



John Glenn's Return to Flight Flight Surgeons Perspective

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Disclosure Information

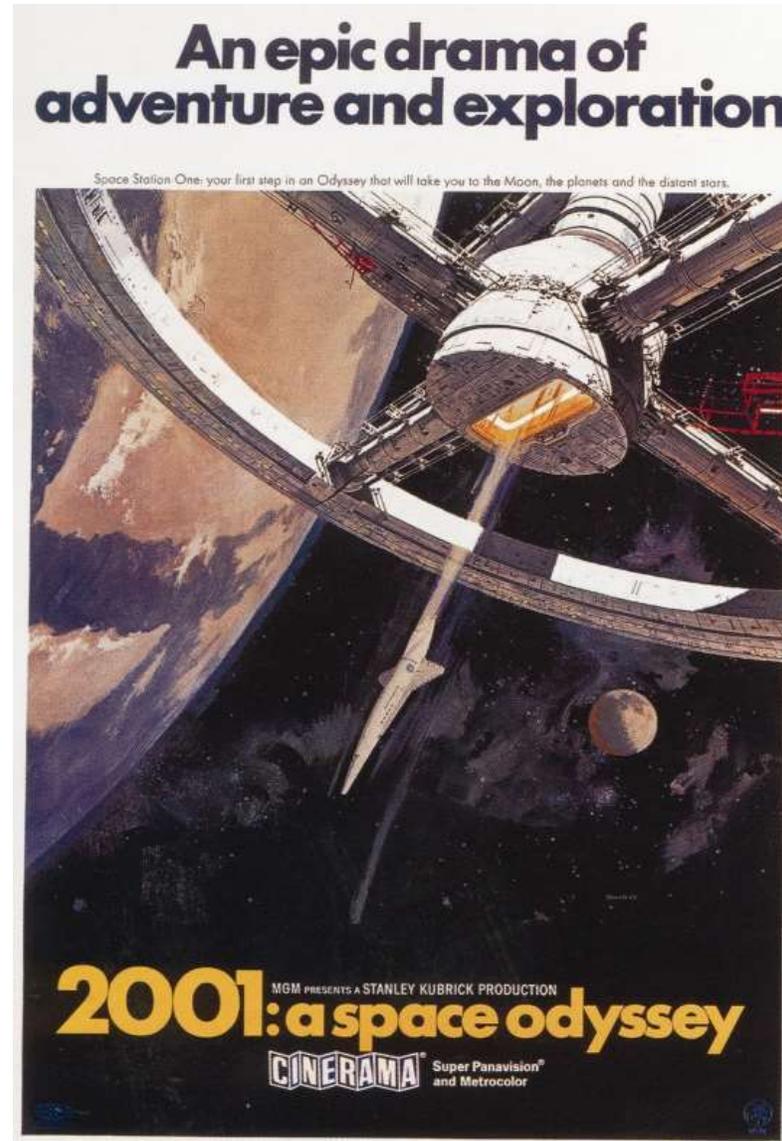
89th Annual Scientific Meeting
Philip C. Stepaniak

- I have no financial relationships to disclose.
- I will not discuss off-label use and/or investigational use in my presentation



John Glenn's Return to Flight

Flight Surgeon's Perspective



Released: 4/2/1968



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Earthrise

Apollo 8
Christmas Eve
1968



John Glenn's Return to Flight

Flight Surgeon's Perspective



- Mission
 - Crew health and medical care
- Components
 - Personnel
 - Equipment
 - Procedures
 - Communication



John Glenn's Return to Flight

Flight Surgeon's Perspective



- Personnel - Medical Team

- Flight Surgeons
- Flight Medicine Clinic (FMC)
 - Dental
 - Ophthalmology
 - Audiology
 - Behavioral Health
 - Biomedical Engineer (BME)
- Space Radiation Analysis Group (SRAG)
- Toxicology
- Neutral Buoyancy Lab (NBL)
- DoD Manned Space Flight Support Office (DDMS)
 - Kennedy Space Center (KSC), Dryden Flight Research Center (DFRC), White Sands Space Harbor (WSSH) and Transoceanic Abort Landing (TAL) Sites





John Glenn's Return to Flight

Flight Surgeon's Perspective



- Equipment
 - Generic Medical Kit (Shuttle Orbiter Medical System (SOMS))
 - Astronaut Medical Accessory Kit (AMAK)
 - Vitamins
 - Contamination Clean-up Kit (CCK)
 - Special
 - Defibrillator





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Flight Surgeon's Perspective



- Procedures
- Crew Medical Training
 - Drs. Parazynski and Mukai
 - Validation testing for Advanced Cardiac Life Support (ACLS)
 - Launch/On-orbit
 - Johnson Space Center (JSC) Crew Compartment Horizontal and Vertical Mock-ups
 - Landing
 - Crew Transportation Vehicle (CTV) at Kennedy Space Center (KSC)



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Flight Surgeon's Perspective



- Communications

- Crew and family members
- Medical Operations Readiness Review (MORR)
 - KSC
 - DFRC
 - WSSH
 - Patrick Air Force Base (PAFB)
 - International Partners (IP)
- Management
 - Space Life Sciences Directorate (SLSD) / Space Medicine Division / Medical Operations Branch
 - Flight Crew Operations Directorate (FCOD)
 - Astronaut Office
 - Public Affairs (PAO)
 - Mission Control – Houston
 - Flight controllers



John Glenn's Return to Flight

Flight Surgeon's Perspective



- Pre-Flight
 - Initial Assessment
 - Medical Operations Branch – Dr. Roger Billica
 - Medical Science Division – Dr. Sam Pool
 - Medical Issues
 - Payload Specialist Certification
 - Cardiology Evaluation
 - ACLS Procedure Validation
 - Exercise Regimen
 - NBL Training
 - Launch Day
 - Presidential Viewing





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Flight Surgeon's Perspective



Pre-Flight





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Flight Surgeon's Perspective



Launch

10/29/1998





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Launch



PAD: 39-B

Time: 2:19:34 PM



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On-Orbit





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- On-Orbit

- Private Medical Conferences
- Low Iodine Residual System (LIRS)
 - Accidental toxic exposure
Aviation, Space, and Environmental Medicine
The Official Journal of the Aerospace Medical Assn.
October 2013 – Volume 84, Issue 10
- Fluid loading protocol
- Crew surgeon's split support at primary landing sites
 - KSC – Drs. Stepaniak and Dervay
 - DFRC (Edwards Air Force Base) – Dr. Baisden





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Medical Management of a Potentially Toxic Trialkylamine Ingestion during Spaceflight

Rebecca S. Blue, MD, MPH
Joseph C. Hudson, MD
Michael F. Rieders, PhD
John T. James, PhD
Philip C. Stepaniak, MD



http://asmameeting.org/asma2013_mp/pdfs/asma2013_present_389.pdf



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Landing

11/07/98





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Post-Landing

- Post-Landing
 - Crew Transportation Vehicle (CTV) operations





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Post-Landing

- Post-Landing
 - Walk Around
 - KSC-Baseline Data Collection Facility (BDCF)
 - KSC-Press Conference





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Post-Landing



KSC Press Conference
11/08/1998



John Glenn's Return to Flight

Flight Surgeon's Perspective



Post-Landing

- Post-Landing
 - Return to Houston / Ellington Field



Skid Strip at Cape Canaveral Air Station



Ellington Field, Houston TX 21



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Post-Landing



Press Conference - Ellington Field



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John Glenn
Memorial Tree Planting
Johnson Space Center
April 5, 2018



John Glenn's Return to Flight

Flight Surgeon's Perspective



THANK YOU SPECIAL RECOGNITION

Crew of STS-95
Roger Billica, M.D.
Sam Pool, M.D.
Denise Baisden, M.D.
Joseph Dervay, M.D.
Alfred Rossum, M.D.
Philip Scarpa, M.D.
Cathy DiBiase, RN
John Charles, PhD
Julie Goode/ BME
Robert Patlach

Methodist Hospital Cardiology
Mission Control Center Office - Houston
JSC Flight Crew Operations Directorate
JSC Astronaut Office
JSC Public Affairs Office



John Glenn's Return to Flight

Flight Surgeon's Perspective



Cassini's Pale Blue Dot

Cassini launch: 10/15/1997

Cape Canaveral SLC-40

Photo date: 7/19/2013

"That's here. That's home. That's us. On it everyone you love, everyone you know, everyone you ever heard of, every human being who ever was, lived out their lives. ... There is perhaps no better demonstration of the folly of human conceits than this distant image of our tiny world."

*From his 1994 book, "Pale Blue Dot"
by Carl Sagan, describing the Voyager 1
Pale Blue Dot photograph taken 2/14/1990*