John Glenn's Return to Flight

Flight Surgeons Perspective

Aerospace Medical Association Annual Meeting

Dallas, Texas

9 May 2018

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v.4.4.18A

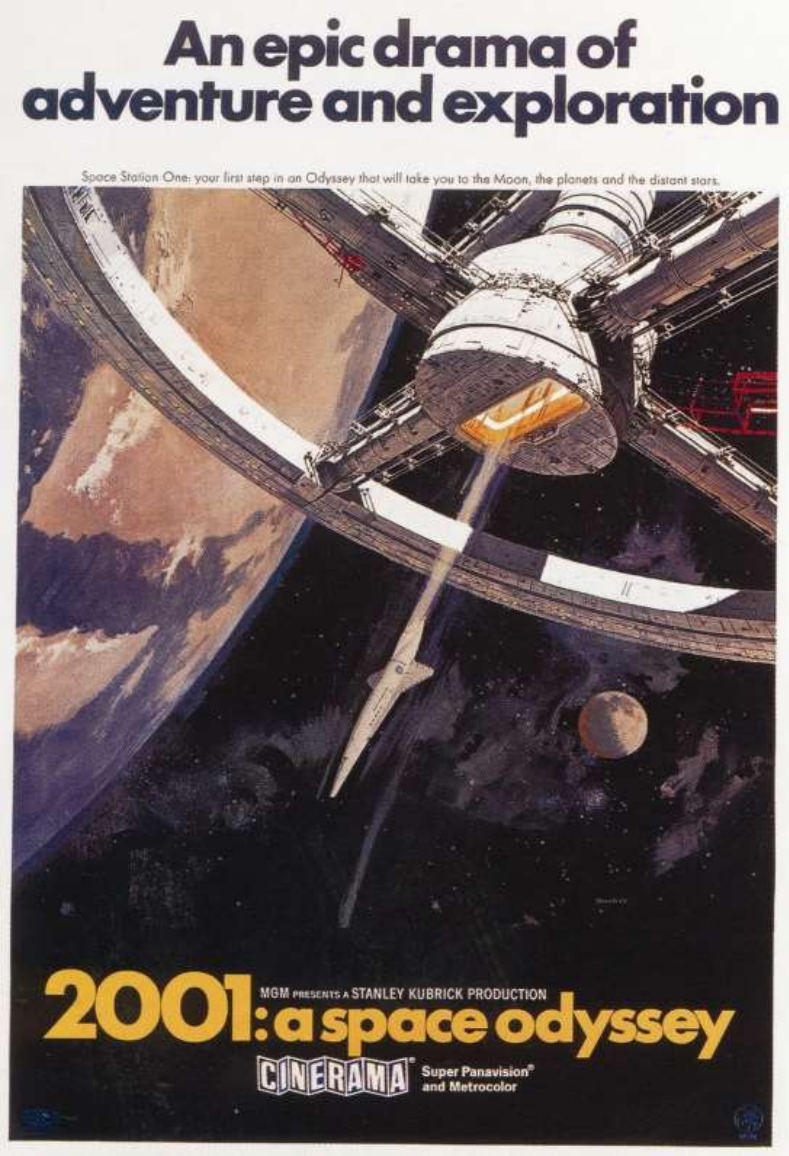
Disclosure Information

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

John Glenn's Return to Flight

Flight Surgeon's Perspective

Earthrise

Apollo 8
Christmas Eve
1968

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Flight Surgeon's Perspective

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

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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

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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

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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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Pre-Flight

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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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Flight Surgeon's Perspective

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

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Flight Surgeon's Perspective

Landing

11/07/98

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Flight Surgeon's Perspective

Post-Landing

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

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Flight Surgeon's Perspective

Post-Landing

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

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Flight Surgeon's Perspective

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

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Flight Surgeon's Perspective

Post-Landing

Press Conference - Ellington Field

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

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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

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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