

MR026L Postflight Reconditioning

3.2 Medical Requirements Overview

TABLE 3.2: MEDICAL REQUIREMENTS OVERVIEW

MRID# and Title:	MR026L Postflight Reconditioning
Sponsor:	Medical Operations
Discipline:	Bone, Muscle, and Exercise
Category:	Medical Requirements (MR)
References:	ISS Medical Operations Requirements Document (MORD) SSP 50260 Medical Evaluations Document Volume B (MEDB) SSP 50667
Notes:	N/A
Purpose/Objectives:	The purpose of the postflight reconditioning program is to promote the health and safety of returning crewmembers. An individualized and supervised reconditioning program will be planned, implemented and monitored to assist returning crew members in re-adaptation to normal gravity.
Measurement Parameters:	Physical fitness levels will be determined by MEDB 4.1 Aerobic Fitness/Cycle Ergometer, MEDB 5.1 Functional Fitness Assessments, MEDB 5.3 Isokinetic Muscle Function Testing and progression through the reconditioning program.
Deliverables:	Postflight rehabilitation report
Flight Duration:	≥ 30 days
Number of Flights:	All long duration flights
Number and Type of Crew Members Required:	U.S. prime crew only
Other Flight Characteristics:	N/A

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3.3 Preflight Training: N/A

3.4 Preflight Activities: N/A

3.5 In-Flight Activities: N/A

3.6 Postflight Activities

TABLE 3.6: POSTFLIGHT ACTIVITIES

Postflight Activity	Description:	The postflight reconditioning program is conducted to protect the health and safety of returning long duration crewmembers and to actively assist in the crewmember's return to preflight health and fitness levels. The postflight reconditioning program consists of dynamic stretching and warm-up, cardiovascular, core and static stretching exercise performed daily. In addition, the crew member will perform resistance exercise altering daily with mobility, balance, proprioception, medicine ball, ladder, cone and jumping drills.			
	Schedule:	Duration:	Schedule:	Flexibility:	Personnel Required:
		120 minutes	R+0 – R+45	Schedule and activities may change at discretion of Crew Surgeon per the recommendation of the Astronaut Strength Conditioning and Rehabilitation (ASCR) staff. Schedulers should make every effort to schedule activities in the morning prior to any other meetings/debriefs.	ASCR, Crewmember and Crew Surgeon

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Ground Support Requirements Hardware/Software	Postflight Hardware:		Postflight Software:		Test Location:	
	Exercise Equipment, Sports Equipment, Swimming Pool, and Cold and Hot Plunges.		N/A		U.S./Russia (GCTC)	
Testing Facilities	Minimum Room Dimensions:		Number of Electrical Outlets:		Temperature Requirements:	
	Astronaut Gym Facilities		2(110V) U.S. 2(220V) Russia		Ambient	
	Hot or Cold Running Water:		Privacy Requirements:		Vibration/Acoustic Isolation:	
	Hot & Cold water		Restricted access		N/A	
Special Lighting:		Other:				
				N/A		
Constraints/Special Requirements:		<ul style="list-style-type: none"> • Duty days will include 2 hours of reconditioning for the first 45 days. • Weekends and one-day within R+0-R+1 will include only rehabilitation and medical status checks. • The ASCR will make recommendations to the crew surgeon regarding certification of the crewmember for maximal muscle strength testing. • Upon review of physical progress, the crewmember, the crew surgeon, and the ASCR will determine if the crewmember will need to extend formal rehabilitation past the required 45 days. 				
Notes:		MEDB 4.1 Aerobic Fitness/Cycle Ergometer, MEDB 5.1 Functional Fitness Assessments, MEDB 5.3 Isokinetic Muscle Function Testing are scheduled within the reconditioning period and are considered to be part of the reconditioning plan.				
Data Delivery		Preliminary postflight reconditioning data will be posted to the SharePoint server within 48 hours of the final postflight reconditioning session. The final data will be posted to the SharePoint server within 14 days of the final postflight reconditioning session. If the preliminary data require no changes they will serve as the final data set. All reports will be included in the Electronic Medical Record (EMR).				

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3.7 Summary Schedule

TABLE 3.7: SUMMARY SCHEDULE

ACTIVITY	DURATION	SCHEDULE	FLEXIBILITY	PERSONNEL REQUIRED	CONSTRAINTS
Preflight Training : N/A					
Preflight : N/A					
In-Flight : N/A					
Postflight					
Reconditioning	120 minutes	R+0 – R+45	Schedulers should make every effort to schedule activities in the morning prior to any other meetings/debriefs. Schedule and activities may change at discretion of Crew Surgeon/ ASCR staff.	ASCR, Crewmember and Crew Surgeon	<ul style="list-style-type: none"> Duty days will include 2 hours of reconditioning for the first 45 days. Weekends and one-day within R+0-R+1 will include only rehabilitation and medical status checks. The ASCR will make recommendations to the crew surgeon regarding certification of the crewmember for maximal muscle strength testing. Upon review of physical progress the crewmember, the crew surgeon, and the ASCR will determine if the crewmember will need to extend formal rehabilitation past the required 45 days.
Postflight Debrief : N/A					