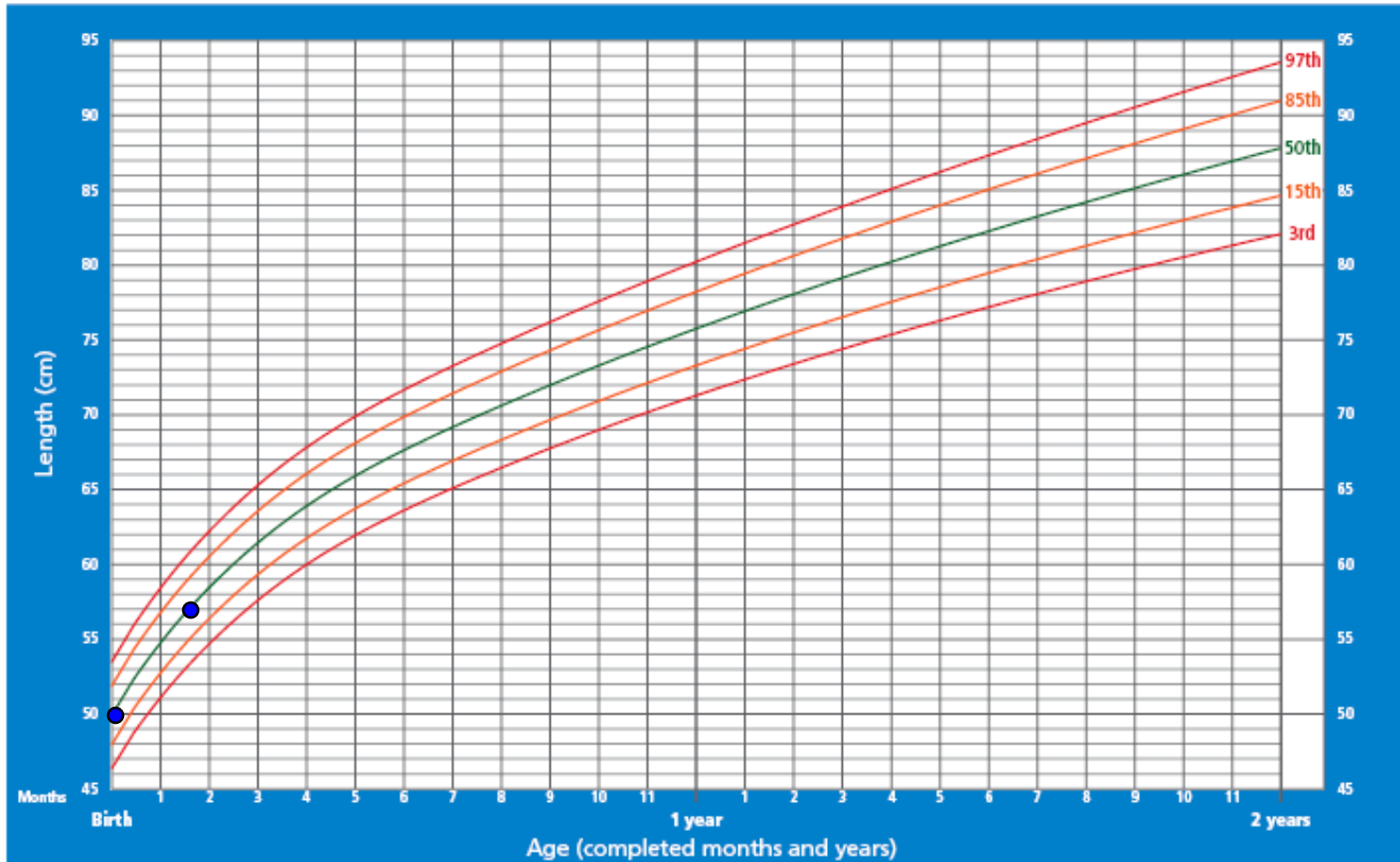
Birth wt- 3.5kg
6 wks- 4.8kg

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Sam's Growth Curve

Length-for-age BOYS

Birth to 2 years (percentiles)



Length
Birth- 50cm
6 wks- 57cm

WHO Child Growth Standards



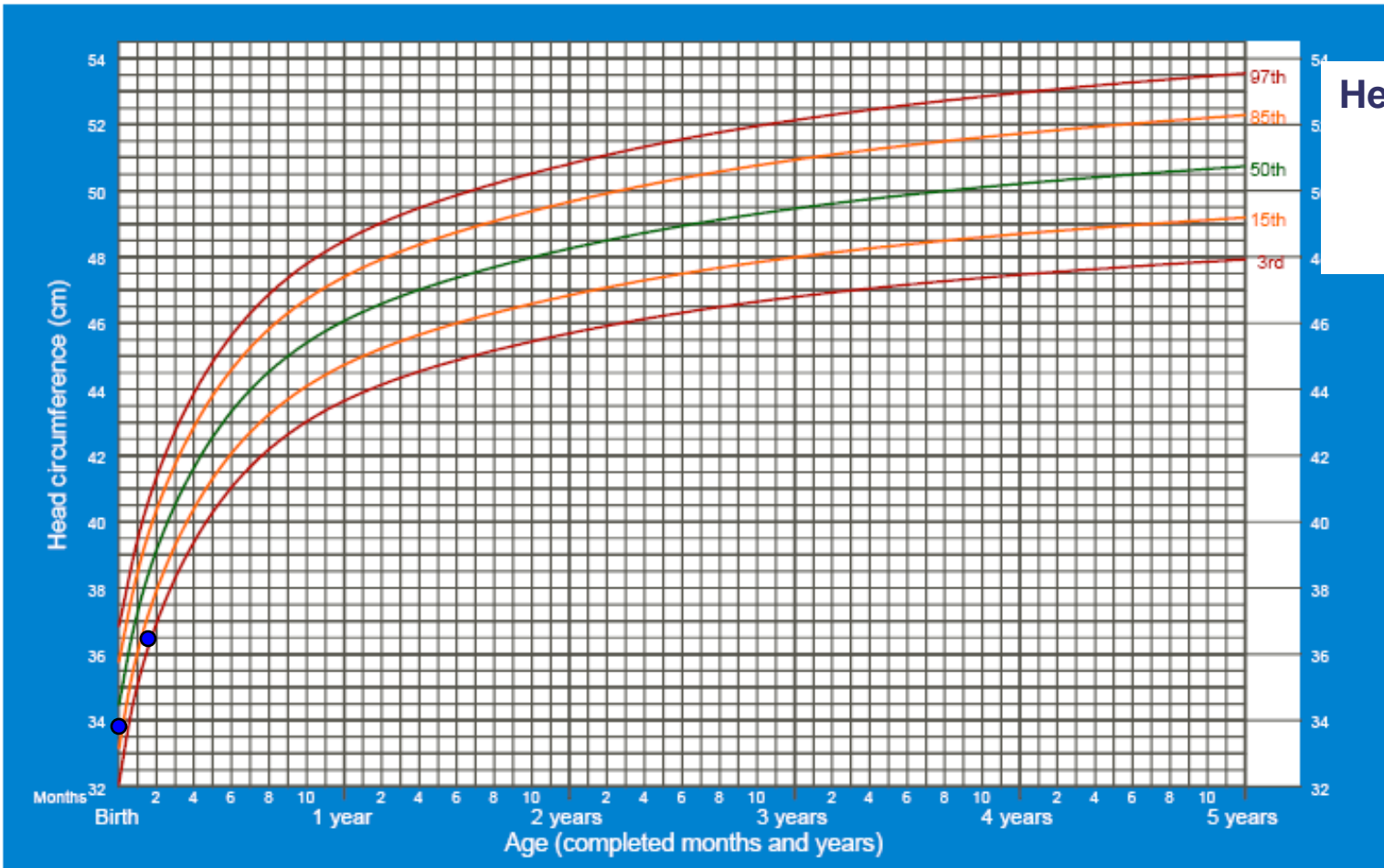
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Sam's Growth Curve

Head circumference-for-age BOYS

Birth to 5 years (percentiles)



Head Circumference
Birth - 34cm
6 wks- 36.5cm

WHO Child Growth Standards



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Case 1: Sam

- When Sam returns at 10 weeks of age, his first virologic test is negative
- He is still breastfeeding and is doing well
- He is still taking cotrimoxazole
- His exam is normal
- You plot his growth curves and he continues to grow on the 50% percentile for weight and height. Head circumference is on the 3rd percentile
- His development is appropriate for age



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Case 1: Sam

- What will you tell Grace about this test?
- What else will you do for Sam?
- Who else should be involved?
- What linkages are needed?
- When should Grace and Sam return for their next appointment?

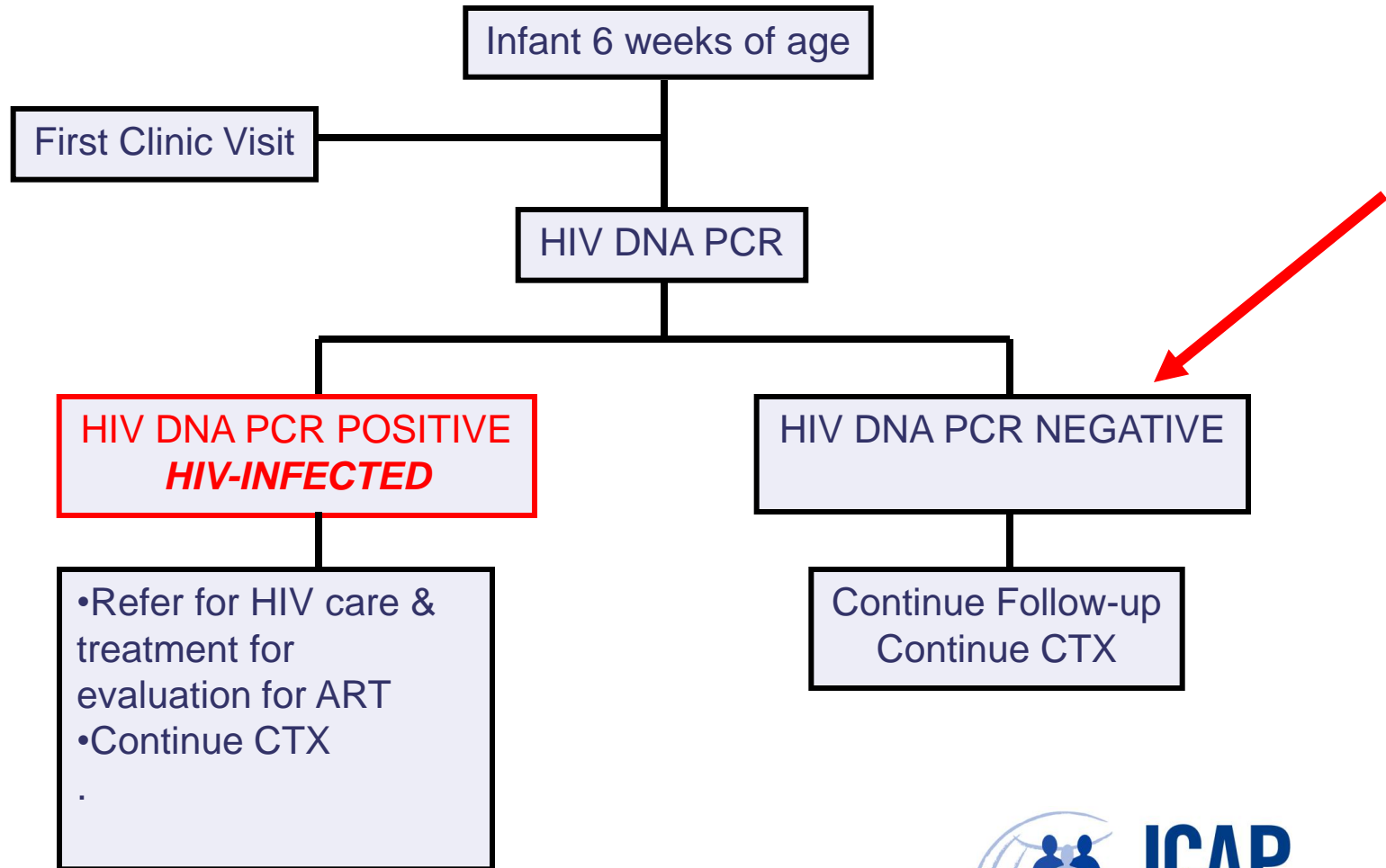


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Diagnostic Algorithm for Infants < 18 months of age



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Case 1: Sam

- You explain to Grace that since his first test was negative you cannot find any HIV in his blood
- However, since he is breastfeeding he may still get HIV so you will have to test him again after he stops breastfeeding completely
- You explain the importance of continued exclusive breastfeeding even with a negative initial PCR
- If Sam should fall sick she should bring him to hospital for further evaluation
- Refill his cotrimoxazole prescription
- Schedule follow-up in a month



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Case 1: Sam

- Grace and Sam do not return for 3 months
- The social worker who visits the home says Grace was admitted with a severe case of shingles one month ago. She went to her mothers village to recuperate. Her mother is helping out with Sam.
- The social worker manages to convince Grace to bring Sam for a check up



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Case 1: Sam

- Grace tells you Sam had two episodes of diarrhea while they were away
- Her mother fed Sam porridge while she was in hospital. She still breastfeeds whenever she feels well and has energy.
- Sam is now 6 months old.
- He has not gained any weight and is unable to sit unsupported
- He has some thrush when you examine him



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Case 1: Sam

- Sam's growth parameters

Age	Weight	Length	Head circumference
Birth	3.5kg	50cm	34cm
6 weeks	4.8kg	57cm	36.5cm
10 weeks	6.2kg	60cm	38cm
6 months	6kg	68cm	39cm



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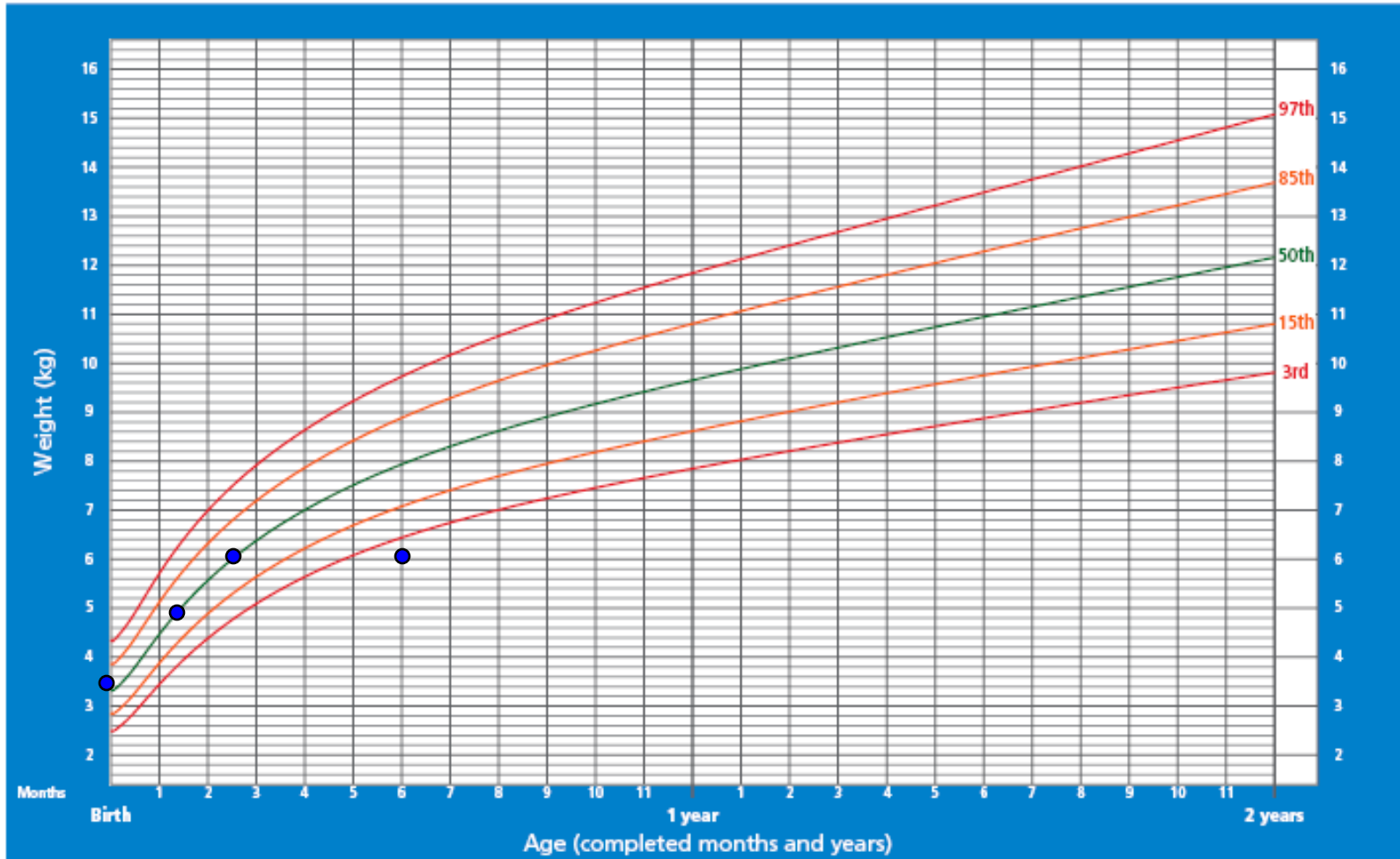
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Sam's Growth Curve

Weight-for-age BOYS

Birth to 2 years (percentiles)



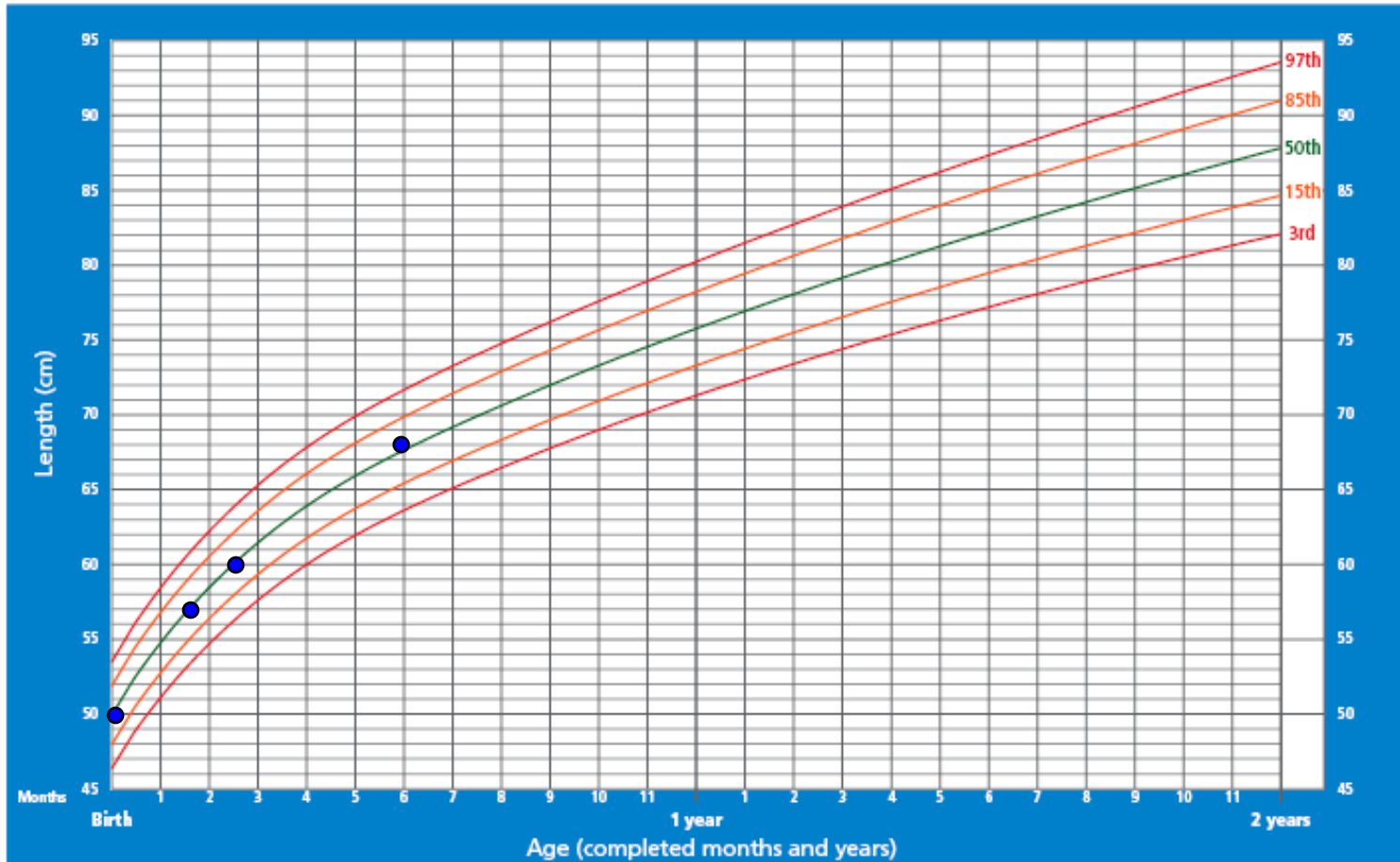
Birth wt- 3.5kg
6 wks- 4.8kg
10wks-6.2kg
6mos-6kg

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Sam's Growth Curve

Length-for-age BOYS

Birth to 2 years (percentiles)



Length
Birth- 50cm
6 wks- 57cm
10wks-60cm
6mos-68cm

WHO Child Growth Standards



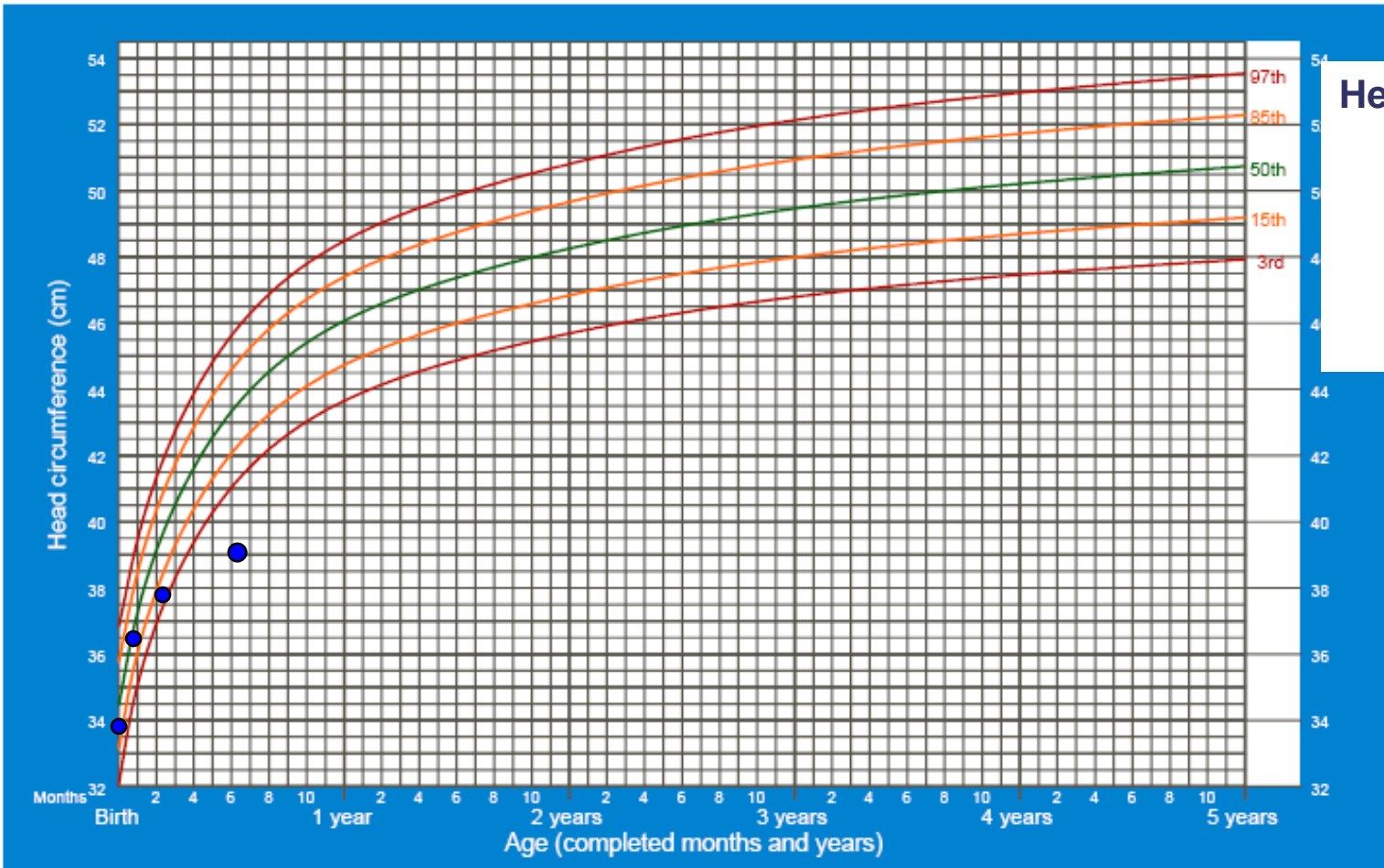
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Sam's Growth Curve

Head circumference-for-age BOYS

Birth to 5 years (percentiles)



Head Circumference
Birth - 34cm
6 wks- 36.5cm
10wks-38cm
6mos-39cm

WHO Child Growth Standards



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Case 1: Sam

- Does Sam have HIV?
- What can you do to find out?
- Who is involved?
- What linkages are needed?
- What will you tell Grace?



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Case 1: Sam

- Because Sam has symptoms that might be related to HIV infection (growth failure, oral thrush, developmental delay, and microcephaly), the team explains to Grace that Sam requires another blood test.
- You repeat DNA PCR .
- Continue CTX
- Send him to be evaluated by the physician



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Case 1: Sam

- What do you tell Grace?
- What actions are needed?



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Case 1: Sam

- DNA PCR is positive.
- You explain to Grace that Sam has HIV infection.
- Although she is extremely upset, Grace finds hope in the fact that Sam will continue to receive care and treatment



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Case 1: Sam

- What happens next?
- Who is involved
- What linkages are needed?



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