

3.2 Medical Requirements Overview

TABLE 3.2: MEDICAL REQUIREMENTS OVERVIEW

MEDB # and Title:	MEDB 1.12 Ultrasound Imaging (Sonography)
Sponsor:	Medical Operations
IPT:	N/A
Category:	Medical Requirements
References:	SSP 50667 Medical Evaluations Document (MED) Volume B
Purpose/Objectives:	To evaluate health status preflight utilizing ultrasound.
Measurement Parameters:	Abdominal and Retroperitoneal Ultrasound (male & female) Pelvic Ultrasound (Female)
Deliverables:	A preflight imaging report will be included in the CMIS
Flight Duration:	≥ 30 days
Number of Flights:	All long duration missions
Number and Type of Crew Members Required:	All Crewmembers
Other Flight Characteristics:	N/A

3.3 Preflight Training – No Preflight Training

3.4 Preflight Activities

TABLE 3.4: PREFLIGHT ACTIVITIES

Preflight Activity	Description:	Preflight assessment of health status is conducted using abdominal/retroperitoneal ultrasound, pelvic ultrasound, and thyroid ultrasound. Additional preflight imaging tests are conducted during annual physical examination (see notes).			
	Schedule:	Duration:	Schedule:	Flexibility:	Personnel Required:
		Abdominal and Retroperitoneal Ultrasound (male & female) 90 min.	<L-365 days	Travel time to imaging site may increase duration time.	Crewmember and Imaging Technician
	Pelvic Ultrasound (female) 90 min. 90 min.	<L-365 days L-45/30 days *		Crewmember and Imaging Technician Crewmember and Imaging Technician	
Ground Support Requirements Hardware/Software	Preflight Hardware:	Preflight Software:		Test Location:	
	HDI-5000 Multipurpose Ultrasound System (ATL Inc, USA) or comparable	N/A		U.S.	
Testing Facilities	Minimum Room Dimensions:	Number of Electrical Outlets:	Temperature Requirements:	Special Lighting:	
	8' x 10'	2 (110V)	Ambient, no less than 72F	Dimmed	
	Hot or Cold Running Water:	Privacy Requirements:	Vibration/Acoustic Isolation:	Other:	
	N/A	Area with restricted access	N/A	N/A	
Constraints/Special Requirements:	*The female pelvic ultrasound testing at L-45/30 days will be conducted only if clinically indicated. Ultrasound will be performed at a properly accredited imaging facility in the Houston/Clear Lake area, upon discretion of the Flight Medicine Clinic and/or the Crew Surgeon. Abdominal Ultrasound requires that the subject consume nothing by mouth for eight hours prior to the test (no food or drink, including water). Pelvic Ultrasound requires a full bladder (i.e. begin 32 oz. Fluid intake ~ 1 hour prior to test). The abdominal and retroperitoneal ultrasound should be performed prior to the pelvic ultrasound.				

Photo/Video Requirements	<p>Image sets are provided in both hard copy (X-ray film) and digital formats, the latter coordinated with Medical Operations for compatibility. Video recording of the entire procedure is also made.</p> <p>Abdominal and Retroperitoneal Ultrasound (male & female) <u>Standard:</u> Unless otherwise specified, still images are captured to satisfy AIUM (American Institute of Ultrasound in Medicine) standards for abdominal and retroperitoneal ultrasound (1994, revised 1998). The referring flight surgeon may pose specific requirements such as focused assessment and/or Doppler examination of an area of interest.</p> <p>Pelvic Ultrasound (female) <u>Standard:</u> Unless otherwise specified, still images are captured to satisfy AIUM standards for Pelvic Ultrasound (Female) (1995, revised 1998).</p>
Launch Delay Requirements:	N/A
Notes:	<p>Additional imaging tests conducted during annual physical examination: Chest X-ray (every 5 years) Mammography (females only, every 2 years age 40-50, every year over age 50). DEXA (conducted as part of MR035L Bone Densitometry) See Matrix 5 – FSA for requirement R+1/3</p>
Data Delivery	Data/Report to Designated Recipients (Nominal/Contingency):
	Results of the imaging tests will be sent to the Crew Surgeon within 48 hours. The report will be included in the crewmember's medical record and archived in CMIS.

3.5 In-flight Activities – No In-flight Activities

3.6 Postflight Activities – No Postflight Activities

3.7 Summary Schedule

TABLE 3.7: SUMMARY SCHEDULE

ACTIVITY	DURATION	SCHEDULE	FLEXIBILITY	PERSONNEL REQUIRED	CONSTRAINTS
Preflight Training : N/A					
Preflight					
Abdominal and Retroperitoneal Ultrasound (male & female)	90 min.	<L-365 days	Travel time to imaging site may increase duration time.	Crewmember and Ultrasound Technician	Ultrasound will be performed at a properly accredited imaging facility in the Houston/Clear Lake area, upon discretion of the Flight Medicine Clinic and/or the Crew Surgeon. Abdominal Ultrasound requires that the subject consume nothing by mouth for eight hours prior to the test (no food or drink, including water). Pelvic Ultrasound requires a full bladder (i.e. begin 32 oz. Fluid intake ~ 1 hour prior to test). The abdominal and retroperitoneal ultrasound should be performed prior to the pelvic ultrasound. * The female pelvic ultrasound testing at L-45/30 days will be conducted only if clinically indicated.
Pelvic Ultrasound (female)	90 min.	<L-365 days		Crewmember and Ultrasound Technician	
Pelvic Ultrasound (female)	90 min.	*L-45/30 days		Crewmember and Ultrasound Technician	
In-flight : N/A					
Wheels-Stop : N/A					
Postflight : N/A					
Postflight Debrief : N/A					