

Fiscal Year:	FY 2011	Task Last Updated: FY 09/14/2012	
PI Name:	Stenger, Michael Ph.D.		
Project Title:	Efficacy of Jobst Compression Garments to Prevent Orthostatic Intolerance for up to Three Days following 14 Days of Bed Rest		
Division Name:	Human Research		
Program/Discipline:	HUMAN RESEARCH		
Program/Discipline--Element/Subdiscipline:	HUMAN RESEARCH--Biomedical countermeasures		
Joint Agency Name:		TechPort:	Yes
Human Research Program Elements:	(1) HHC: Human Health Countermeasures		
Human Research Program Risks:	None		
Space Biology Element:	None		
Space Biology Cross-Element Discipline:	None		
Space Biology Special Category:	None		
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PI Organization Type:	NASA CENTER	Phone:	281-483-1311
Organization Name:	NASA Johnson Space Center		
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City:	Houston	State:	TX
Zip Code:	77058	Congressional District:	22
Comments:	NOTE Aug 2018: Previously with KBRwyle at Johnson Space Center		
Project Type:	GROUND	Solicitation / Funding Source:	Directed Research
Start Date:	10/01/2010	End Date:	10/31/2012
No. of Post Docs:		No. of PhD Degrees:	
No. of PhD Candidates:		No. of Master' Degrees:	
No. of Master's Candidates:		No. of Bachelor's Degrees:	
No. of Bachelor's Candidates:		Monitoring Center:	NASA JSC
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Flight Program:			
Flight Assignment:			
Key Personnel Changes/Previous PI:			
COI Name (Institution):			
Grant/Contract No.:	Directed Research		
Performance Goal No.:			
Performance Goal Text:			
Task Description:	Aims: 1. To determine whether subjects wearing breast-high, graded compression garments become orthostatically intolerant after 14 days of head-down tilt bed rest (Groups 1 and 2). Measures of efficacy will be presyncope-free survival to 80° head-up tilt testing and responses in blood pressure, heart rate, stroke volume, and cardiac output. 2. To determine the time course of cardiovascular readaptation during the first three days of post-bed rest recovery after using compression garments for a short period of time on BR+0 (Group 1). The brief usage of high compression garments on BR+0 models the use of the AGS among Space Shuttle crewmembers. Readaptation will be measured by responses of blood pressure, heart rate, stroke volume, cardiac output and presyncope-free survival time to 15-minute		

	head-up tilt tests on BR+1 and BR+3 as well as measures of plasma volume each day of recovery. 3. To determine the effect of wearing graded compression garments on the time course of cardiovascular readaptation during the first three days of post-bed rest recovery (Group 2). Readaptation will be measured by responses of blood pressure, heart rate, stroke volume, cardiac output and presyncope-free survival time to 15-minute head-up tilt tests on BR+1 and BR+3 as well as measures of plasma volume each day of recovery.
Rationale for HRP Directed Research:	This research is directed because it contains highly constrained research, which requires focused and constrained data gathering and analysis that is more appropriately obtained through a non-competitive proposal.
Research Impact/Earth Benefits:	
Task Progress:	New project for FY2011. [Editor's note: added to Task Book in September 2012 when received information]
Bibliography Type:	Description: (Last Updated: 05/20/2022)