

# MEDB 2.4 Methicillin Resistant Staphylococcus aureus (MRSA) Screening and Suppression

SLSDCR-SMCCB-11-019-R5

## 3.2 Medical Requirements Overview

**TABLE 3.2: MEDICAL REQUIREMENTS OVERVIEW**

<b>MEDB# and Title:</b>	MEDB 2.4 Methicillin Resistant Staphylococcus aureus (MRSA) Screening and Suppression
<b>Sponsor:</b>	Medical Operations
<b>IPT:</b>	Immunology/Infectious Disease
<b>Category:</b>	Medical Requirements (MR)
<b>References:</b>	Medical Evaluation Documents (MED) Volume B, Section 2.4
<b>Purpose/Objectives:</b>	Personnel will perform microbiological evaluation of crewmembers to complement environmental monitoring of the ISS cabin environment to determine transfer or acquisition of Methicillin-Resistant <i>Staphylococcus aureus</i> (MRSA) and assess the presence of this microorganism in the environment.
<b>Measurement Parameters:</b>	Nasal Screen for Methicillin Resistant <i>Staphylococcus aureus</i> (MRSA)
<b>Deliverables:</b>	Pre-and Post-flight medical assessment test (MAT) report of results to Flight Surgeon
<b>Flight Duration:</b>	≥ 30 days
<b>Number of Flights:</b>	All
<b>Number and Type of Crew Members Required:</b>	All primary U.S. crewmembers. Back-up crew will only complete preflight MATs greater than L-30 days unless specifically waived by crew surgeon. If crew swap does occur, back-up crew will complete all preflight and post-flight MATs.
<b>Other Flight Characteristics:</b>	N/A

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## 3.3 Preflight Training - none

## 3.4 Preflight Activities

**TABLE 3.4: PREFLIGHT ACTIVITIES**

<b>Preflight Activity</b>	<b>Description:</b>	Testing at L-30 days to 45 days will include a nasal screen for MRSA. Using a single swab, both nares will be sampled and positive isolates tested for antibiotic susceptibility.			
	<b>Schedule:</b>	<b>Duration:</b>	<b>Schedule:</b>	<b>Flexibility:</b>	<b>Personnel Required:</b>
		Crew Microbiology - MAT 15 min	L-90/30 days	N/A	Crewmembers/Lab Personnel
<b>Ground Support Requirements Hardware/Software</b>	<b>Preflight Hardware:</b>	<b>Preflight Software:</b>		<b>Test Location:</b>	
	Crew Sample Collection Kit (culture swab with liquid Stuart Transport Media or culture swab with liquid Amies Transport media or culture swab with Amies Gel Without Charcoal)	N/A		U.S.	
<b>Testing Facilities</b>	<b>Minimum Room Dimensions:</b>	<b>Number of Electrical Outlets:</b>	<b>Temperature Requirements:</b>	<b>Special Lighting:</b>	
	8' x 10' (typical exam room)	N/A	Ambient	N/A	
	<b>Hot or Cold Running Water:</b>	<b>Privacy Requirements:</b>	<b>Vibration/Acoustic Isolation:</b>	<b>Other:</b>	
	Sink with hot and cold water to wash hands		N/A	1 table, 1 chair	
<b>Constraints/Special Requirements:</b>	Specimens should be kept between 2°C and 25°C during transport if transport time is less than 48 hours.				
<b>Launch Delay Requirements:</b>	Microbiology testing will be repeated at flight surgeon's discretion if launch is delayed.				
<b>Notes:</b>					
<b>Data Delivery</b>	<b>Data/Report to Designated Recipients (Nominal/Contingency):</b>				
	<ul style="list-style-type: none"> <li>A preliminary test report will be delivered to the crewmember's flight surgeon 48 hours following preflight activity.</li> <li>A final report will be submitted 7-10 days following preflight activity.</li> </ul>				

## 3.5 In-Flight Activities - none

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## 3.6 Postflight Activities

**TABLE 3.6: POSTFLIGHT ACTIVITIES**

<b>Postflight Activity</b>	<b>Description:</b>	Testing at R+0 days and R+3 days will include a nasal screen for MRSA. Using a single swab, both nares will be sampled and positive isolates tested for antibiotic susceptibility. If a sample is successfully collected at R+0 and transported within the defined constraints, an R+3 sample is not required.		
	<b>Schedule:</b>	<b>Duration:</b>	<b>Schedule:</b>	<b>Personnel Required:</b>
		Crew Microbiology- MAT 15 min	R+0 d (Repeat at R+3 d if initial sample is unsatisfactory)	Crewmembers/Lab personnel
<b>Ground Support Requirements Hardware/Software</b>	<b>Postflight Hardware:</b>	<b>Postflight Software:</b>		<b>Test Location:</b>
	Crew Sample Collection Kit (culture swab with liquid Stuart Transport Media or culture swab with liquid Amies Transport media or culture swab with Amies Gel Without Charcoal)	N/A		Star City or US
<b>Testing Facilities</b>	<b>Minimum Room Dimensions:</b>	<b>Number of Electrical Outlets:</b>	<b>Temperature Requirements:</b>	<b>Special Lighting:</b>
	8' x 10'	2 (U.S. 110V, Russia 220V)	Ambient	N/A
	<b>Hot or Cold Running Water:</b>	<b>Privacy Requirements:</b>	<b>Vibration/Acoustic Isolation:</b>	<b>Other:</b>
	Sink with hot and cold water to wash hands	Private room free of distractions	N/A	1 table, 1 chair
<b>Constraints/Special Requirements:</b>	Specimens must be returned to JSC Microbiology Laboratory within 48 hours to the greatest extent possible. Specimens should be kept between 2°C and 25°C during transport if transport time is less than 48 hours. If transport time is more than 48 hours, samples should be kept at 2-8°C during transport. Protect samples against freezing or exposure to excessive heat.			
<b>Early Destow / Early Return:</b>	N/A			
<b>Notes:</b>	All R+0 samples collected in the U.S. will be hand-carried back to JSC Microbiology Laboratory. R+0 samples collected in Russia will be returned with other laboratory specimens on crew transport aircraft to Houston. R+3 samples collected in Russia will be hand-carried back to JSC Microbiology Laboratory.			
<b>Data Delivery</b>	<b>Data/Report to Designated Recipients (Nominal/Contingency):</b>	<b>Mission Summary Report:</b>	<b>Data Archives:</b>	

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	<ul style="list-style-type: none"> <li>A preliminary test report will be delivered to the crewmember's flight surgeon 48 hours following return to Houston.</li> </ul> <p>A final report will be submitted 7-10 days following return to Houston.</p>	N/A	N/A
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### 3.7 Summary Schedule

**TABLE 3.7: SUMMARY SCHEDULE**

ACTIVITY	DURATION	SCHEDULE	FLEXIBILITY	BLOOD VOLUME	PERSONNEL REQUIRED	CONSTRAINTS
<b>Preflight Training - none</b>						
<b>Preflight</b>						
Crew Microbiology - MAT	15 min	L-90/30 days	N/A	N/A	Crewmember/Lab Personnel	None
<b>In-Flight Activity - none</b>						
<b>Wheels-Stop – N/A</b>						
<b>Postflight -</b>						
ACTIVITY	DURATION	SCHEDULE	FLEXIBILITY	BLOOD VOLUME	PERSONNEL REQUIRED	CONSTRAINTS
Crew Microbiology - MAT	15 min	R+0 d (Repeat at R+3 d if initial sample is unsatisfactory)	N/A	N/A	Crewmember/Lab Personnel	None
<b>Postflight Debrief – N/A</b>						