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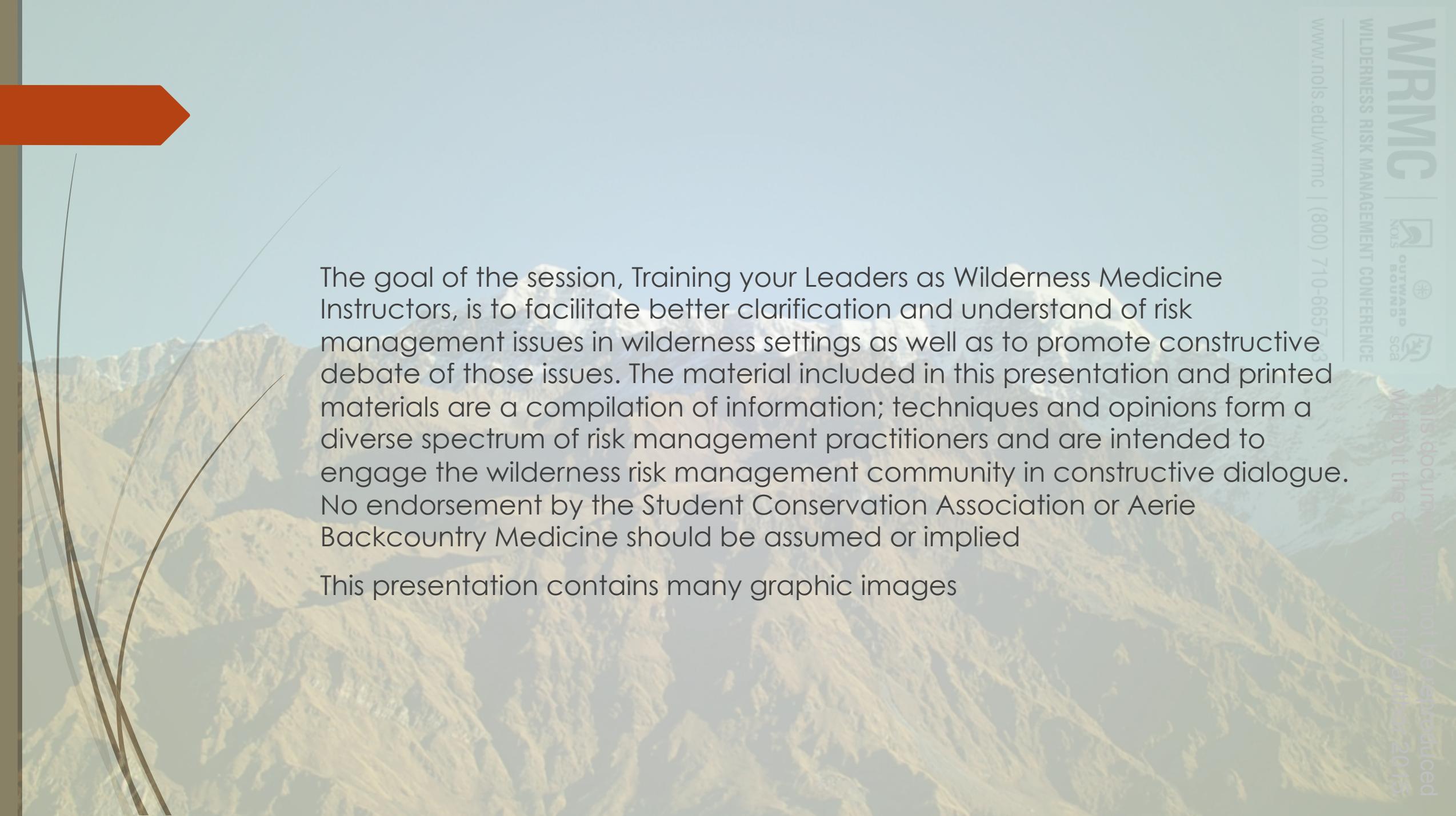
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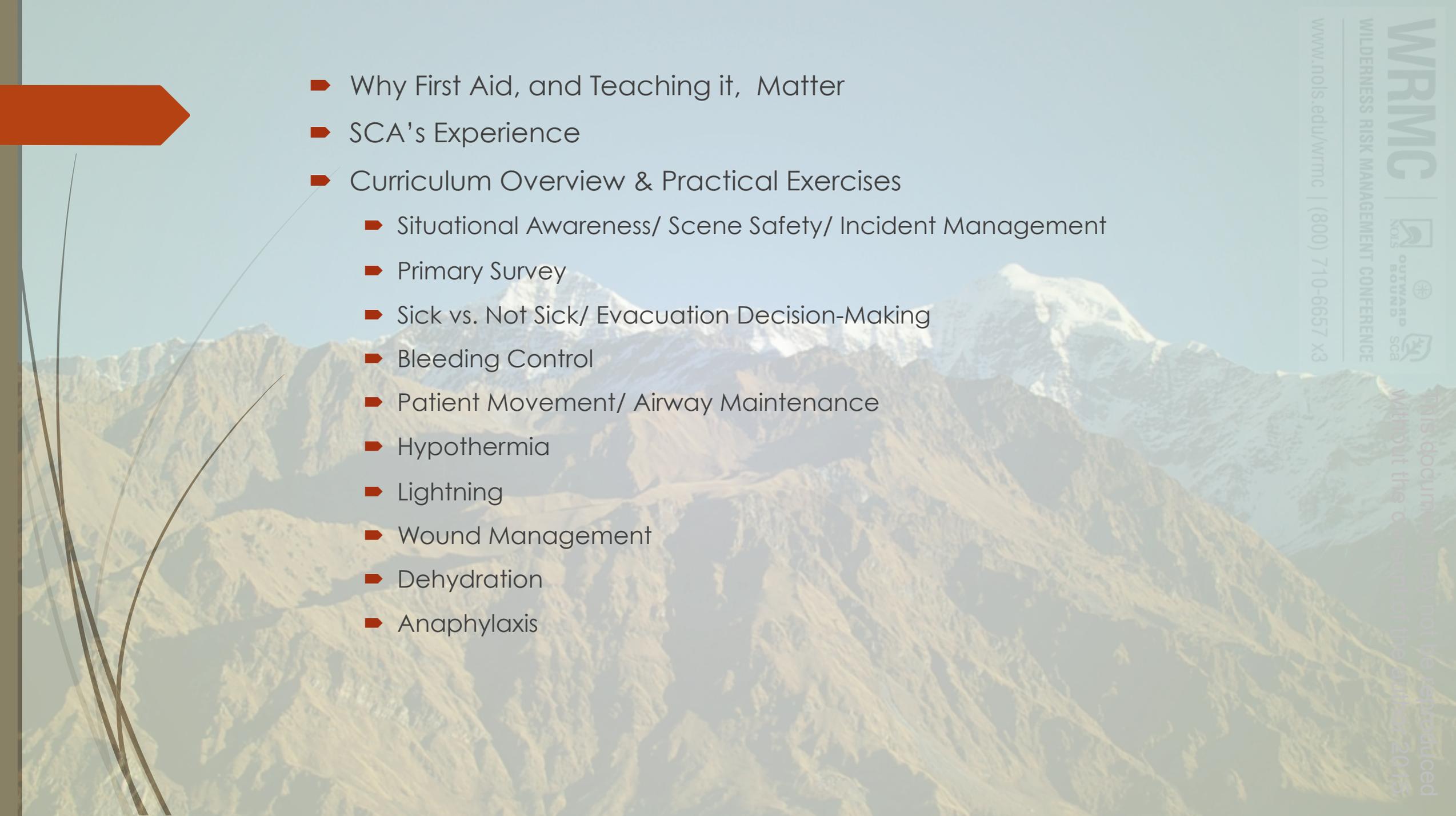
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The goal of the session, Training your Leaders as Wilderness Medicine Instructors, is to facilitate better clarification and understanding of risk management issues in wilderness settings as well as to promote constructive debate of those issues. The material included in this presentation and printed materials are a compilation of information; techniques and opinions form a diverse spectrum of risk management practitioners and are intended to engage the wilderness risk management community in constructive dialogue. No endorsement by the Student Conservation Association or Aerie Backcountry Medicine should be assumed or implied.

This presentation contains many graphic images

- 
- Why First Aid, and Teaching it, Matter
 - SCA's Experience
 - Curriculum Overview & Practical Exercises
 - Situational Awareness/ Scene Safety/ Incident Management
 - Primary Survey
 - Sick vs. Not Sick/ Evacuation Decision-Making
 - Bleeding Control
 - Patient Movement/ Airway Maintenance
 - Hypothermia
 - Lightning
 - Wound Management
 - Dehydration
 - Anaphylaxis

Risk is Best Managed By Those Taking it



Bottom-up paradigm
Sheer numbers
Buy-in to RM Culture,
Policies and Training
Integration of RM and
Field Practices
Core competency
Service

Core Competency



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Core Competency



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Core Competency



Core Competency

Two Key Concepts in Wilderness (or any) Medicine

- **Nobody Should Die a Preventable Death**
- **Simple Things Should Be Kept Simple**

Core Competency

Two Key Concepts in Wilderness (or any) Medicine

- **Nobody Should Die a Preventable Death**
 - Situational Awareness
 - Protecting Self and Others
 - Managing Scenes
 - Evacuating When Warranted
- **Simple Things Should Be Kept Simple**
 - Preventable Injuries and Illnesses
 - Remaining Within Training
 - Reducing Pain and Discomfort

Situational Awareness/ Scene Management

Individual/ Field Response

- ▶ Common Pitfalls
- ▶ Teaching Tips
 - ▶ What are the most important things that you your staff to relate to your participants in order to anticipate, prevent and manage these events/ illnesses/ injuries?

Program

- ▶ Policies, Culture and Training
 - ▶ What does your organization need to do to anticipate, prevent and manage these events/ illnesses/ injuries?

Situational Awareness/ Scene Management



- 8000'
- Mixed Adult and Youth
- 1600 hours
- Storm Clouds, Lightning

Situational Awareness/ Scene Management

Individual/ Field Response

- ▶ Common Pitfalls
- ▶ Teaching Tips
 - ▶ What are the most important things that you your staff to relate to your participants in order to anticipate, prevent and manage these events/ illnesses/ injuries?

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Situational Awareness/ Scene Management



Situational Awareness/ Scene Management



- Group scatters when strikes are close
- Closest strike at 1700 hours
- Group leader and 1 participant struck

Situational Awareness/ Scene Management



- 1 deceased (leader)
- 1 heli-evac

Situational Awareness/ Scene Management

Individual/ Field Response

- ▶ Common Pitfalls
- ▶ Teaching Tips
 - ▶ What are the most important things that you your staff to relate to your participants in order to anticipate, prevent and manage these events/ illnesses/ injuries?

Program

- ▶ Policies, Culture and Training
 - ▶ What does your organization need to do to anticipate, prevent and manage these events/ illnesses/ injuries?



Preventable Deaths



- Adult Trail Crew
- July
- Felling/ moving beetle/ fire kill
- Log Rolls onto CrewBoss

Preventable Deaths

“The fate of the wounded
lays with those who apply the
first dressing.”
Col. Nicholas Senn



- Trapped under tree
- Complaining of pain to ABD/ pelvis/ left lower leg
- Pale, sweaty, increased HR, RR

Preventable Deaths

- Helivac initiated
- 3.5 hours incident to EMS arrival time



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Preventable Deaths



- When log is moved, this is found on patient's lower leg
- It is actively bleeding

Preventable Deaths – ABCDE Patient Assessment

Individual/ Field Response

- ▶ Common Pitfalls
- ▶ Teaching Tips

Program

- ▶ Policies, Culture and Training



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Keeping Simple Things Simple



- Colorado River, Grand Canyon
- Extremely experienced river guide
- Lacerates leg on raft frame

Wilderness & Environmental Medicine
Volume 25, Issue 2, Pages 182-189 (June 2014)

Keeping Simple Things Simple



- Two physicians on the trip care for patient, who has WFR certification
- Close wound
- Begin antibiotics

Keeping Simple Things Simple



- Over the course of the next 4 days, the wound looks like this
- Patient is feverish, weak and group is no longer able to extricate rapidly

Keeping Simple Things Simple

Individual/ Field Response

- ▶ Common Pitfalls
- ▶ Teaching Tips

Program

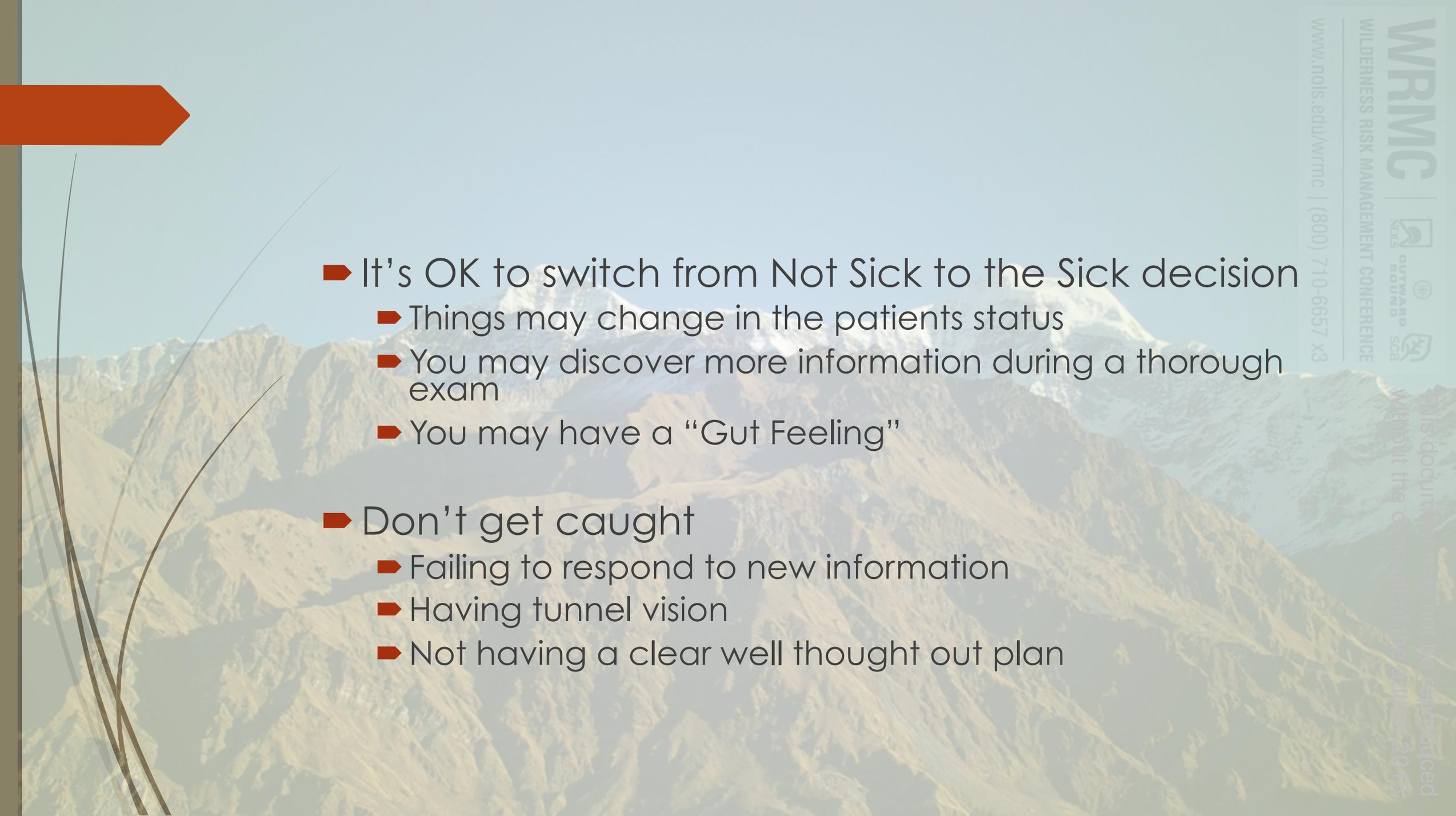
- ▶ Policies, Culture and Training



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The Concept of Sick/Not Sick

- This concept has been around for years and is based off similar principles used during Mass Casualty Incidents
- It's a method of rapid patient assessment that allows you to make good evacuation decisions based on reliable indicators of health
- Facilitates good coordination and communication in the field and results in better patient care

- 
- It's OK to switch from Not Sick to the Sick decision
 - Things may change in the patients status
 - You may discover more information during a thorough exam
 - You may have a “Gut Feeling”
 - Don't get caught
 - Failing to respond to new information
 - Having tunnel vision
 - Not having a clear well thought out plan

Sick, Not-Sick

Individual/ Field Response

- ▶ Common Pitfalls
- ▶ Teaching Tips

Program

- ▶ Policies, Training and Culture

Sick Vs. Not Sick Evacuation Criteria

▶ Not Sick: Someone Who Appears Physiologically Stable

- ▶ Good Energy
- ▶ Eating Well
 - ▶ Regular bowel movements
- ▶ Drinking Well
 - ▶ Clear, copious urine
- ▶ “Normal” Vital Signs
- ▶ No debilitating pain
- ▶ No signs of progressing infection (wound or respiratory)
- ▶ You Have a Good Gut Feeling
- ▶ Compliant with Medications



▶ Sick: Someone Who Appears Physiologically Unstable

- ▶ Persistent Lethargy
- ▶ Loss of Appetite
 - ▶ Persistent Diarrhea
 - ▶ Blood in stool
- ▶ Unable to Drink
 - ▶ Infrequent, painful, bloody or dark urine/urination
- ▶ Persistently or Very Abnormal Vital Signs
- ▶ Pain that precludes eating, drinking or activity
- ▶ Infection
 - ▶ Fever
 - ▶ Streaking,
 - ▶ Swelling
 - ▶ Weakness
- ▶ You Have a Bad Gut Feeling
- ▶ Non-compliant with Medications



Anaphylaxis

Individual/ Field Response

- ▶ Common Pitfalls
- ▶ Teaching Tips

Program

- ▶ Policies, Culture and Training



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Anaphylaxis

Individual/ Field Response

- ▶ Common Pitfalls
- ▶ Teaching Tips
 - ▶ Local vs systemic
 - ▶ Many different delivery devices
 - ▶ Thorough Assessment

Program

- ▶ Policies, Culture and Training
 - ▶ Protocols
 - ▶ Med. direction
 - ▶ Medical screening
 - ▶ Prevention strategies
 - ▶ Evacuation protocols



Anaphylaxis



Bleeding Control

Individual/ Field Response

- ▶ Common Pitfalls
- ▶ Teaching Tips

Program

- ▶ Policies, Culture and Training



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Bleeding Control

Individual/ Field Response

- ▶ Common Pitfalls
- ▶ Teaching Tips
 - ▶ Thorough assessments
 - ▶ Treatments have changed!
 - ▶ Well-aimed direct pressure
 - ▶ TK, hemostatics?

Program

- ▶ Policies, Culture and Training
 - ▶ Prevention
 - ▶ Major causes
 - ▶ MVA, Falls
 - ▶ FAK familiarity



Dehydration

Individual/ Field Response

- ▶ Common Pitfalls
- ▶ Teaching Tips
 - ▶ Dehydration is progressive
 - ▶ S/S are often non-specific
 - ▶ It contributes to many other problems
 - ▶ It is very easily preventable

Program

- ▶ Policies, Culture and Training
 - ▶ Daily check ins
 - ▶ “Ins and Outs”
 - ▶ Hydration, water-accessibility, activity protocol (based on heat index?)
 - ▶ Segue for diarrhea, hand-washing, hygiene discussions/ policies/ standards

Wound Management

Individual/ Field Response

- ▶ Common Pitfalls
- ▶ Teaching Tips

Program

- ▶ Policies, Culture and Training



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Wound Management

Individual/ Field Response

- ▶ Common Pitfalls
- ▶ Teaching Tips
 - ▶ Most wounds will do well with NO care
 - ▶ Heuristic trap
 - ▶ Simple irrigation is most important

Program

- ▶ Policies, Culture and Training
 - ▶ Daily check in
 - ▶ FAK familiarity
 - ▶ Trends



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What about you?

Why would you train your leaders to train your participants Wilderness Medicine topics?

What are the goals of your content?

How are you going to implement?

How are you going to protect yourself and your organization?

What We Can Learn From Medical Research



- Atul Gawande
 - Increasing Success
 - Decreasing Mortality
 - Decreasing Morbidity

Diligence

- ▶ Teams Trained in New Cardiac Surgical Technique
- ▶ Success Measured in Mortality, Efficiency and other Quantifiable Measures

HARVARD MEDICINE

WRRMIC



WILDERNESS RISK MANAGEMENT CONFERENCE

www.nols.edu/wrrmic | (800) 710-6657 x3

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Experience Is Not Enough

- ▶ Success does not correlate with experience
- ▶ Practice, preparation and follow-through are key determinants
- ▶ *“What matters is how you practice, as a group, with realistic simulations, in a consistent and reproducible format.”*

Lightning

Individual/ Field Response

- ▶ Common Pitfalls
- ▶ Teaching Tips

Program

- ▶ Policies, Training and Culture