

## RAPID RESPONSE EQUIPMENT VALIDATION FORM

### Description of Validation:

The Cone Health laboratories are implementing a new system to evaluate fill volume of blood culture (BLC) bottles. The laboratory will weigh each bottle and determine whether the volume is adequate, excessive, or inadequate. In order for this to be implemented, the laboratory must establish weight ranges for adequately filled bottles. The laboratory will evaluate ten scales. Each scale will go through the following validations:

1. **Scale Calibration Verifications:** The calibration of scale will be verified by testing analytical weights of 50 g, 60 g, 70 g, 80 g, and 100 g.
2. **Empty Bottle Verifications:** To ensure there are no significant differences between bottles during manufacture, the laboratory will weigh five different bottles and calculate the mean and SD.
3. **Under Filled/Overfilled Range Establishment:** Bottles with known fill volumes will be weighed to establish an adequate fill range for each scale. The laboratory will compare adequate fill ranges between each scale to establish procedural limits.
4. **Adequate Volume Verification:** The laboratory will visually assess 10 bottles of varying fill volumes by comparing to an example bottle. Each bottle will be given a code indicating fill volume:

Code	Comment
BCHV	Blood Culture results may not be optimal due to an excessive volume of blood received in culture bottles (OVERFILLED)
BCAV	Blood Culture adequate volume (ADEQUATE)
BCLV	Blood Culture results may not be optimal due to an inadequate volume of blood received in culture bottles (UNDERFILLED)

After the visual assessment, the laboratory will obtain the weight of the bottle and compare to the scale-specific adequate fill range.

5. **Scale Comparison:** The laboratory will assess scale-specific adequate fill ranges for consistency to establish a procedural range.

### Expected Results:

1. **Scale Calibration Verifications:** Acceptable = Percent Error < 5%
2. **Empty Bottle Verifications:** Acceptable = Standard Deviation (SD) < 1 g
3. **Under Filled/Overfilled Range Establishment:** Each scale will provide weights for the following:
  - a. Aerobic 5 mL
  - b. Aerobic 10 mL
  - c. Pediatric 4 mL

From the above weights, the following will be interpreted:

- a. **Aerobic Adequate Fill Range:** Range of weights between 5 mL and 10 mL readings.
  - b. **Pediatric Adequate Fill Range:** Range of weights below or equal to 4 mL reading.
- Once results from all scales are obtained, the laboratory will compare and derive Adequate Range for aerobic and pediatric bottles.

4. **Adequate Volume Verification:** Acceptable = Visual and measured interpretations agree.
5. **Scale Comparison:** Adequate Volume Comparison Acceptable = Standard Deviation < 1 g.

**Actual Results:**

1. **Scale Calibration Verifications:** Acceptable = Percent Error < 5%  
All scales except Scale 5 and Scale 7 have a percent error of 0%. Scales 5 and 7 have a percent error of 2%, which is in the acceptable range.
2. **Empty Bottle Verifications:** Acceptable = Standard Deviation (SD) < 1 g  
All scales except Scale 1 have an SD of 0.0 g, indicating no deviations in manufacturing. Scale 1 has an SD of 0.4 g, which is within the acceptable range.
3. **Under Filled/Overfilled Range Establishment:**
  - a. Aerobic 5 mL Average: 73.0 g, SD 0.0 g
  - b. Aerobic 10 mL Average: 77.2 g, SD 0.4 g
  - c. Pediatric 4 mL Average: 66.7 g, SD 0.5 g

From the above weights, the following were interpreted:

- a. Aerobic Adequate Fill Range: Range of weights between 5 mL and 10 mL readings.
- b. Pediatric Adequate Fill Range: Range of weights below or equal to 4 mL reading. At most, scale readings differed by  $\pm 1$  g between each other. Due to this,  $\pm 1$  will be added to range limits where appropriate:  
Aerobic Adequate Fill Range: 72 – 78 g  
Pediatric Adequate Fill Range: < 68 g
4. **Adequate Volume Verification:** Acceptable = Visual and measured interpretations agree.  
All visual and measured interpretations agree for all scales.
5. **Scale Comparison:** Adequate Volume Comparison Acceptable = Standard Deviation < 1 g.  
The laboratory compared the Adequate Volume Verifications between each scale. All bottles except Bottle 2 and Bottle 7 have an SD of 0.0 g, indicating no difference in measurements between the scales. Bottle 2 has an SD of 0.3 g and Bottle 7 has an SD of 0.4 g, which are within the acceptable range. No significant difference between scales noted.

**Validation Successful:**   X   Yes             No


**List of Attached Documents:**

1. Scales 1 - 10 Comparison Spreadsheet
2. Blood Culture Scale Verification Worksheets for Scales 1 – 10.
3. Raw data for Scales 1 -10

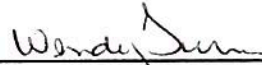
Cone Health Laboratories

QM-1926F-CH

**Validation Performed by:**


 Date 2/16/18  
Date \_\_\_\_\_

**Validation Reviewed by:**

 Date 2-28-18  
**Laboratory Manager**

 MD  Date 2/19/18 ' 2/19/18  
**CLIA Laboratory Director**

 Date 2-28-18  
**Administrative Site Director**

 Date 2-16-18  
**QA Department**

## Blood Culture Scale Verification Scales 1 - 10 Comparison

### Under Filled/Overfilled Range Establishment

Aerobic	Adequate Range defined as range between 5 mL and 10 mL weights ( $\pm 1$ )											
Fill Volume	Scale 1	Scale 2	Scale 3	Scale 4	Scale 5	Scale 6	Scale 7	Scale 8	Scale 9	Scale 10	Avg	SD
5 mL	73	73	73	73	73	73	73	73	73	73	73.0	0.0
10 mL	78	77	77	77	77	77	77	77	77	78	77.2	0.4
Adequate Range: 72 - 78 g												
Overfilled Range: > 78 g												
Under Filled Range: < 72 g												

Pediatric	Adequate Range defined as $\leq 4$ mL Weight ( $\pm 1$ )											
Fill Volume	Scale 1	Scale 2	Scale 3	Scale 4	Scale 5	Scale 6	Scale 7	Scale 8	Scale 9	Scale 10	Avg	SD
4 mL	67	67	66	67	67	67	66	66	67	67	66.7	0.5
Adequate Range: $\leq 67$ g												
Overfilled Range: > 67 g												
For ease, Adequate Range will be defined as < 68 g.												

### Adequate Volume Comparison

Bottle No.	Scale 1	Scale 2	Scale 3	Scale 4	Scale 5	Scale 6	Scale 7	Scale 8	Scale 9	Scale 10	Avg	SD
1	64	64	64	64	64	64	64	64	64	64	64.0	0.0
2	65	65	65	65	65	64	65	65	65	65	64.9	0.3
3	73	73	73	73	73	73	73	73	73	73	73.0	0.0
4	72	72	72	72	72	72	72	72	72	72	72.0	0.0
5	75	75	75	75	75	75	75	75	75	75	75.0	0.0
6	72	72	72	72	72	72	72	72	72	72	72.0	0.0
7	72	72	72	73	72	72	72	72	72	73	72.2	0.4
8	74	74	74	74	74	74	74	74	74	74	74.0	0.0
9	65	65	65	65	65	65	65	65	65	65	65.0	0.0
10	67	67	67	67	67	67	67	67	67	67	67.0	0.0

## Blood Culture Scale Verification

Scale Number:           1          

Date:           2/6/2018          

Scale Calibration Verification				
	Actual (g)	Measured (g)	% Error	Acceptable (< 5%)
1	50	50	0%	Yes
2	60	60	0%	Yes
3	70	70	0%	Yes
4	80	80	0%	Yes
5	100	100	0%	Yes

Empty Bottle Verification		
Bottle No.	Aerobic (g)	Pediatric (g)
1	68	62
2	68	63
3	68	62
4	68	62
5	68	62
Mean	68.0	62.2
SD	0.0	0.4
Acceptable (< 1 g)	Yes	Yes

Under Filled/Overfilled Range Establishment			
Aerobic Range			
Bottle	Fill Volume	Weight	Adequate Range
Aerobic	5 mL	73	72 - 78
Aerobic	10 mL	78	
Pediatric Adequate Range			
Bottle	Fill Volume	Weight	Adequate Range
Pediatric	4 mL	67	< 68

Under Filled/Overfilled Verification					
Visually assess 10 bottles of varying fill volumes. Assign each bottle an overfilled, adequate, or under filled comment code by comparing to example bottle:					
Code	Comment				
BCHV	Blood Culture results may not be optimal due to an excessive volume of blood received in culture bottles (OVERFILLED)				
BCAV	Blood Culture adequate volume (ADEQUATE)				
BCLV	Blood Culture results may not be optimal due to an inadequate volume of blood received in culture bottles (UNDERFILLED)				
Once each has been assessed visually, weight each bottle and verify weight falls into the appropriate range designated by the visual check. Bottle is considered acceptable if weight and visual check match.					
Bottle No.	Type	Visual Check Code	Weight (g)	Adequate Range (g)	Acceptable
1	Peds	BCAV	64	< 68	Yes
2	Peds	BCAV	65	< 68	Yes
3	B Aer	BCAV	73	72 - 78	Yes
4	B Aer	BCAV	72	72 - 78	Yes
5	B Aer	BCAV	75	72 - 78	Yes
6	B Aer	BCAV	72	72 - 78	Yes
7	B Aer	BCAV	72	72 - 78	Yes
8	B Aer	BCAV	74	72 - 78	Yes
9	B Aer	BCAV	65	< 68	Yes
10	B Aer	BCAV	67	< 68	Yes

## Blood Culture Scale Verification

Scale Number: 2

Date: 2/6/2018

Scale Calibration Verification				
	Actual (g)	Measured (g)	% Error	Acceptable (< 5%)
1	50	50	0%	Yes
2	60	60	0%	Yes
3	70	70	0%	Yes
4	80	80	0%	Yes
5	100	100	0%	Yes

Empty Bottle Verification		
Bottle No.	Aerobic (g)	Pediatric (g)
1	68	62
2	68	62
3	68	62
4	68	62
5	68	62
Mean	68.0	62.0
SD	0.0	0.0
Acceptable (< 1 g)	Yes	Yes

Under Filled/Overfilled Range Establishment			
Aerobic Range			
Bottle	Fill Volume	Weight	Adequate Range
Aerobic	5 mL	73	72 - 78
Aerobic	10 mL	77	
Pediatric Adequate Range			
Bottle	Fill Volume	Weight	Adequate Range
Pediatric	4 mL	67	< 68

Under Filled/Overfilled Verification					
Visually assess 10 bottles of varying fill volumes. Assign each bottle an overfilled, adequate, or under filled comment code by comparing to example bottle:					
Code	Comment				
BCHV	Blood Culture results may not be optimal due to an excessive volume of blood received in culture bottles (OVERFILLED)				
BCAV	Blood Culture adequate volume (ADEQUATE)				
BCLV	Blood Culture results may not be optimal due to an inadequate volume of blood received in culture bottles (UNDERFILLED)				
Once each has been assessed visually, weight each bottle and verify weight falls into the appropriate range designated by the visual check. Bottle is considered acceptable if weight and visual check match.					
Bottle No.	Type	Visual Check Code	Weight (g)	Adequate Range (g)	Acceptable
1	Peds	BCAV	64	< 68	Yes
2	Peds	BCAV	65	< 68	Yes
3	BAer	BCAV	73	72 - 78	Yes
4	BAer	BCAV	72	72 - 78	Yes
5	BAer	BCAV	75	72 - 78	Yes
6	BAer	BCAV	72	72 - 78	Yes
7	BAer	BCAV	72	72 - 78	Yes
8	BAer	BCAV	74	72 - 78	Yes
9	BAer	BCAV	65	< 68	Yes
10	BAer	BCAV	67	< 68	Yes

## Blood Culture Scale Verification

Scale Number: 3

Date: 2/6/2018

Scale Calibration Verification				
	Actual (g)	Measured (g)	% Error	Acceptable (< 5%)
1	50	50	0%	Yes
2	60	60	0%	Yes
3	70	70	0%	Yes
4	80	80	0%	Yes
5	100	100	0%	Yes

Empty Bottle Verification		
Bottle No.	Aerobic (g)	Pediatric (g)
1	68	62
2	68	62
3	68	62
4	68	62
5	68	62
Mean	68.0	62.0
SD	0.0	0.0
Acceptable (< 1 g)	Yes	Yes

Under Filled/Overfilled Range Establishment			
Aerobic Range			
Bottle	Fill Volume	Weight	Adequate Range
Aerobic	5 mL	73	72 - 78
Aerobic	10 mL	77	
Pediatric Adequate Range			
Bottle	Fill Volume	Weight	Adequate Range
Pediatric	4 mL	66	< 68

Under Filled/Overfilled Verification					
Visually assess 10 bottles of varying fill volumes. Assign each bottle an overfilled, adequate, or under filled comment code by comparing to example bottle:					
Code		Comment			
BCHV	Blood Culture results may not be optimal due to an excessive volume of blood received in culture bottles (OVERFILLED)				
BCAV	Blood Culture adequate volume (ADEQUATE)				
BCLV	Blood Culture results may not be optimal due to an inadequate volume of blood received in culture bottles (UNDERFILLED)				
Once each has been assessed visually, weight each bottle and verify weight falls into the appropriate range designated by the visual check. Bottle is considered acceptable if weight and visual check match.					
Bottle No.	Type	Visual Check Code	Weight (g)	Adequate Range (g)	Acceptable
1	Peds	BCAV	64	< 68	Yes
2	Peds	BCAV	65	< 68	Yes
3	B Aer	BCAV	73	72 - 78	Yes
4	B Aer	BCAV	72	72 - 78	Yes
5	B Aer	BCAV	75	72 - 78	Yes
6	B Aer	BCAV	72	72 - 78	Yes
7	B Aer	BCAV	72	72 - 78	Yes
8	B Aer	BCAV	74	72 - 78	Yes
9	B Aer	BCAV	65	< 68	Yes
10	B Aer	BCAV	67	< 68	Yes

# Blood Culture Scale Verification

Scale Number: 4

Date: 2/6/2018

Scale Calibration Verification			
	Actual (g)	Measured (g)	Acceptable (< 5%)
1	50	50	Yes
2	60	60	Yes
3	70	70	Yes
4	80	80	Yes
5	100	100	Yes

Empty Bottle Verification		
Bottle No.	Aerobic (g)	Pediatric (g)
1	68	62
2	68	62
3	68	62
4	68	62
5	68	62
Mean	68.0	62.0
SD	0.0	0.0
Acceptable (< 1 g)	Yes	Yes

Under Filled/Overfilled Range Establishment			
Aerobic Range			
Bottle	Fill Volume	Weight	Adequate Range
Aerobic	5 mL	73	72 - 78
Aerobic	10 mL	78	
Pediatric Adequate Range			
Bottle	Fill Volume	Weight	Adequate Range
Pediatric	4 mL	67	< 68

Under Filled/Overfilled Verification					
Visually assess 10 bottles of varying fill volumes. Assign each bottle an overfilled, adequate, or under filled comment code by comparing to example bottle:					
Code	Comment				
BCHV	Blood Culture results may not be optimal due to an excessive volume of blood received in culture bottles (OVERFILLED)				
BCAV	Blood Culture adequate volume (ADEQUATE)				
BCLV	Blood Culture results may not be optimal due to an inadequate volume of blood received in culture bottles (UNDERFILLED)				
Once each has been assessed visually, weight each bottle and verify weight falls into the appropriate range designated by the visual check. Bottle is considered acceptable if weight and visual check match.					
Bottle No.	Type	Visual Check Code	Weight (g)	Adequate Range (g)	Acceptable
1	Peds	BCAV	64	< 68	Yes
2	Peds	BCAV	65	< 68	Yes
3	B Aer	BCAV	73	72 - 78	Yes
4	B Aer	BCAV	72	72 - 78	Yes
5	B Aer	BCAV	75	72 - 78	Yes
6	B Aer	BCAV	72	72 - 78	Yes
7	B Aer	BCAV	73	72 - 78	Yes
8	B Aer	BCAV	74	72 - 78	Yes
9	B Aer	BCAV	65	< 68	Yes
10	B Aer	BCAV	67	< 68	Yes



# Blood Culture Scale Verification

Scale Number: 5

Date: 2/6/2018

Scale Calibration Verification				
	Actual (g)	Measured (g)	% Error	Acceptable (< 5%)
1	50	50	0%	Yes
2	60	59	-2%	Yes
3	70	70	0%	Yes
4	80	80	0%	Yes
5	100	100	0%	Yes

Empty Bottle Verification		
Bottle No.	Aerobic (g)	Pediatric (g)
1	68	62
2	68	62
3	68	62
4	68	62
5	68	62
Mean	68.0	62.0
SD	0.0	0.0
Acceptable (< 1 g)	Yes	Yes

Under Filled/Overfilled Range Establishment			
Aerobic Range			
Bottle	Fill Volume	Weight	Adequate Range
Aerobic	5 mL	73	72 - 78
Aerobic	10 mL	77	
Pediatric Adequate Range			
Bottle	Fill Volume	Weight	Adequate Range
Pediatric	4 mL	67	< 68

Under Filled/Overfilled Verification					
Visually assess 10 bottles of varying fill volumes. Assign each bottle an overfilled, adequate, or under filled comment code by comparing to example bottle:					
Code		Comment			
BCHV	Blood Culture results may not be optimal due to an excessive volume of blood received in culture bottles (OVERFILLED)				
BCAV	Blood Culture adequate volume (ADEQUATE)				
BCLV	Blood Culture results may not be optimal due to an inadequate volume of blood received in culture bottles (UNDERFILLED)				
Once each has been assessed visually, weight each bottle and verify weight falls into the appropriate range designated by the visual check. Bottle is considered acceptable if weight and visual check match.					
Bottle No.	Type	Visual Check Code	Weight (g)	Adequate Range (g)	Acceptable
1	Peds	BCAV	64	< 68	Yes
2	Peds	BCAV	65	< 68	Yes
3	B Aer	BCAV	73	72 - 78	Yes
4	B Aer	BCAV	72	72 - 78	Yes
5	B Aer	BCAV	75	72 - 78	Yes
6	B Aer	BCAV	72	72 - 78	Yes
7	B Aer	BCAV	72	72 - 78	Yes
8	B Aer	BCAV	74	72 - 78	Yes
9	B Aer	BCAV	65	< 68	Yes
10	B Aer	BCAV	67	< 68	Yes

# Blood Culture Scale Verification

Scale Number: 6

Date: 2/6/2018

Scale Calibration Verification				
	Actual (g)	Measured (g)	% Error	Acceptable (< 5%)
1	50	50	0%	Yes
2	60	60	0%	Yes
3	70	70	0%	Yes
4	80	80	0%	Yes
5	100	100	0%	Yes

Empty Bottle Verification		
Bottle No.	Aerobic (g)	Pediatric (g)
1	68	62
2	68	62
3	68	62
4	68	62
5	68	62
Mean	68.0	62.0
SD	0.0	0.0
Acceptable (< 1 g)	Yes	Yes

Under Filled/Overfilled Range Establishment		
Aerobic Range		
Bottle	Fill Volume	Weight
Aerobic	5 mL	73
Aerobic	10 mL	77
Adequate Range 72 - 78		
Pediatric Adequate Range		
Bottle	Fill Volume	Weight
Pediatric	4 mL	67
Adequate Range < 68		

Under Filled/Overfilled Verification					
Visually assess 10 bottles of varying fill volumes. Assign each bottle an overfilled, adequate, or under filled comment code by comparing to example bottle:					
Code		Comment			
BCHV	Blood Culture results may not be optimal due to an excessive volume of blood received in culture bottles (OVERFILLED)				
BCAV	Blood Culture adequate volume (ADEQUATE)				
BCLV	Blood Culture results may not be optimal due to an inadequate volume of blood received in culture bottles (UNDERFILLED)				
Once each has been assessed visually, weight each bottle and verify weight falls into the appropriate range designated by the visual check. Bottle is considered acceptable if weight and visual check match.					
Bottle No.	Type	Visual Check Code	Weight (g)	Adequate Range (g)	Acceptable
1	Peds	BCAV	64	< 68	Yes
2	Peds	BCAV	64	< 68	Yes
3	B Aer	BCAV	73	72 - 78	Yes
4	B Aer	BCAV	72	72 - 78	Yes
5	B Aer	BCAV	75	72 - 78	Yes
6	B Aer	BCAV	72	72 - 78	Yes
7	B Aer	BCAV	72	72 - 78	Yes
8	B Aer	BCAV	74	72 - 78	Yes
9	B Aer	BCAV	65	< 68	Yes
10	B Aer	BCAV	67	< 68	Yes

## Blood Culture Scale Verification

Scale Number: 7

Date: 2/6/2018

Scale Calibration Verification				
	Actual (g)	Measured (g)	% Error	Acceptable (< 5%)
1	50	50	0%	Yes
2	60	59	-2%	Yes
3	70	70	0%	Yes
4	80	80	0%	Yes
5	100	100	0%	Yes

Empty Bottle Verification		
Bottle No.	Aerobic (g)	Pediatric (g)
1	68	62
2	68	62
3	68	62
4	68	62
5	68	62
Mean	68.0	62.0
SD	0.0	0.0
Acceptable (< 1 g)	Yes	Yes

Under Filled/Overfilled Range Establishment			
Aerobic Range			
Bottle	Fill Volume	Weight	Adequate Range
Aerobic	5 mL	73	72 - 78
Aerobic	10 mL	77	
Pediatric Adequate Range			
Bottle	Fill Volume	Weight	Adequate Range
Pediatric	4 mL	66	< 68

Under Filled/Overfilled Verification					
Visually assess 10 bottles of varying fill volumes. Assign each bottle an overfilled, adequate, or under filled comment code by comparing to example bottle:					
Code		Comment			
BCHV	Blood Culture results may not be optimal due to an excessive volume of blood received in culture bottles (OVERFILLED)				
BCAV	Blood Culture adequate volume (ADEQUATE)				
BCLV	Blood Culture results may not be optimal due to an inadequate volume of blood received in culture bottles (UNDERFILLED)				
Once each has been assessed visually, weight each bottle and verify weight falls into the appropriate range designated by the visual check. Bottle is considered acceptable if weight and visual check match.					
Bottle No.	Type	Visual Check Code	Weight (g)	Adequate Range (g)	Acceptable
1	Peds	BCAV	64	< 68	Yes
2	Peds	BCAV	65	< 68	Yes
3	BAer	BCAV	73	72 - 78	Yes
4	BAer	BCAV	72	72 - 78	Yes
5	BAer	BCAV	75	72 - 78	Yes
6	BAer	BCAV	72	72 - 78	Yes
7	BAer	BCAV	72	72 - 78	Yes
8	BAer	BCAV	74	72 - 78	Yes
9	BAer	BCAV	65	< 68	Yes
10	BAer	BCAV	67	< 68	Yes

# Blood Culture Scale Verification

Scale Number: 8

Date: 2/6/2018

Scale Calibration Verification				
	Actual (g)	Measured (g)	% Error	Acceptable (< 5%)
1	50	50	0%	Yes
2	60	60	0%	Yes
3	70	70	0%	Yes
4	80	80	0%	Yes
5	100	100	0%	Yes

Empty Bottle Verification		
Bottle No.	Aerobic (g)	Pediatric (g)
1	68	62
2	68	62
3	68	62
4	68	62
5	68	62
Mean	68.0	62.0
SD	0.0	0.0
Acceptable (< 1 g)	Yes	Yes

Under Filled/Overfilled Range Establishment			
Aerobic Range			
Bottle	Fill Volume	Weight	Adequate Range
Aerobic	5 mL	73	72 - 78
Aerobic	10 mL	77	
Pediatric Adequate Range			
Bottle	Fill Volume	Weight	Adequate Range
Pediatric	4 mL	67	< 68

Under Filled/Overfilled Verification					
Visually assess 10 bottles of varying fill volumes. Assign each bottle an overfilled, adequate, or under filled comment code by comparing to example bottle:					
Code	Comment				
BCHV	Blood Culture results may not be optimal due to an excessive volume of blood received in culture bottles (OVERFILLED)				
BCAV	Blood Culture adequate volume (ADEQUATE)				
BCLV	Blood Culture results may not be optimal due to an inadequate volume of blood received in culture bottles (UNDERFILLED)				
Once each has been assessed visually, weight each bottle and verify weight falls into the appropriate range designated by the visual check. Bottle is considered acceptable if weight and visual check match.					
Bottle No.	Type	Visual Check Code	Weight (g)	Adequate Range (g)	Acceptable
1	Peds	BCAV	64	< 68	Yes
2	Peds	BCAV	65	< 68	Yes
3	B Aer	BCAV	73	72 - 78	Yes
4	B Aer	BCAV	72	72 - 78	Yes
5	B Aer	BCAV	75	72 - 78	Yes
6	B Aer	BCAV	72	72 - 78	Yes
7	B Aer	BCAV	72	72 - 78	Yes
8	B Aer	BCAV	74	72 - 78	Yes
9	B Aer	BCAV	65	< 68	Yes
10	B Aer	BCAV	67	< 68	Yes

# Blood Culture Scale Verification

Scale Number: 9

Date: 2/6/2018

Scale Calibration Verification				
	Actual (g)	Measured (g)	% Error	Acceptable (< 5%)
1	50	50	0%	Yes
2	60	60	0%	Yes
3	70	70	0%	Yes
4	80	80	0%	Yes
5	100	100	0%	Yes

Empty Bottle Verification		
Bottle No.	Aerobic (g)	Pediatric (g)
1	68	62
2	68	62
3	68	62
4	68	62
5	68	62
Mean	68.0	62.0
SD	0.0	0.0
Acceptable (< 1 g)	Yes	Yes

Under Filled/Overfilled Range Establishment			
Aerobic Range			
Bottle	Fill Volume	Weight	Adequate Range
Aerobic	5 mL	73	72 - 78
Aerobic	10 mL	77	
Pediatric Adequate Range			
Bottle	Fill Volume	Weight	Adequate Range
Pediatric	4 mL	67	< 68

Under Filled/Overfilled Verification				
Visually assess 10 bottles of varying fill volumes. Assign each bottle an overfilled, adequate, or under filled comment code by comparing to example bottle:				
Code	Comment			
BCHV	Blood Culture results may not be optimal due to an excessive volume of blood received in culture bottles (OVERFILLED)			
BCAV	Blood Culture adequate volume (ADEQUATE)			
BCLV	Blood Culture results may not be optimal due to an inadequate volume of blood received in culture bottles (UNDERFILLED)			

Once each has been assessed visually, weight each bottle and verify weight falls into the appropriate range designated by the visual check. Bottle is considered acceptable if weight and visual check match.

Bottle No.	Type	Visual Check Code	Weight (g)	Adequate Range (g)	Acceptable
1	Peds	BCAV	64	< 68	Yes
2	Peds	BCAV	65	< 68	Yes
3	B Aer	BCAV	73	72 - 78	Yes
4	B Aer	BCAV	72	72 - 78	Yes
5	B Aer	BCAV	75	72 - 78	Yes
6	B Aer	BCAV	72	72 - 78	Yes
7	B Aer	BCAV	72	72 - 78	Yes
8	B Aer	BCAV	74	72 - 78	Yes
9	B Aer	BCAV	65	< 68	Yes
10	B Aer	BCAV	67	< 68	Yes

## Blood Culture Scale Verification

Scale Number: 10

Date: 2/6/2018

Scale Calibration Verification				
	Actual (g)	Measured (g)	% Error	Acceptable (< 5%)
1	50	50	0%	Yes
2	60	60	0%	Yes
3	70	70	0%	Yes
4	80	80	0%	Yes
5	100	100	0%	Yes

Empty Bottle Verification		
Bottle No.	Aerobic (g)	Pediatric (g)
1	68	62
2	68	62
3	68	62
4	68	62
5	68	62
Mean	68.0	62.0
SD	0.0	0.0
Acceptable (< 1 g)	Yes	Yes

Under Filled/Overfilled Range Establishment			
Aerobic Range			
Bottle	Fill Volume	Weight	Adequate Range
Aerobic	5 mL	73	72 - 78
Aerobic	10 mL	77	
Pediatric Adequate Range			
Bottle	Fill Volume	Weight	Adequate Range
Pediatric	4 mL	67	< 68

Under Filled/Overfilled Verification					
Visually assess 10 bottles of varying fill volumes. Assign each bottle an overfilled, adequate, or under filled comment code by comparing to example bottle:					
Code	Comment				
BCHV	Blood Culture results may not be optimal due to an excessive volume of blood received in culture bottles (OVERFILLED)				
BCAV	Blood Culture adequate volume (ADEQUATE)				
BCLV	Blood Culture results may not be optimal due to an inadequate volume of blood received in culture bottles (UNDERFILLED)				
Once each has been assessed visually, weight each bottle and verify weight falls into the appropriate range designated by the visual check. Bottle is considered acceptable if weight and visual check match.					
Bottle No.	Type	Visual Check Code	Weight (g)	Adequate Range (g)	Acceptable
1	Peds	BCAV	64	< 68	Yes
2	Peds	BCAV	65	< 68	Yes
3	BAer	BCAV	73	72 - 78	Yes
4	BAer	BCAV	72	72 - 78	Yes
5	BAer	BCAV	75	72 - 78	Yes
6	BAer	BCAV	72	72 - 78	Yes
7	BAer	BCAV	73	72 - 78	Yes
8	BAer	BCAV	74	72 - 78	Yes
9	BAer	BCAV	65	< 68	Yes
10	BAer	BCAV	67	< 68	Yes

# Blood Culture Scale Verification

Scale Number: 1

Date: 2/6/18

Scale Calibration Verification			
	Actual (g)	Measured (g)	% Error
1	50	50	-100%
2	60	60	-100%
3	70	70	-100%
4	80	80	-100%
5	100	100	-100%

Empty Bottle Verification	
Bottle No.	Weight (g)
1	68
2	68
3	68
4	68
5	68
Mean	#DIV/0!
SD	#DIV/0!
Acceptable (< 1 g)	

Under Filled/Overfilled Range Establishment		
Aerobic Range		
Adequate Range defined as range between 5 mL and 10 mL		
Bottle	Fill Volume	Weight
Aerobic	5 mL	73
Aerobic	10 mL	78
Pediatric Adequate Range		
Adequate Range defined as ≥ 4 mL Weight		
Bottle	Fill Volume	Weight
Pediatric	4 mL	67

Under Filled/Overfilled Verification					
Visually assess 10 bottles of varying fill volumes. Assign each bottle an overfilled, adequate, or under filled comment code by comparing to example bottle:					
Code	Comment				
BCHV	Blood Culture results may not be optimal due to an excessive volume of blood received in culture bottles (OVERFILLED)				
BCAV	Blood Culture adequate volume (ADEQUATE)				
BCLV	Blood Culture results may not be optimal due to an inadequate volume of blood received in culture bottles (UNDERFILLED)				
Once each has been assessed visually, weight each bottle and verify weight falls into the appropriate range designated by the visual check. Bottle is considered acceptable if weight and visual check match.					
Bottle No.	Type	Visual Check Code	Weight (g)	Adequate Range (obtain from green boxes)	Acceptable
1	Peds	BCAV	64		
2	Peds	BCAV	65		
3	BAct	BCAV	73		
4	BAct	BCAV	72		
5	BAct	BCAV	75		
6	BAct	BCAV	72		
7	BAct	BCAV	72		
8	BAct	BCAV	74		
9	Peds	BCAV	65		
10	Peds	BCAV	67		

# Blood Culture Scale Verification

Scale Number: 2

Date: 2/6/18

Scale Calibration Verification			
	Actual (g)	Measured (g)	% Error
1	50	50	-100%
2	60	60	-100%
3	70	70	-100%
4	80	80	-100%
5	100	100	-100%

Under Filled/Overfilled Verification	
Code	Comment
BCHV	Blood Culture results may not be optimal due to an excessive volume of blood received in culture bottles (OVERFILLED)
BCAV	Blood Culture adequate volume (ADEQUATE)
BCLV	Blood Culture results may not be optimal due to an inadequate volume of blood received in culture bottles (UNDERFILLED)

Once each has been assessed visually, weight each bottle and verify weight falls into the appropriate range designated by the visual check. Bottle is considered acceptable if weight and visual check match.

Bottle No.	Type	Visual Check Code	Weight (g)	Adequate Range (obtain from green boxes)	Acceptable
1	Peds	BCAV	64		
2	Peds	BCAV	65		
3	BAer	BCAV	73		
4	BAer	BCAV	72		
5	BAer	BCAV	75		
6	BAer	BCAV	72		
7	BAer	BCAV	72		
8	BAer	BCAV	74		
9	Peds	BCAV	65		
10	Peds	BCAV	67		

Empty Bottle Verification		
Bottle No.	Aerobic (g)	Pediatric (g)
1	68	67
2	68	67
3	68	67
4	68	67
5	68	67
Mean	#DIV/0!	#DIV/0!
SD	#DIV/0!	#DIV/0!
Acceptable (< 1 g)		

Under Filled/Overfilled Range Establishment		
Aerobic Range		
Bottle	Fill Volume	Weight
Aerobic	5 mL	73
Aerobic	10 mL	77
Pediatric Adequate Range		
Adequate Range defined as $\geq 4$ mL Weight		
Bottle	Fill Volume	Weight
Pediatric	4 mL	67



# Blood Culture Scale Verification

Scale Number: 3

Date: 2/6/18

Scale Calibration Verification				
	Actual (g)	Measured (g)	% Error	Acceptable (< 5%)
1	50	50	-100%	
2	60	60	-100%	
3	70	70	-100%	
4	80	80	-100%	
5	100	100	-100%	

Empty Bottle Verification	
Bottle No.	Pediatric (g)
1	62
2	62
3	67
4	62
5	62
Mean	#DIV/0!
SD	#DIV/0!
Acceptable (< 1 g)	

Under Filled/Overfilled Range Establishment		
Aerobic Range		
adequate Range defined as range between 5 mL and 10 mL		
Bottle	Fill Volume	Weight
Aerobic	5 mL	65.19
Aerobic	10 mL	117.11
Pediatric Adequate Range		
Adequate Range defined as ≥ 4 mL Weight		
Bottle	Fill Volume	Weight
Pediatric	4 mL	66

Under Filled/Overfilled Verification				
Visually assess 10 bottles of varying fill volumes. Assign each bottle an overfilled, adequate, or under filled comment code by comparing to example bottle:				
Code	Comment			
BCHV	Blood Culture results may not be optimal due to an excessive volume of blood received in culture bottles (OVERFILLED)			
BCAV	Blood Culture adequate volume (ADEQUATE)			
BCLV	Blood Culture results may not be optimal due to an inadequate volume of blood received in culture bottles (UNDERFILLED)			
Once each has been assessed visually, weight each bottle and verify weight falls into the appropriate range designated by the visual check. Bottle is considered acceptable if weight and visual check match.				
Bottle No.	Type	Visual Check Code	Weight (g)	Adequate Range (obtain from green boxes)
1	Peds	BCAV	64	
2	Peds	BCAV	65	
3	Baer	BCAV	73	
4	Baer	BCAV	72	
5	Baer	BCAV	75	
6	Baer	BCAV	72	
7	Baer	BCAV	72	
8	Baer	BCAV	74	
9	Peds	BCAV	65	
10	Peds	BCAV	67	

# Blood Culture Scale Verification

Scale Number: 4

Date: 2/6/18

Scale Calibration Verification			
	Actual (g)	Measured (g)	% Error
1	50	50	-100%
2	60	60	-100%
3	70	70	-100%
4	80	80	-100%
5	100	100	-100%

Under Filled/Overfilled Verification	
Visually assess 10 bottles of varying fill volumes. Assign each bottle an overfilled, adequate, or under filled comment code by comparing to example bottle:	
Code	Comment
BCHV	Blood Culture results may not be optimal due to an excessive volume of blood received in culture bottles (OVERFILLED)
BCAV	Blood Culture adequate volume (ADEQUATE)
BCLV	Blood Culture results may not be optimal due to an inadequate volume of blood received in culture bottles (UNDERFILLED)

Once each has been assessed visually, weight each bottle and verify weight falls into the appropriate range designated by the visual check. Bottle is considered acceptable if weight and visual check match.

Bottle No.	Type	Visual Check Code	Weight (g)	Adequate Range (obtain from green boxes)	Acceptable
1	Peds	BCAV	64		
2	Peds	BCAV	65		
3	BAer	BCAV	73		
4	BAer	BCAV	72		
5	BAer	BCAV	75		
6	BAer	BCAV	72		
7	BAer	BCAV	73		
8	BAer	BCAV	74		
9	Peds	BCAV	65		
10	Peds	BCAV	67		

Empty Bottle Verification		
Bottle No.	Aerobic (g)	Pediatric (g)
1	68	62
2	68	62
3	68	62
4	66	62
5	68	62
Mean	#DIV/0!	#DIV/0!
SD	#DIV/0!	#DIV/0!
Acceptable (< 1 g)		

Under Filled/Overfilled Range Establishment		
Aerobic Range		
Adequate Range defined as range between 5 mL and 10 mL		
Bottle	Fill Volume	Weight
Aerobic	5 mL	73
Aerobic	10 mL	77
Pediatric Adequate Range		
Adequate Range defined as ≥ 4 mL Weight		
Bottle	Fill Volume	Weight
Pediatric	4 mL	67

# Blood Culture Scale Verification

Scale Number: 5

Date: 2/6/18

Scale Calibration Verification			
	Actual (g)	Measured (g)	% Error
1	50	50	-100%
2	60	59	-100%
3	70	70	-100%
4	80	80	-100%
5	100	100	-100%

Under Filled/Overfilled Verification	
Code	Comment
BCHV	Blood Culture results may not be optimal due to an excessive volume of blood received in culture bottles (OVERFILLED)
BCAV	Blood Culture adequate volume (ADEQUATE)
BCLV	Blood Culture results may not be optimal due to an inadequate volume of blood received in culture bottles (UNDERFILLED)

Once each has been assessed visually, weight each bottle and verify weight falls into the appropriate range designated by the visual check. Bottle is considered acceptable if weight and visual check match.

Bottle No.	Type	Visual Check Code	Weight (g)	Adequate Range (obtain from green boxes)	Acceptable
1	Peds	BCAV	64		
2	Peds	BCAV	65		
3	Peds	BCAV	73		
4	Peds	BCAV	72		
5	Peds	BCAV	75		
6	Peds	BCAV	72		
7	Peds	BCAV	72		
8	Peds	BCAV	74		
9	Peds	BCAV	65		
10	Peds	BCAV	67		

Empty Bottle Verification	
Bottle No.	Pediatric (g)
1	62
2	62
3	62
4	63
5	62
Mean	#DIV/0!
SD	#DIV/0!
Acceptable (< 1 g)	

Under Filled/Overfilled Range Establishment		
Aerobic Range		
adequate Range defined as range between 5 mL and 10 mL		
Bottle	Fill Volume	Weight
Aerobic	5 mL	71
Aerobic	10 mL	71
Pediatric Adequate Range		
Adequate Range defined as ≥ 4 mL Weight		
Bottle	Fill Volume	Weight
Pediatric	4 mL	67

# Blood Culture Scale Verification

Scale Number: 6

Date: 2/6/18

Scale Calibration Verification			
	Actual (g)	Measured (g)	% Error
1	50	50	-100%
2	60	60	-100%
3	70	70	-100%
4	80	80	-100%
5	100	100	-100%

Under Filled/Overfilled Verification	
Visually assess 10 bottles of varying fill volumes. Assign each bottle an overfilled, adequate, or under filled comment code by comparing to example bottle:	
Code	Comment
BCHV	Blood Culture results may not be optimal due to an excessive volume of blood received in culture bottles (OVERFILLED)
BCAV	Blood Culture adequate volume (ADEQUATE)
BCLV	Blood Culture results may not be optimal due to an inadequate volume of blood received in culture bottles (UNDERFILLED)

Once each has been assessed visually, weight each bottle and verify weight falls into the appropriate range designated by the visual check. Bottle is considered acceptable if weight and visual check match.

Bottle No.	Type	Visual Check Code	Weight (g)	Adequate Range (obtain from green boxes)	Acceptable
1	Peds	BCAV	64		
2	Peds	BCAV	67		
3	BAer	BCAV	73		
4	BAer	BCAV	72		
5	BAer	BCAV	75		
6	BAer	BCAV	72		
7	BAer	BCAV	72		
8	BAer	BCAV	74		
9	Peds	BCAV	65		
10	Peds	BCAV	67		

Empty Bottle Verification		
Bottle No.	Aerobic (g)	Pediatric (g)
1	68	62
2	68	62
3	68	62
4	68	62
5	68	62
Mean	#DIV/0!	#DIV/0!
SD	#DIV/0!	#DIV/0!
Acceptable (< 1 g)		

Under Filled/Overfilled Range Establishment		
Aerobic Range		
Adequate Range defined as range between 5 mL and 10 mL		
Bottle	Fill Volume	Weight
Aerobic	5 mL	79
Aerobic	10 mL	77
Pediatric Adequate Range		
Adequate Range defined as ≥ 4 mL Weight		
Bottle	Fill Volume	Weight
Pediatric	4 mL	67

# Blood Culture Scale Verification

Scale Number: 7

Date: 2/6/18

Scale Calibration Verification			
	Actual (g)	Measured (g)	% Error
1	50	50	-100%
2	60	59	-100%
3	70	69	-100%
4	80	80	-100%
5	100	99	-100%

Under Filled/Overfilled Verification	
Visually assess 10 bottles of varying fill volumes. Assign each bottle an overfilled, adequate, or under filled comment code by comparing to example bottle:	
Code	Comment
BCHV	Blood Culture results may not be optimal due to an excessive volume of blood received in culture bottles (OVERFILLED)
BCAV	Blood Culture adequate volume (ADEQUATE)
BCLV	Blood Culture results may not be optimal due to an inadequate volume of blood received in culture bottles (UNDERFILLED)

Once each has been assessed visually, weight each bottle and verify weight falls into the appropriate range designated by the visual check. Bottle is considered acceptable if weight and visual check match.

Bottle No.	Type	Visual Check Code	Weight (g)	Adequate Range (obtain from green boxes)	Acceptable
1	Peds	BCAV	64		
2	Peds	BCAV	65		
3	BAer	BCAV	73		
4	BAer	BCAV	72		
5	BAer	BCAV	75		
6	BAer	BCAV	72		
7	BAer	BCAV	72		
8	BAer	BCAV	74		
9	Peds	BCAV	65		
10	Peds	BCAV	67		

Empty Bottle Verification		
Bottle No.	Aerobic (g)	Pediatric (g)
1	68	62
2	68	62
3	68	62
4	68	62
5	64	62
Mean	#DIV/0!	#DIV/0!
SD	#DIV/0!	#DIV/0!
Acceptable (< 1 g)		

Under Filled/Overfilled Range Establishment		
Aerobic Range		
Adequate Range defined as range between 5 mL and 10 mL		
Bottle	Fill Volume	Weight
Aerobic	5 mL	73
Aerobic	10 mL	77
Pediatric Adequate Range		
Adequate Range defined as ≥ 4 mL Weight		
Bottle	Fill Volume	Weight
Pediatric	4 mL	66

# Blood Culture Scale Verification

Scale Number: 8

Date: 2/6/18

Scale Calibration Verification			
	Actual (g)	Measured (g)	% Error
1	50	50	-100%
2	60	60	-100%
3	70	70	-100%
4	80	80	-100%
5	100	100	-100%

Empty Bottle Verification		
Bottle No.	Aerobic (g)	Pediatric (g)
1	68	62
2	68	62
3	68	62
4	68	62
5	68	62
Mean	#DIV/0!	#DIV/0!
SD	#DIV/0!	#DIV/0!
Acceptable (< 1 g)		

Under Filled/Overfilled Range Establishment		
Aerobic Range		
Adequate Range defined as range between 5 mL and 10 mL		
Bottle	Fill Volume	Weight
Aerobic	5 mL	73
Aerobic	10 mL	77
Pediatric Adequate Range		
Adequate Range defined as ≥ 4 mL Weight		
Bottle	Fill Volume	Weight
Pediatric	4 mL	66

Under Filled/Overfilled Verification					
Visually assess 10 bottles of varying fill volumes. Assign each bottle an overfilled, adequate, or under filled comment code by comparing to example bottle:					
Code	Comment				
BCHV	Blood Culture results may not be optimal due to an excessive volume of blood received in culture bottles (OVERFILLED)				
BCAV	Blood Culture adequate volume (ADEQUATE)				
BCLV	Blood Culture results may not be optimal due to an inadequate volume of blood received in culture bottles (UNDERFILLED)				
Once each has been assessed visually, weight each bottle and verify weight falls into the appropriate range designated by the visual check. Bottle is considered acceptable if weight and visual check match.					
Bottle No.	Type	Visual Check Code	Weight (g)	Adequate Range (obtain from green boxes)	Acceptable
1	Peds	BCAV	64		
2	Peds	BCAV	45		
3	BAer	BCAV	73		
4	BAer	BCAV	72		
5	BAer	BCAV	75		
6	BAer	BCAV	72		
7	BAer	BCAV	72		
8	BAer	BCAV	74		
9	Peds	BCAV	65		
10	Peds	BCAV	67		

# Blood Culture Scale Verification

Scale Number: 9

Date: 2/6/18

Scale Calibration Verification			
	Actual (g)	Measured (g)	% Error
1	50	50	-100%
2	60	60	-100%
3	70	70	-100%
4	80	80	-100%
5	100	100	-100%

Empty Bottle Verification			
Bottle No.	Aerobic (g)	Pediatric (g)	
1	64	62	
2	68	62	
3	64	67	
4	68	62	
5	68	62	
Mean	#DIV/0!	#DIV/0!	
SD	#DIV/0!	#DIV/0!	
Acceptable (< 1 g)			

Under Filled/Overfilled Range Establishment			
Aerobic Range			
Adequate Range defined as range between 5 mL and 10 mL			
Bottle	Fill Volume	Weight	Adequate Range
Aerobic	5 mL	79	
Aerobic	10 mL	99	
Pediatric Adequate Range			
Adequate Range defined as ≥ 4 mL Weight			
Bottle	Fill Volume	Weight	Adequate Range
Pediatric	4 mL	67	

Under Filled/Overfilled Verification				
Visually assess 10 bottles of varying fill volumes. Assign each bottle an overfilled, adequate, or under filled comment code by comparing to example bottle:				
Code		Comment		
BCHV	Blood Culture results may not be optimal due to an excessive volume of blood received in culture bottles (OVERFILLED)			
BCAV	Blood Culture adequate volume (ADEQUATE)			
BCLV	Blood Culture results may not be optimal due to an inadequate volume of blood received in culture bottles (UNDERFILLED)			
Once each has been assessed visually, weight each bottle and verify weight falls into the appropriate range designated by the visual check. Bottle is considered acceptable if weight and visual check match.				
Bottle No.	Type	Visual Check Code	Weight (g)	Adequate Range (obtain from green boxes)
1	Peds	BCAV	64	
2	Peds	BCAV	65	
3	Paver	BCAV	73	
4	Paver	BCAV	72	
5	Paver	BCAV	75	
6	Paver	BCAV	72	
7	Paver	BCAV	72	
8	Paver	BCAV	74	
9	Peds	BCAV	65	
10	Peds	BCAV	67	

# Blood Culture Scale Verification

Scale Number: 10

Date: 2/6/18

Scale Calibration Verification				
	Actual (g)	Measured (g)	% Error	Acceptable (< 5%)
1	50	50	-100%	
2	60	60	-100%	
3	70	70	-100%	
4	80	80	-100%	
5	100	100	-100%	

Empty Bottle Verification			
Bottle No.	Aerobic (g)	Pediatric (g)	
1	62	62	
2	68	62	
3	68	62	
4	66	63	
5	68	62	
Mean	#DIV/0!	#DIV/0!	
SD	#DIV/0!	#DIV/0!	
Acceptable (< 1 g)			

Under Filled/Overfilled Range Establishment			
Aerobic Range			
Adequate Range defined as range between 5 mL and 10 mL			
Bottle	Fill Volume	Weight	Adequate Range
Aerobic	5 mL	73	
Aerobic	10 mL	78	
Pediatric Adequate Range			
Adequate Range defined as ≥ 4 mL Weight			
Bottle	Fill Volume	Weight	Adequate Range
Pediatric	4 mL	67	

Under Filled/Overfilled Verification					
Visually assess 10 bottles of varying fill volumes. Assign each bottle an overfilled, adequate, or under filled comment code by comparing to example bottle:					
Code		Comment			
BCHV	Blood Culture results may not be optimal due to an excessive volume of blood received in culture bottles (OVERFILLED)				
BCAV	Blood Culture adequate volume (ADEQUATE)				
BCLV	Blood Culture results may not be optimal due to an inadequate volume of blood received in culture bottles (UNDERFILLED)				
Once each has been assessed visually, weight each bottle and verify weight falls into the appropriate range designated by the visual check. Bottle is considered acceptable if weight and visual check match.					
Bottle No.	Type	Visual Check Code	Weight (g)	Adequate Range (obtain from green boxes)	Acceptable
1	Peds	BCAV	64		
2	Peds	BCAV	65		
3	Bav	BCAV	73		
4	Bav	BCAV	72		
5	Bav	BCAV	75		
6	Bav	BCAV	72		
7	Bav	BCAV	73		
8	Bav	BCAV	74		
9	Peds	BCAV	65		
10	Peds	BCAV	67		