

Utilization of SIM Lab for Flight Crew

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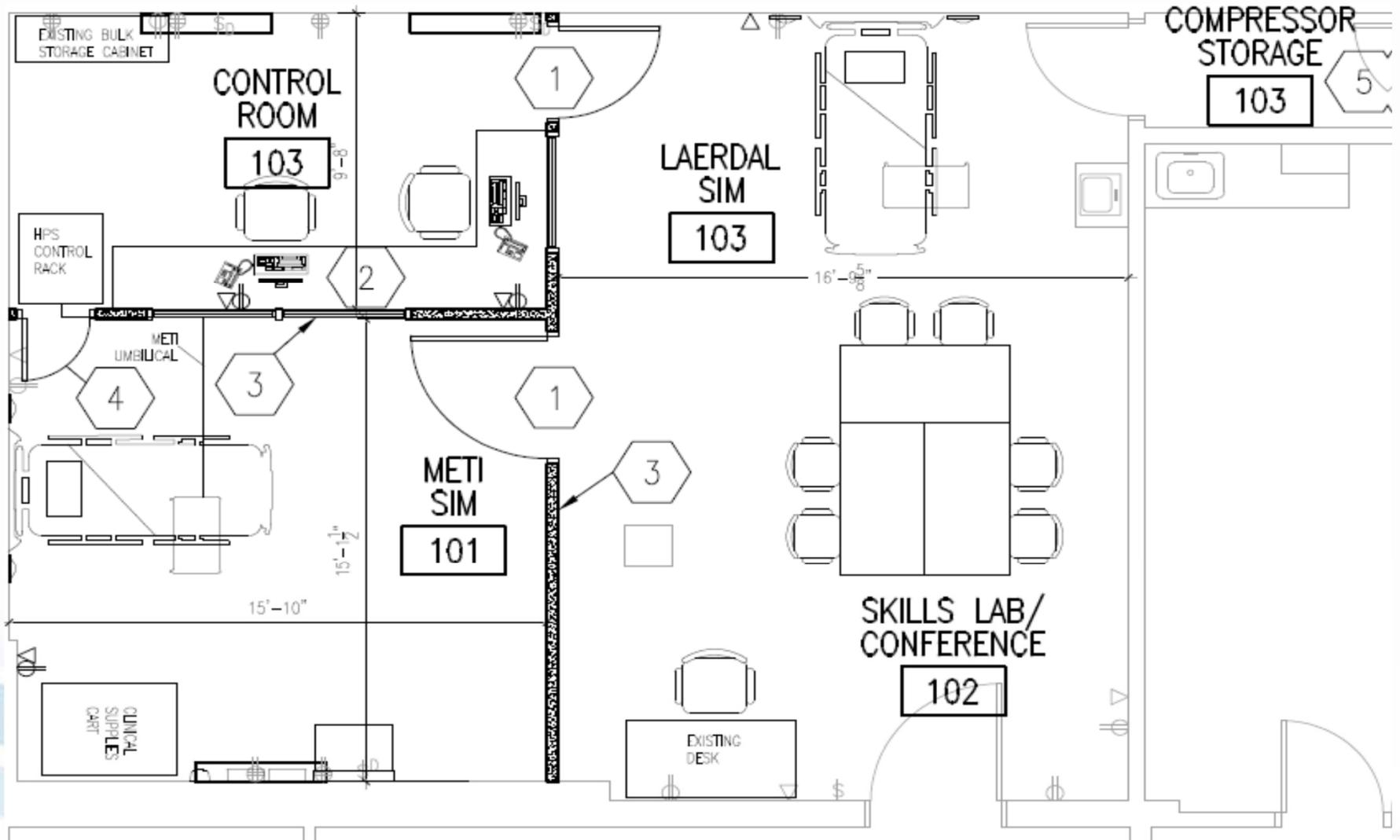
Objectives

- The learner will gain knowledge regarding the benefits to SIM Lab for interviews and on-going training.
- The learner will receive actionable steps to implement simulation for interviewing at their program.
- The learner will have increased knowledge regarding the utilization of SIM for training.
- The learner will have a basic understanding on how to utilize a Simulation Lab to improve on skills, critical thinking and conflict resolution.
- The learner will gain experience with difficult airways and scenario training.

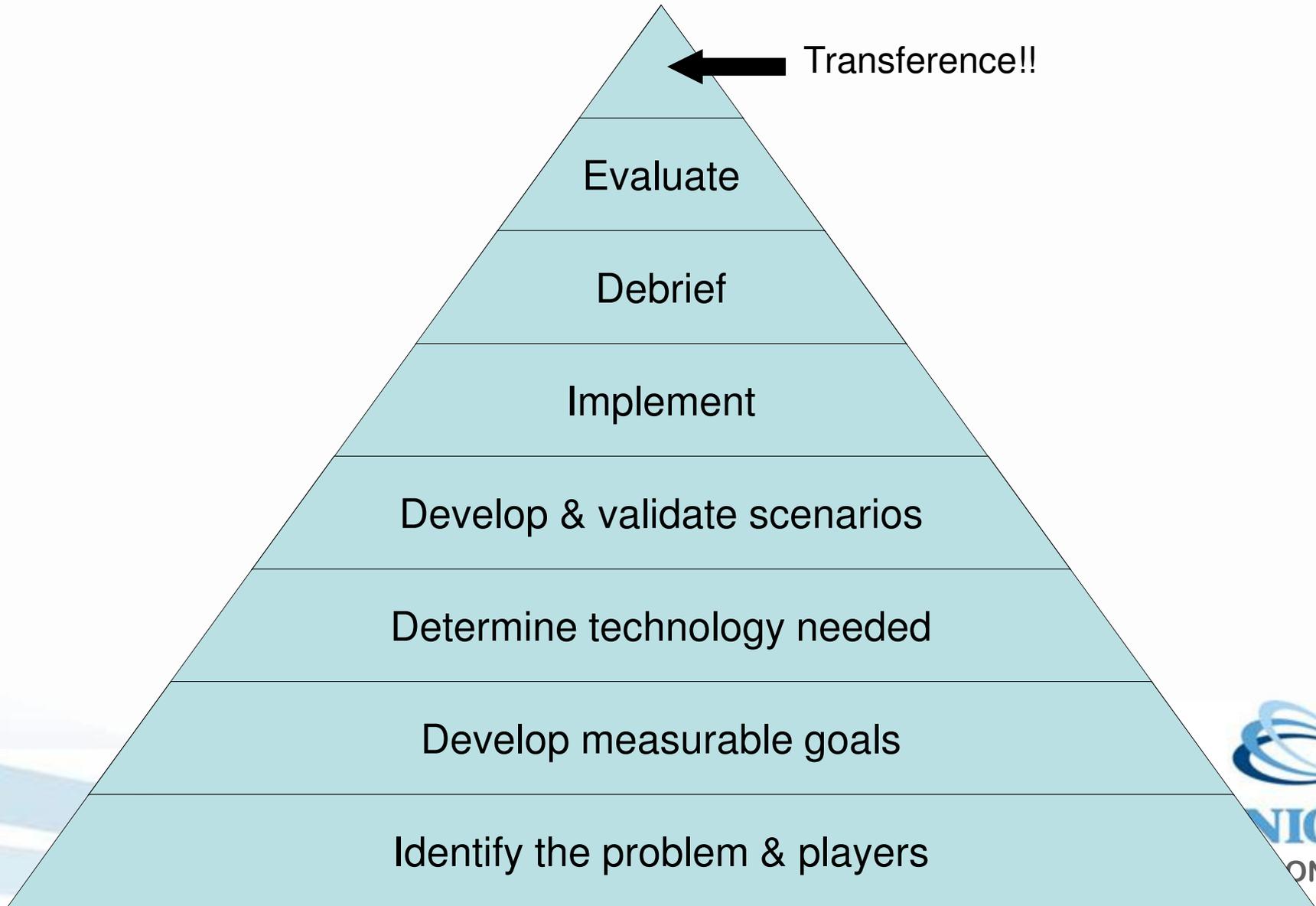


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Floor Plan - (800 sq. ft.)



Course Design Pyramid



Benefits of SIM Lab

- Airway Opportunities
 - Difficult Intubations
 - Trismus
 - Neck Rigidity
 - Swollen Tongue
 - Laryngospasms
 - Surgical Airways
 - Peds and Adult Mannequin capabilities
 - Also picks up respiratory rate with assisted ventilations





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Benefits of SIM, cont.

- Skills Training / Competency Validation
 - Can demonstrate and review skills to include:
 - Rapid Sequence Intubation (RSI)
 - Surgical Airways
 - Needle Decompression
 - EZ-IO
 - Intra-Aortic Balloon Pump (IABP)
 - OB delivery and complications



Benefits of SIM, cont.

- Different Types of Mannequins
 - Adult
 - Child
 - Infant
 - Neonate
 - OB

Benefits of SIM, cont.

- Can use in mobile scenarios
 - Example: Mom and child lost in woods



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Something to think about with mobile scenarios...

Advise hospital police or security if outside in public areas

Bystanders or people walking by often think that there is a real child or injury

Additional Benefits of SIM

- Can simulate confrontational or difficult situations:
 - Hysterical or violent person on scene
 - Difficult interactions with EMS or sending facility staff
- Scenarios can be video and audio recorded
- Allows for immediate feedback – good review of what went well and what went not so well



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Use of SIM Lab for Interview Process



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Interviews

- Provides employer with real time clinical interaction
- Provides employer with potential employee baseline for clinical skills
- Allows employer to assess how person acts/reacts under pressure
 - **Stressful situations**
 - **Conflict resolutions**
- Allows assessment of critical thinking skills



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Interviews, cont.

Two Phases of Hiring Process:

1. Behavioral – Phase One
2. SIM Lab – Phase Two

Phase two consists of interview panel members from phase one to provide consistency

SIM for Interviews, cont.

- Attempt to pair medic/nurse
- Each applicant gets a scenario...either trauma or medical
- Each applicant has a turn with taking AIC role
- Evaluate communication and critical thinking skills of both people
- Debriefing process – what went well versus not so well



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Use of SIM Lab for Current Employees



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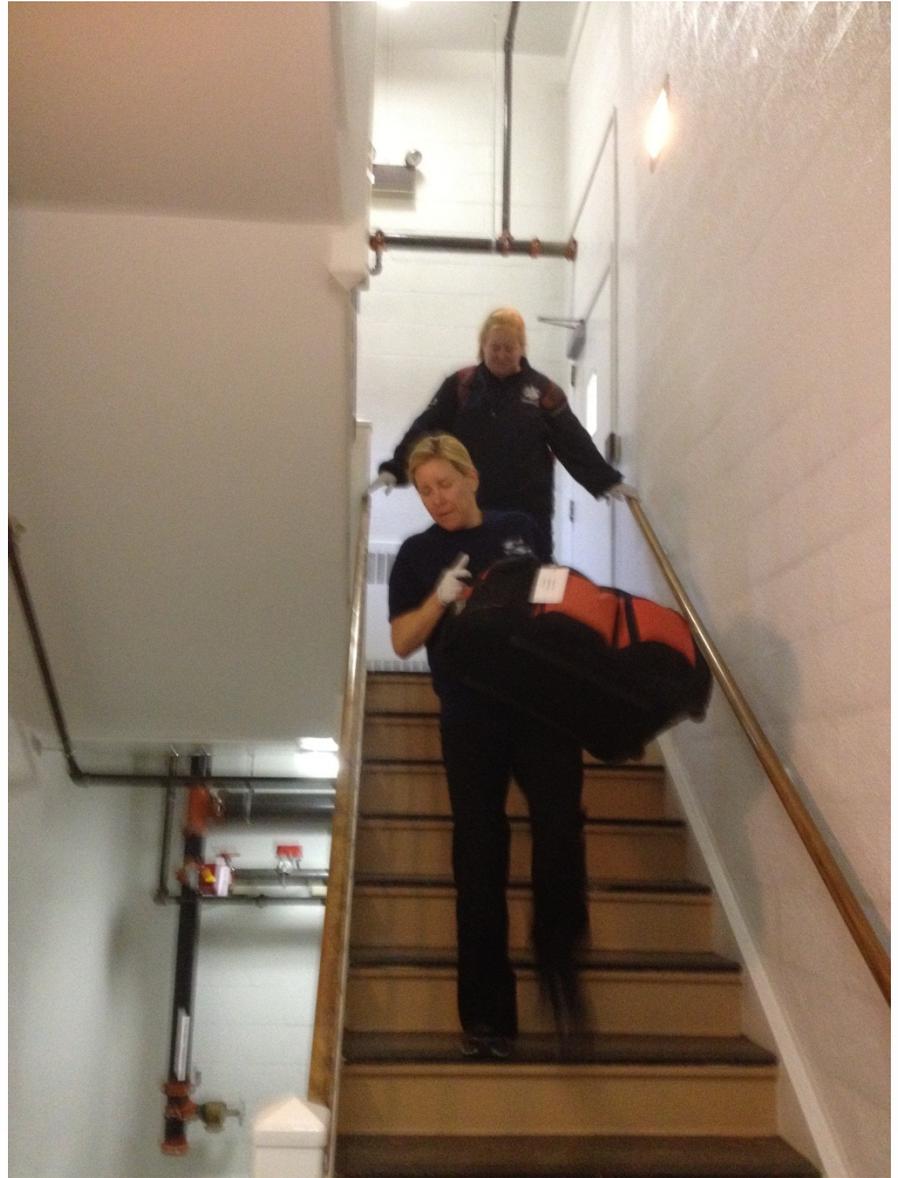
Benefits to Active Flight Crew

- Can be used as substitution for CAMTS, Commission on Accreditation of Medical Transport Systems, required clinicals (with CAMTS approval)
- Use to practice and learn different methods for difficult intubations
 - Tomahawk
 - Trismus, cervical rigidity, laryngospasms, tongue swelling, foreign body obstruction
- “Thinking outside the box”



SIM: Current Employees

- Can be used as an adjunct for health and wellness of flight crew
 - Patient is located in a remote location and crew must “hike” up to the patient with their bags



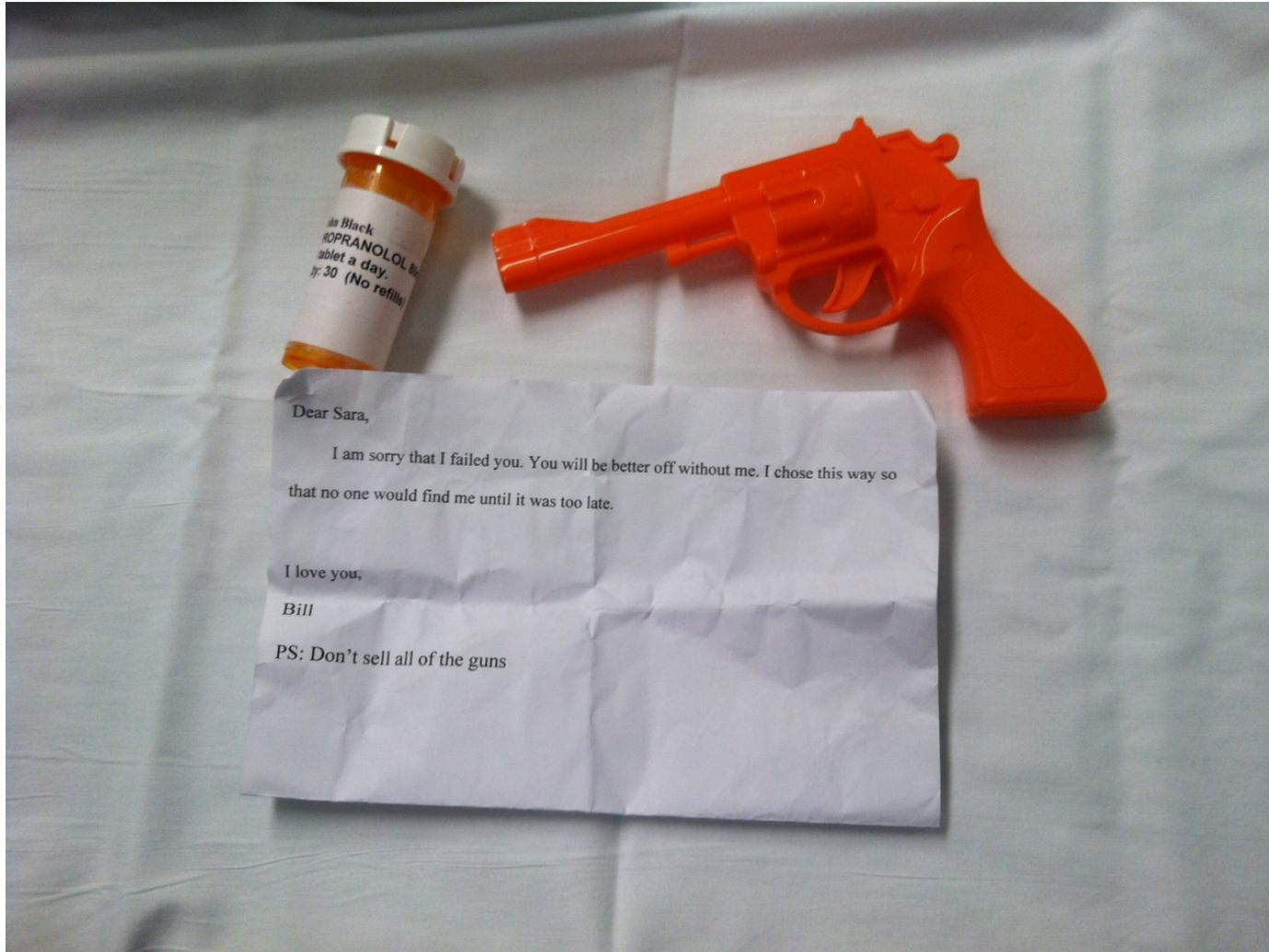
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Benefits for Current Crew

- Good review of current protocols
- Allows for crew discussion regarding different disease processes and treatments.
- Examples:
 - DKA with hypokalemia
 - Beta blocker OD and antidotes
 - Plavix effects on platelets

Benefits of SIM

- Good Reminder – Do you REALLY know what you are transporting or dealing with???
- Gun / knife / weapon in pants
- Unresponsive patients
 - Note / drug bottle in pants



Dear Sara,

I am sorry that I failed you. You will be better off without me. I chose this way so that no one would find me until it was too late.

I love you,

Bill

PS: Don't sell all of the guns



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SIM Benefits: Returning Crew

- Assessment of strengths and areas where improvement is needed
 - Knowledge of program specific protocols
 - Critical thinking abilities
 - Communication issues
 - Video and audio taping can be especially helpful when reviewing communication issues

Clinical Focus Areas

- **ICU –**

Conduct complete assessments and critical thinking skills / treatment of multiple patients with differing diagnoses to include:

- CVA
- Cerebral aneurysm
- Closed head injury
- Abdominal, thoracic, orthopedic trauma
- MI
- Induced Hypothermia
- Cardiogenic shock
- Septic Shock
- Other critical care as available

Clinical Focus Areas

PICU –

- Conduct complete assessments of multiple patients with differing diagnoses
- Determine appropriate medication dosages based on age and/or weight
- Determine appropriate medication dosages for continuous infusions based on age and / or weight and titrate as needed
- Administer appropriate volumes of fluid boluses
- Determine appropriate ventilator settings and make changes as needed
- Provide appropriate communication to patient and family



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Clinical Focus Areas

Emergency Department –

- Triage methodology to include initial screening assessment and appropriate prioritization of patients
- Patient assessments to include medical and trauma
- Demonstrate appropriate patient care in Gold and /or Trauma Alerts

Appropriate patient care:

- Dysrhythmias
- Angina / Acute MI
- Hypotension
- Respiratory Distress
 - Asthma, Pulmonary Edema
CHF
- Anaphylaxis
- CVA (ischemic or hemorrhagic)
- Seizures
- Hypertensive crisis
- Gold Alerts / Trauma Alerts



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Clinical Focus Areas

L&D –

- Indications, dose calculation and management for Magnesium Sulfate
- Auscultate fetal heart tones
- Assess for signs of imminent delivery
- Transport via ground or air?
- Assessment for labor progression
- Guidance of infant upon delivery
- Suction and stimulation of the infant
- Cutting and clamping of the umbilical cord
- Delivery of the placenta
- Maintenance of the infant's airway
- Temperature maintenance of infant
- Infant / Mother resuscitation as required
- Post-delivery assessment of mother



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Evaluation of SIM Process

1. Evaluation form filled out after each SIM experience
2. Forms compiled by SIM staff and given to us as data
3. Annual survey to crew members to assess overall experience and future changes to lab experience

Demographics

- 136 participants
- December 2009 – October 2012
- 43 courses
- Flight teams
 - RN
 - Paramedics

Will the Course Impact Your Work?

- 98% said YES
- How?
 - Tools to help us better work as a team
 - Improved my airway technique skills
 - Improve my patient assessment skills
 - Humbling and encouraging; more confident and found areas of improvement

Did the Course Meet Educational Objectives?

- 100% stated YES

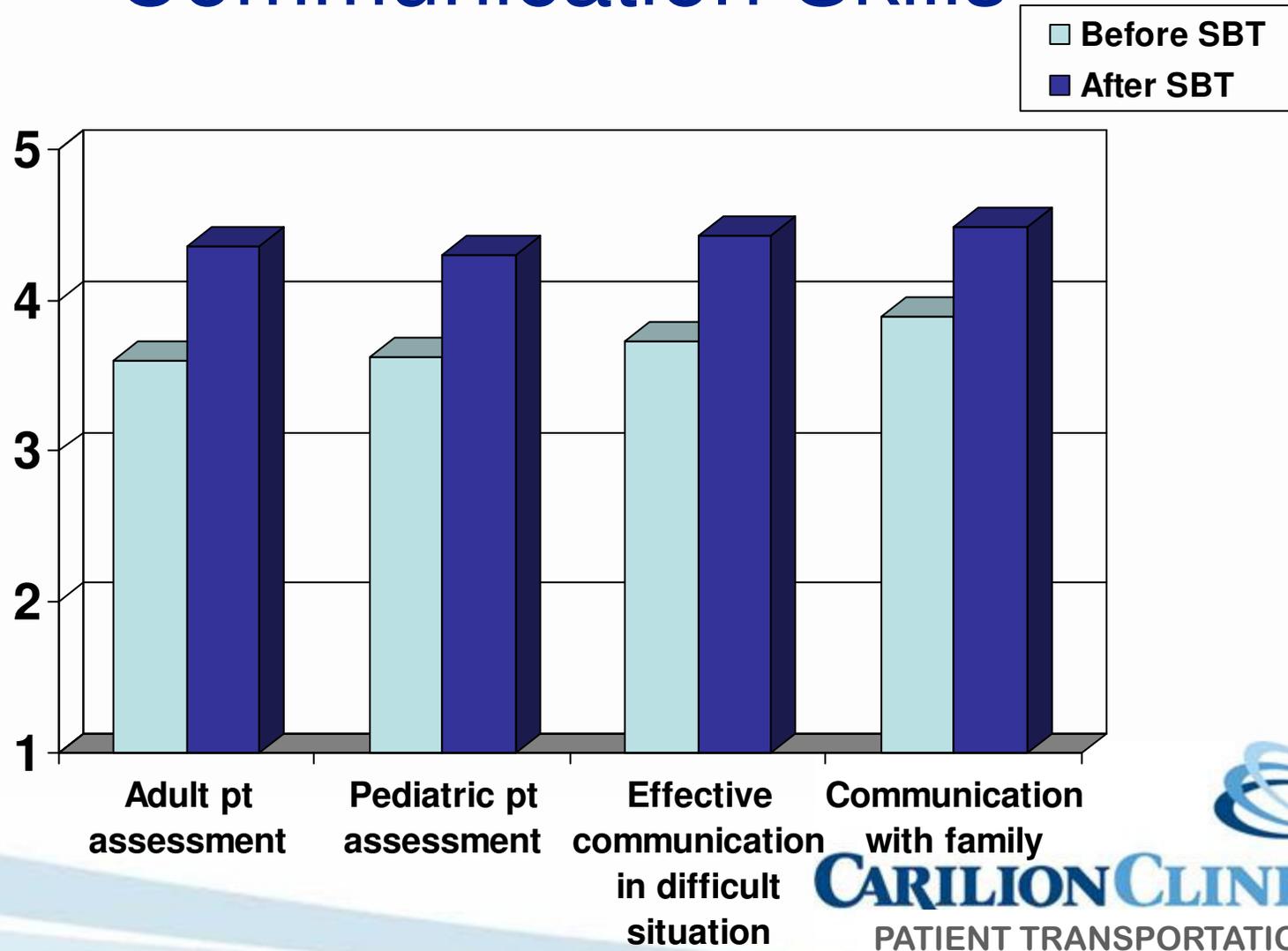
Explain?

- Good review and practice with medications and laboratory values.
- Interactive scenario that allowed us to see if our interventions worked
- Learned weaknesses and where to improve.

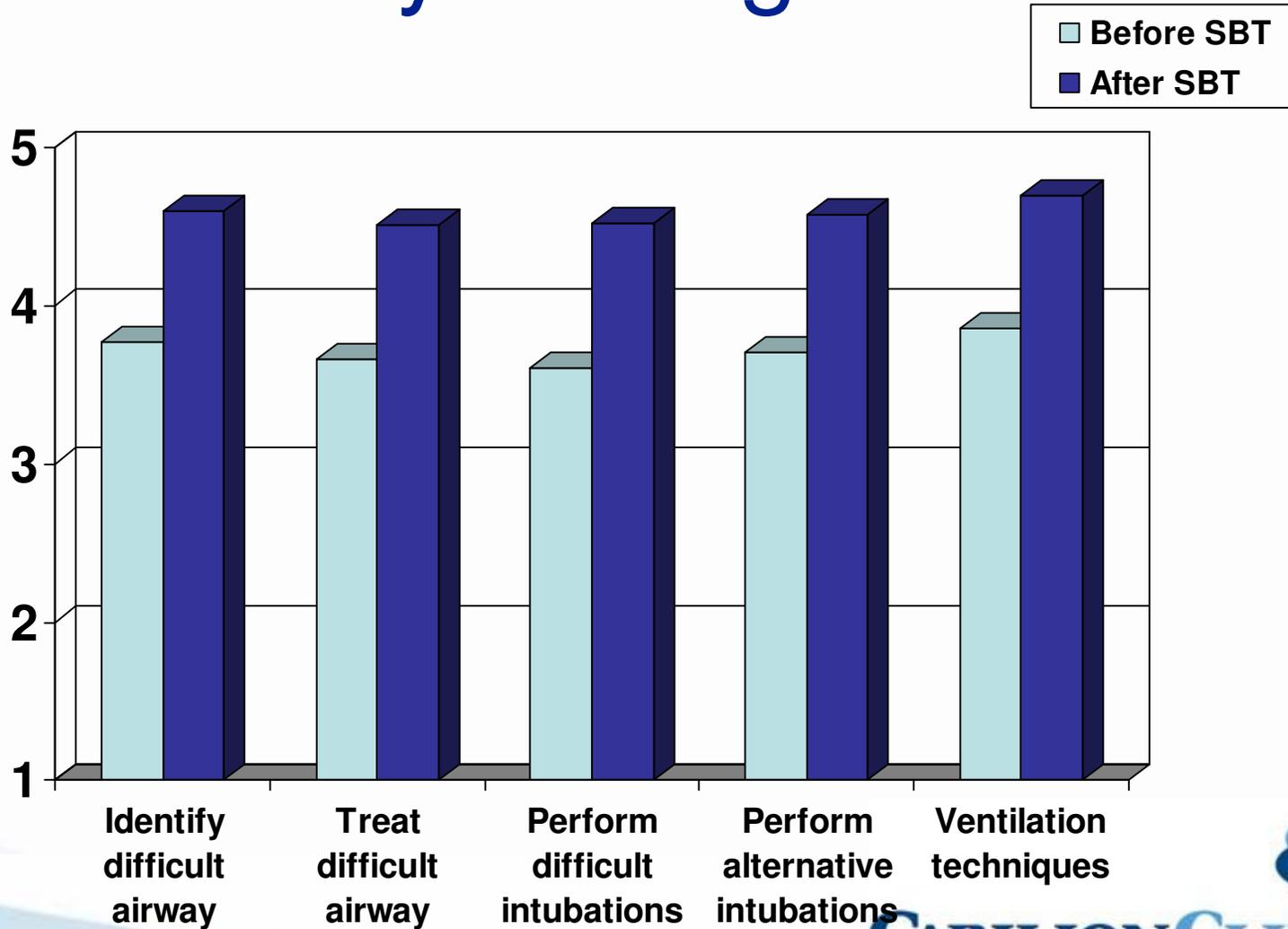
Course Organization

- 97% agree course instructors were organized and effective.
- 98% state they would recommend the course to their colleagues.

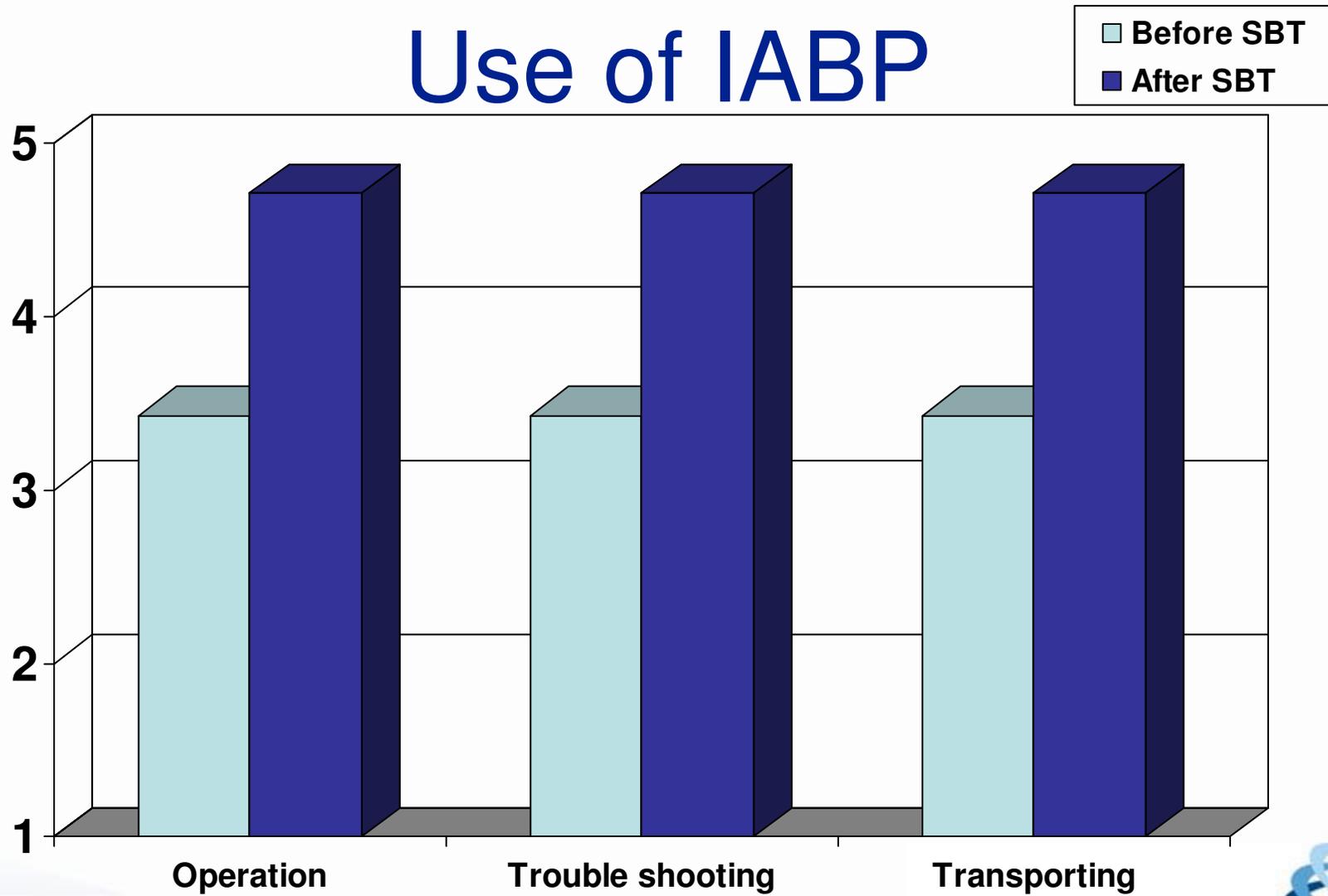
Patient Assessment & Communication Skills



Airway Management

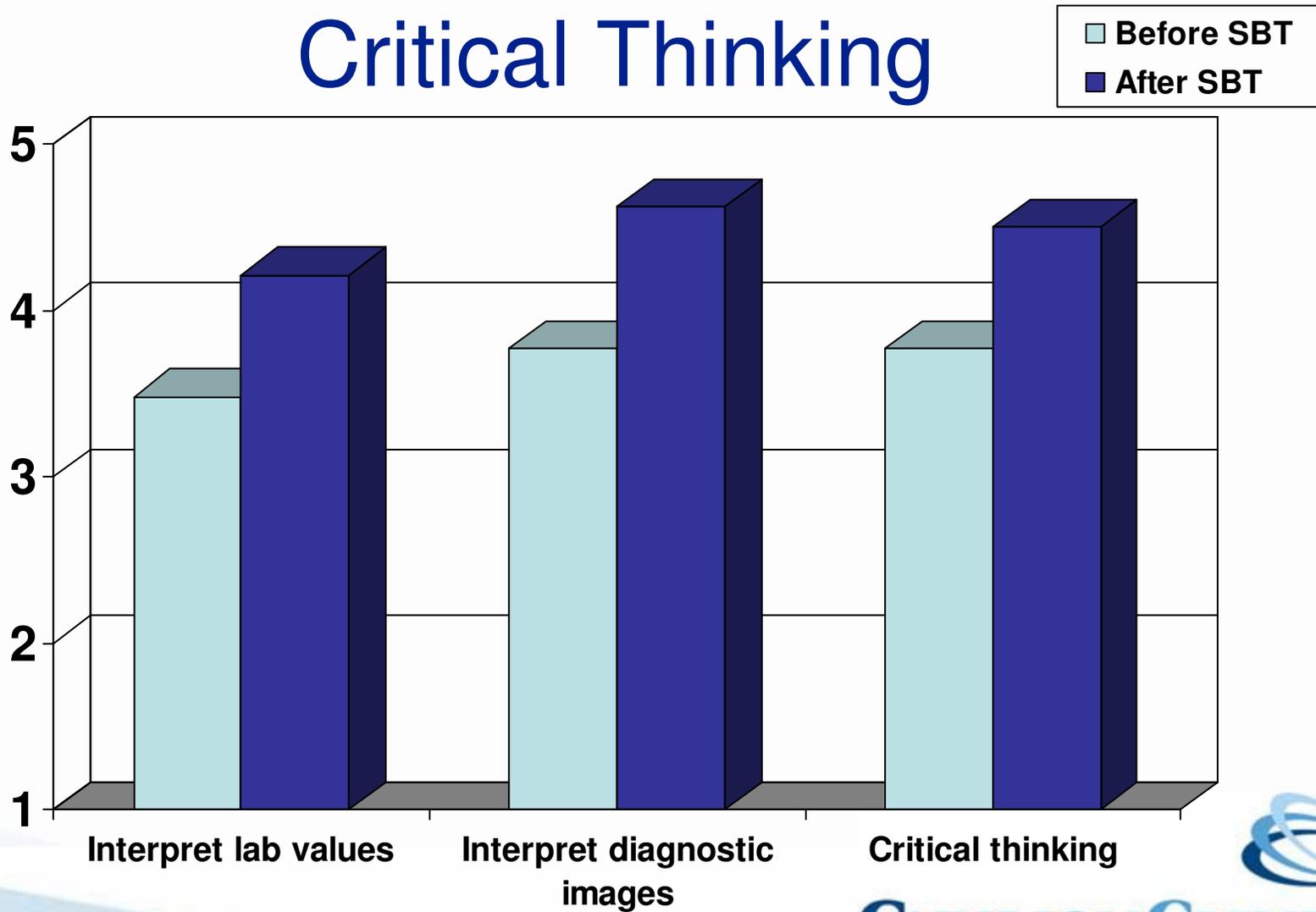


Use of IABP



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Diagnostic Tests and Critical Thinking



Flight Crew Comments:

- “SIM lab was better and frankly controlling the scenarios makes them more pertinent to what we do. Clinical rotations are too hit or miss and usually not related to actual flights we may encounter”
- “SIM lab is so much more beneficial then standing around and observing other people do things”
- “While clinical rotations are a learning experience, SIM Lab gives us the opportunity to focus more specifically on clinical knowledge within our job description. Everything can be focused primarily on our roles”
- “More clinically focused than we would've gotten on a regular clinical rotation”



Comments & Suggestions for Future Courses

- “We should not be able to use reference book”
- “Great resource providing scenarios not commonly seen”
- “Awesome experience, great day!”

SIM Lab Future

- Require flight crew to be in flight suit & boots to make it more realistic
- Developing and implementing mobile SIM lab to visit outlying bases for scheduled and unscheduled training

QUESTIONS???

SIM Lab Scenario

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