

Clinical Core Competency Training for NASA Flight Surgeons

James D. Polk¹, Josef Schmid¹, Victor Hurst IV², Harold K. Doerr³

¹NASA-Johnson Space Center, Houston, TX, ²Wyle Laboratories, Houston, TX, ³National Space Biomedical Research Institute, Baylor College of Medicine, Houston, TX

Introduction

The cohort of NASA flight surgeons (FS) is a very accomplished group with varied clinical backgrounds; however, the NASA Flight Surgeon Office has identified that the extremely demanding schedule of this cohort prevents many of these physicians from practicing clinical medicine on a regular basis. In an effort to improve clinical competency, the NASA FS Office has dedicated one day a week for the FS to receive clinical training. Each week, an FS is assigned to one of five clinical settings, one being medical patient simulation. The Medical Operations Support Team (MOST) was tasked to develop curricula using medical patient simulation that would meet the clinical and operational needs of the NASA FS Office.

Methods

The MOST met with the Lead FS and Training Lead FS to identify those core competencies most important to the FS cohort. The MOST presented core competency standards from the American Colleges of Emergency Medicine and Internal Medicine as a basis for developing the training.

Results

The MOST identified those clinical areas that could be best demonstrated and taught using medical patient simulation, in particular, using high fidelity human patient simulators. Curricula are currently being developed and additional classes will be implemented to instruct the FS cohort. The curricula will incorporate several environments for instruction, including lab-based and simulated microgravity-based environments.

Discussion

The response from the NASA FS cohort to the initial introductory class has been positive. As a result of this effort, the MOST has identified three types of training to meet the clinical needs of the FS Office; clinical core competency training, individual clinical refresher training, and 'just-in-time' training (specific for post-ISS Expedition landings). The MOST is continuing to work with the FS Office to augment the clinical training for the FS cohort, including the integration of Web-based learning.

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James D. Polk, M.D.

Josef Schmid, M.D.

Victor W. Hurst IV, Ph.D.

Harold K. Doerr, M.D.

Questions about the study? Please contact...

James D. Polk: james.d.polk@nasa.gov ; (281) 483-6063

Overview

- **Background**
- **Methods**
- **Lesson Plan**
- **Session
Configuration**
- **Conclusion**

Background

- The cohort of NASA flight surgeons (FS) is an accomplished group with varied clinical backgrounds; however, the NASA Flight Surgeon Office has identified that the extremely demanding schedule of this cohort prevents many of these physicians from practicing clinical medicine on a regular basis.
- In an effort to improve clinical competency, the NASA FS Office has dedicated one day a week for the FS to receive clinical training.

Background

- Each week, an FS is assigned to one of five clinical settings, one being medical patient simulation.
- The Medical Operations Support Team (MOST) was tasked to develop curricula using medical patient simulation that would meet the clinical and operational needs of the NASA FS Office.

Methods

- The MOST met with the Lead FS and Training Lead FS to identify those core competencies most important to the FS cohort.
- The MOST presented core competency standards from the American Colleges of Emergency Medicine and Internal Medicine as a basis for developing the training.

Methods

- The MOST and the FS Office identified those clinical areas that could be best demonstrated and taught using medical patient simulation, in particular, using high fidelity human patient simulators.
- Curricula was developed for two classes to instruct the FS cohort.
- The curricula incorporates several environments for instruction, including lab-based and simulated microgravity-based environments.

Sample Lesson Plan

(from *Medical Patient Simulation 101*)

Description of Debriefing

- Rules of engagement
- What the observers will be looking for
- Facilitator will run through the case
- What worked? What did not work?

Sample Lesson Plan

(from *Medical Patient Simulation 101*)

Description of Crisis Resource Management (CRM)

- Principles
 - Critical Thinking
 - Critical Algorithm Development
 - Critical Communications
- Medical Error Types
- Attitudes
- Focal Errors

Class Discussion Format (e.g. Debriefing and CRM)



Scenario Configuration



Video of Simulation Session



Results/Next Steps

- The response from the NASA FS cohort to the initial introductory class has been positive. Additional classes are being developed with guidance from the FS Office and will be implemented in the coming years.

Results/Next Steps

- As a result of this effort, the MOST has identified three types of training to meet the clinical needs of the FS Office; clinical core competency training, individual clinical refresher training, and 'just-in-time' training (specific for post-ISS Expedition landings).
 - Clinical Core Competency Training for FS
 - Individual Clinical Refresher
 - Post Soyuz Landing Training (ISS Missions)

Results/Next Steps

- The MOST is continuing to work with the FS Office to augment the clinical training for the FS cohort, including the integration of Web-based learning.