Recommended Blood Culture Volumes by Weight

	Aerobic Cultures		Anaerobic Cultures
Body Weight	**Pink Top Bottle** 	**Blue Top Aerobic Bottle** 	**Purple Top Anaerobic Bottle** 
< 5 kg	1 ml	- - -	- - -
5 – 13 kg	4 ml	- - -	- - -
14 – 25 kg	- - -	5 ml	5 ml
26 – 39 kg	- - -	8 ml	8 ml
> 40 kg	- - -	10 ml	10 ml

Use the table to determine the volume, <u>not</u> the label

Key Points

* **Use pink top bottles for children less than 14kg**
* **Use blue top bottles for children 14kg and up**
    * *Blue top accommodates larger volumes of blood for accurate detection of bacteria.*
* Even if multiple sticks are required, drawing enough culture helps improve your patient's care.

Why is optimizing culture volume important?

* Culture volume is the **most important predictor** of detecting **bacteremia**.
* Drawing 2-6 mL of blood for culture vs. <2 mL was associated with a **600% increase in yield** of blood cultures.[1]
* 25% of children with bacteremia have <1 bacterial cell per ml of blood.[1]
* Drawing both aerobic and anaerobic cultures increases yield for common pediatric pathogens (e.g., S. pneumoniae) by 30%.[2]

MONROE CARELL JR. Children's Hospital at Vanderbilt

7/2021

1. Kellogg J, Ferrentino F, Goodstein M, Liss J, Sharpiro S. Frequency of low-level bacteremia in children from birth to two months of age. *Pediatric Infectious Disease Journal*. 1997; 16:381-395.
2. Church D, Davies H, Cadrain G, Trevenen C. Comparative study of three different BACTEC culture media for the detection of bacteremia in ambulatory and hospitalized children. *Can J Infect Dis*. 1998;9(2):77-8