Medical History Form Trends

The Pros, Cons, & Potential Consequences

Leah Corrigan — Recreation Law Center

Nadia Kimmel — Desert Mountain Medicine

Paul Nicolazzo — Wilderness Medicine Training Center International
Why Collect Medical Information?

On the *macro* level, the potential for injuries and illnesses during an outdoor trip depend on the ability of the administration to balance risk inherent in the design of the trip with the competency of the field staff.

**Staff Competency**
- Outdoor Skills *(including site management)*
- Interpersonal Skills
- Teaching & Coaching Skills

**Trip Design**
- Terrain & Environmental Hazards
- Activity-based Hazards
- Participant Outdoor & Interpersonal Skills and **Health**
- Desired Outcomes & Structure

**Risk of Injury & illness**

On the *micro* level, the risks associated with injuries and illnesses during an outdoor trip depend on the training and experience of the field staff.

*Collecting medical information attempts to reduce the risk:*

- through participant screening
- by changing the course design and/or structure
- by providing specific medical training for field staff *(e.g.: diabetes, drug awareness)*
- by requiring individual protective equipment *(e.g.: ankle or knee brace)*
- by requiring specific vaccines *(recommended by the CDC or the program’s medical advisor)*
- by revising the Emergency Action Plan *(including communication)*
The **Content** should contain personal health information that you will **use** to prevent, mitigate, or respond to injuries or illnesses and is based on the hazards inherent in the design of your trip and the competency of your staff.

**Who** submits the report, the **Type** of report, and the **Format** affects the depth and quality of the information received.

**Timing** affects the ability of the program administration to adequately screen participants, redesign the macro structure of the course (including their EAP), train staff—or substitute higher trained staff—to address a specific health issue.
Who

Medical Professional (physician, nurse practitioner, PA, RN)
  • Typically used for longer, more remote trips
  • Pro: Higher quality, especially if completed by the participant’s primary health care provider who has a long history with the participant
  • Pro: Current physical examination
  • Con: Requires advance planning and can be expensive

Participant (self reporting)
  • Typically used for short day or weekend trips with good emergency communication and rapid evacuation
  • Pro: No cost to participant and does not require prior planning
  • Con: May not include all important current health issues
Type

**Written**
- Typically used for multi-day trips
- Often includes additional activity-specific information
- Pro: Higher quality than oral reporting
- Time to complete the form varies with format and who completes it

**Oral**
- Typically used for partial and full *day* trips
- Pro: Fast
- Con: Typically mixed with other important safety information (where it can get lost)
- Con: Generally lower quality than written reporting
- Con: Requires field staff to write down pertinent information
Content

- The information MUST be *utilized* by the program to prevent, mitigate, or respond to injuries or illnesses.
- Each organization should have written procedures/protocols that define HOW the information will be used.
- Too much or too little? (See above)

Staff Competency

- Outdoor Skills (including site management)
- Interpersonal Skills
- Teaching & Coaching Skills

Trip Design

- Terrain & Environmental Hazards
- Activity-based Hazards
- Participant Outdoor & Interpersonal Skills and **Health**
- Desired Outcomes & Structure

Risk of Injury & Illness
Format

Check Boxes or Yes/No Questions
• Pro: Quick and easy to complete
• Can be used to focus participants’ attention on specific problems related to the activity:
  ▪ ankle/knee injuries for backpacking trips or shoulder/elbow/wrist injuries for paddling trips
  ▪ medications that predispose the participant to an environmental injury; for example, heat stroke, phototoxic or photoallergic reactions, frostbite, altitude sickness, hypothermia, etc.
  ▪ fitness level or swimming ability
• Con: Lacks detail if not used in combination with open-ended questions or followed up individually by program staff

Example

Do you smoke, vape or use tobacco products? Yes ___ No ___
Do you drink alcohol? Yes ___ No ___
Do you use marijuana products? Yes ___ No ___
Do you have any disabilities or limitations that may endanger, alter or limit your abilities to participate in this trip? Yes ___ No ___
Format

Open-ended Questions

- Con: Often time-consuming to complete
- Con: May lack detail if short

Example

Please list any medications you currently take and the reason for taking them
Format

Combination

- **Pro:** If designed well, a written form with check boxes or Yes/No questions and open-ended questions is relatively easy to complete and contains relevant details.
- **Con:** Depending on the level of detail, it may take time to complete.

Example

Check **Yes** or **No** if you have had any of the following medical issues past or present.

<table>
<thead>
<tr>
<th>Cardiac Hist</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>15. Any history of hypertension, unexplained cold?</td>
<td></td>
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<tr>
<td>Depending on the condition, further information may be required.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Examiner's sp</th>
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<td>Y</td>
<td>N</td>
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<tr>
<td>High Blood Pressure</td>
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<tr>
<td>Heart problem</td>
<td></td>
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<tr>
<td>High cholesterol</td>
<td></td>
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<tr>
<td>Alcohol/drug dependency</td>
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<td>Depression</td>
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<tr>
<td>Anxiety</td>
<td></td>
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<tr>
<td>Insomnia</td>
<td></td>
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<tr>
<td>Psychological problem</td>
<td></td>
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<tr>
<td>Eating disorder</td>
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<tr>
<td>ADD/ADHD</td>
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<tr>
<td>Dyslexia</td>
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<tr>
<td>Allergy/hay fever</td>
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<tr>
<td>Ear &amp; nose problem</td>
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<tr>
<td>Arthritis/joint pain</td>
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<td>Back problems</td>
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<td>Knee problems</td>
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<td>Shoulder problems</td>
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<td>Arm problems</td>
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<tr>
<td>Leg problems</td>
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<tr>
<td>Foot problems</td>
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<tr>
<td>Broken Bones</td>
<td></td>
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<tr>
<td>Bladder/kidney</td>
<td></td>
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<tr>
<td>Cancer/cyst/tumor</td>
<td></td>
</tr>
<tr>
<td>Clot in veins</td>
<td></td>
</tr>
<tr>
<td>Diabetes (sugar)</td>
<td></td>
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<tr>
<td>Dizziness/fainting</td>
<td></td>
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<tr>
<td>Seizures/epilepsy</td>
<td></td>
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<tr>
<td>Eye problem</td>
<td></td>
</tr>
<tr>
<td>Motion sickness</td>
<td></td>
</tr>
<tr>
<td>Head Injury</td>
<td></td>
</tr>
<tr>
<td>Heat stroke/heat related injury</td>
<td></td>
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<tr>
<td>Anemia/blood disease</td>
<td></td>
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<tr>
<td>Gallbladder/intestinal</td>
<td></td>
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<tr>
<td>Hepatitis</td>
<td></td>
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<tr>
<td>Hypoglycemia</td>
<td></td>
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<tr>
<td>Liver disease/jaundice</td>
<td></td>
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<tr>
<td>Malaria</td>
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<tr>
<td>Mononucleosis</td>
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<tr>
<td>Pregnancy</td>
<td></td>
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<tr>
<td>Respiratory problem</td>
<td></td>
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<tr>
<td>Rheumatic fever</td>
<td></td>
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<tr>
<td>Sexually transmitted disease</td>
<td></td>
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<tr>
<td>Shortness of breath</td>
<td></td>
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<tr>
<td>Sleepwalking</td>
<td></td>
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<tr>
<td>Swollen joints</td>
<td></td>
</tr>
<tr>
<td>Thyroid disease</td>
<td></td>
</tr>
<tr>
<td>Tuberculosis</td>
<td></td>
</tr>
<tr>
<td>Ulcer</td>
<td></td>
</tr>
<tr>
<td>Varicose Veins</td>
<td></td>
</tr>
<tr>
<td>Other:</td>
<td></td>
</tr>
</tbody>
</table>

Please provide additional details and dates for any ‘yes’ answers:

____________________________________

____________________________________
Format

Other
Many written medical forms include or are bundled with:

- Description of potential activity, environmental, & medical hazards
- Experience the trip activities and environment in order to evaluate the participants outdoor skills
- Primary health care provider contact information (physician, nurse practitioner, PA, RN) and permission to contact
- Insurance information
- Permission to treat
- Emergency contact information
- Assumption of Risk & Liability release

Example

Check if you have done these activities before:
- Day Hiking
- Overnight Backpacking
- Camped Outdoors
- Sea Kayaking
- Snowshoeing
- Cross-Country Skiing
- Winter Camping
- White water rafting
Timing

Timing affects the ability of the program administration to:
- adequately screen participants
- redesign the macro structure of the course (e.g.: revise progressions, routes, activities, EAP, etc.) to accommodate an individual health issue
- train staff—or substitute higher trained staff—to address a specific health issue
- Carry additional equipment (e.g.: braces, storage/protect Rx meds, etc.)
Cataract Canyon

University Program
• 8-Day Geology Field Trip
• 12 Person Trip
• 4 River Guides
• Mid-August 90°-100°F

Evacuation Plan
• No Self Rescue
• NPS Helicopter
• Sheriff’s Dept.
MEDICAL INFORMATION FORM

Trip/Activity: ___________________________        Dates: __________________

Name: __________________________________________

Address: _________________________________________

City: ___________________ St: ____ Zip: ____________

Phone: Cell ________________ Work _______________ Home _______________

=================================================================

THIS INFORMATION IS VERY IMPORTANT AND USEFUL FOR US IN THE EVENT OF ANY EMERGENCY.

DATE OF BIRTH: ___________________

Health Insurance Carrier & Policy Number: _____________________________

IF NONE WRITE “NONE” IN SPACE PROVIDED.

Allergies (Drugs, Food, Insects, Plants etc.): __________________________

Please indicate how your allergies are managed: ________________________

Have you had a severe allergic reaction? Yes___ No___ Do you carry Epinephrine? Y___ N___

Recent Illness, Injury, Surgery:  Yes _____ No ______ (If yes, please describe and explain how it is currently managed)

Medications you currently take (Prescription or over the counter): ______________________________

Do you wear: Glasses ________ Contact Lenses ________ Neither ____________

Please list any medical conditions that could limit physical activity such as, but not limited to, diabetes, asthma, hay fever, back injuries etc. ________________________________________________________________

=================================================================

IN CASE OF EMERGENCY NOTIFY:

Name_________________________________ Relationship____________________

Address_________________________________ ____________

City_________________ ST_______ Zip__________ Home:_____________________

Permission to release HIPAA protected medical information to your emergency contact?  Yes____ No_____ 

I verify that the above information is complete and correct.

SIGNATURE: _________________________ DATE: ____________________________
## Trip Roster - Red Flags

<table>
<thead>
<tr>
<th>Name</th>
<th>Age</th>
<th>Allergies</th>
<th>Medical Condition</th>
<th>Medications</th>
</tr>
</thead>
<tbody>
<tr>
<td>John</td>
<td>18</td>
<td>None</td>
<td>Depression</td>
<td>Zoloft &amp; Wellbutrin</td>
</tr>
<tr>
<td>Lynne</td>
<td>24</td>
<td>Sagebrush</td>
<td>Bipolar Disorder &amp; Allergies</td>
<td>Zyprexa &amp; Benadryl</td>
</tr>
<tr>
<td>Matt</td>
<td>55</td>
<td>None</td>
<td>High BP &amp; Congestive Heart Failure</td>
<td>Aspirin, Metoprolol &amp; Lasix</td>
</tr>
</tbody>
</table>

What are some of your concerns during the trip, if any?
## Trip Roster - Red Flags

### Environmental Factors & Other Considerations

<table>
<thead>
<tr>
<th>Name</th>
<th>Age</th>
<th>Diagnosis</th>
<th>Medications</th>
</tr>
</thead>
<tbody>
<tr>
<td>John</td>
<td>18</td>
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<td>24</td>
<td>Bipolar Disorder &amp; Allergies</td>
<td>Zyprexa &amp; Benadryl</td>
</tr>
</tbody>
</table>

### Potential Red Flags

- **Antidepressants** (such as Zoloft & Wellbutrin) can lead to:
  - Excessive Sweating
  - Impaired Thermoregulation

- **Antihistamines** (such as Benadryl) can lead to:
  - Inhibits Sweating

- **Mood Stabilizers** (such as Zyprexa) can lead to:
  - Impairs Thermoregulation

- **Heat Illness**

- **Dehydration**
Wilderness Medical Society Practice Guidelines for the Prevention and Treatment of Heat Illness: 2019 Update

Grant S. Lipman, MD; Flavio G. Gaudio, MD; Kurt P. Eifling, MD; Mark A. Ellis, MD; Edward M. Otten, MD; Colin K. Grisom, MD

1Department of Emergency Medicine, Stanford University School of Medicine, Stanford, CA; 2Department of Emergency Medicine, New York-Presbyterian Hospital/Weill Cornell Medical College, New York, NY; 3Division of Emergency Medicine, Larner College of Medicine at the University of Vermont, Burlington, VT; 4Department of Emergency Medicine, Spartanburg Regional Healthcare System, Spartanburg, SC; 5Department of Emergency Medicine, University of Cincinnati, Cincinnati, OH; 6Pulmonary and Critical Care Division, Intermountain Medical Center and the University of Utah, Salt Lake City, UT

The Wilderness Medical Society convened an expert panel in 2011 to develop a set of evidence-based guidelines for the recognition, prevention, and treatment of heat illness. We present a review of the classifications, pathophysiology, and evidence-based guidelines for planning and preventive measures, as well as best practice recommendations for both field- and hospital-based therapeutic management of heat illness. These recommendations are graded based on the quality of supporting evidence and balance the benefits and risks or burdens for each modality. This is an updated version of the original Wilderness Medical Society Practice Guidelines for the Treatment and Prevention of Heat-Related Illness published in 2013.

Keywords: heat stroke, hyperthermia, prevention, recognition, treatment

Introduction

Heat illness is a common occurrence worldwide. The European heat wave of 2003 resulted in at least 70,000 fatalities,1 and in the last decade the United States averaged over 600 deaths annually associated with excessive heat exposure.2 Currently, heat illness is the leading cause of morbidity and mortality among US high school athletes.3 Heat stroke mortality approaches 10%4 and when presenting with hypotension increases to 33%.5 Outcome is directly attributed to both the magnitude and duration of hyperthermia,6-8 making early recognition and treatment a priority. The Wilderness Medical Society convened an expert panel to develop a set of practice guidelines for the recognition, prevention, and treatment of heat illness. We present a review of the classifications, pathophysiology, and evidence-based guidelines for planning and preventive measures, as well as best practice recommendations for both field- and hospital-based therapeutic management of heat illness. Although the spectrum of heat illness is discussed, this practice group’s focus was on the exploration of exertional heat stroke (EHS), which is synonymous with the term “heat stroke” in this article unless otherwise specified.

Methods

Specialists in emergency medicine, primary care, and critical care from both civilian and military backgrounds were chosen based on their clinical or research experience. In 2011,9 and for subsequent practice guideline updates,10 relevant articles were identified through the PubMed database using the following key words: hyperthermia, heat stroke, heat illness, heat syncope, and heat exhaustion. This was supplemented by a hand search of articles from references in the initial PubMed search. Studies in these categories, including randomized controlled trials, observational studies, and case series, were reviewed. Abstract-only reports were not included. Conclusions from review articles were cited to provide background information but were not considered in the formulation of recommendation grades. The panel used a consensus approach to develop recommendations for
Medications and Drugs that May Contribute to Heat Illness

Wilderness Medical Society Practice Guidelines for the Prevention and Treatment of Heat Illness: 2019 Update

**Antipsychotics**
- Alcohol
- Alpha adrenergics
- Amphetamines
- Anticholinergics
- Antihistamines
- Benzodiazepines
- Beta blockers
- Calcium channel blockers
- Clopidogrel
- Cocaine
- Diuretics
- Laxatives
- Neuroleptics
- Phenothiazines
- Thyroid agonists
- Tricyclic antidepressants

**Mood Stabilizers**  
Bipolar Disorder Agents

<table>
<thead>
<tr>
<th>Trade Name</th>
<th>Generic Name</th>
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</thead>
<tbody>
<tr>
<td>Abilify</td>
<td>aripiprazole</td>
</tr>
<tr>
<td>Clozaril/Fazacl</td>
<td>clozapine</td>
</tr>
<tr>
<td>Fanapt</td>
<td>iloperidone</td>
</tr>
<tr>
<td>Geodon</td>
<td>ziprasidone</td>
</tr>
<tr>
<td>Invega/Sustenna</td>
<td>paliperidone</td>
</tr>
<tr>
<td>Latuda</td>
<td>lurasidone</td>
</tr>
<tr>
<td>Risperdal/Consta</td>
<td>risperidone</td>
</tr>
<tr>
<td>Saphris</td>
<td>asenapine</td>
</tr>
<tr>
<td>Seroquel</td>
<td>quetiapine</td>
</tr>
<tr>
<td>Zyprexa</td>
<td>olanzapine</td>
</tr>
<tr>
<td>Haldol</td>
<td>haloperidol</td>
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<tr>
<td>Loxitane</td>
<td>loxapine</td>
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<tr>
<td>Mellaril</td>
<td>thioridazine</td>
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<tr>
<td>Navane</td>
<td>thiothixene</td>
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<tr>
<td>Prolixin</td>
<td>fluphenazine</td>
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<tr>
<td>Serentil</td>
<td>mesoridazine</td>
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<tr>
<td>Stelazine</td>
<td>trifluoperazine</td>
</tr>
<tr>
<td>Thorazine</td>
<td>chlorpromazine</td>
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<tr>
<td>Trilafon</td>
<td>perphenazine</td>
</tr>
</tbody>
</table>
**Trip Roster - Red Flags**

**Environmental Factors & Other Considerations**

<table>
<thead>
<tr>
<th>Matt</th>
<th>55</th>
<th>None</th>
<th>High BP &amp; Congestive Heart Failure</th>
<th>Aspirin, Metoprolol &amp; Lasix</th>
</tr>
</thead>
</table>

- **Heat Illness**
- **Dehydration**

**Betablocker**

Inhibits sweating

**Diuretic Dehydration & Electrolyte Imbalance**
Betablockers

**Rx**
- High Blood Pressure
- Arrhythmia

- Acebutolol
- Bisoprolol
- Atenolol
- Metoprolol
- Naldol
- Nebivolol
- Propranolol

- Sectral
- Tenormin
- Zebeta
- Lopressor, Toprol XL
- Corgard
- Bystolic
- Inderal, InnoPran XL

Blocks one of the compensatory mechanisms in shock!

Wilderness Medical Society Practice Guidelines for the Prevention and Treatment of Heat Illness: 2019 Update
Medications and Drugs that May Contribute to Heat Illness

Wilderness Medical Society Practice Guidelines for the Prevention and Treatment of Heat Illness: 2019 Update

<table>
<thead>
<tr>
<th>Common Medications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol</td>
</tr>
<tr>
<td>Amphetamines</td>
</tr>
<tr>
<td>Anticholinergics</td>
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<tr>
<td>Antihistamines</td>
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<tr>
<td>Antipsychotics</td>
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<tr>
<td>Benzodiazepines</td>
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<tr>
<td>Beta blockers</td>
</tr>
<tr>
<td>Calcium channel blockers</td>
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<tr>
<td>Clopidogrel</td>
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<td>Cocaine</td>
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<td>Diuretics</td>
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<td>Laxatives</td>
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<td>Neuroleptics</td>
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<td>Phenothiazines</td>
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<tr>
<td>Thyroid agonists</td>
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<tr>
<td>Tricyclic antidepressants</td>
</tr>
</tbody>
</table>
Field Resources

Medication Apps
- Medscape
- Epocrates
- drugs.com

Wilderness Medicine
- E-Books
- Field Manuals

Medical Advisement
- In-House/On-Call
- Emergency Department
- Flights
- Medication reference list for your organization's demographics
Field Staff Support

If Medical Hx Form Required by Your Organization:

Red Flags Observed by Managers?

Field Staff Informed About Red Flags?

Pre-Trip Discussion with Client & Plan?

Field Staff Trained to Best Handle Medical Issues?

Are Field Staff Supported by Program Managers?
Health Insurance Portability and Accountability Act

- What is it: Protects privacy in personal health records

- Who does it apply to: Definition of “covered entity” likely excludes most organizations here
  - Except: Organizations with health clinics
  - BUT - where FERPA applies, HIPPA generally doesn’t

- No private right of action

- Bottom line: Unless you are a program with a health clinic or a medical professional on site (who transmits health information electronically via billing, insurance claims, etc..). take this off your list of worries
Family Educational Rights and Privacy Act

- **What is it:** Precludes disclosure of student educational records without consent

- **Who does it apply to:** Any educational institution that accepts funds administered by the Department of Education (all public schools and universities, most private colleges and some private secondary schools)

- **Exceptions to non-disclosure rule:**
  - To a “school official” with a “legitimate educational interest”
  - Health and safety emergency - limited to actual emergency (34 CFR 99.31(a)(10))

- **Consent:** If an institution subject to FERPA obtains a signed and dated written consent to disclose a student’s records, you may disclose without an exception.

- **No private right of action**
Rule Number One

- Only ask for medical information that you WILL use to prevent and/or mitigate injury or illness in the field.

- Otherwise, you are arguably expanding your legal duty with no reasonable process to satisfy the duty of care!
3-Step Analysis to Determine Best Practices

1. What information do we NEED?

2. What is our PROCESS?

3. What are the LEGAL considerations?
What Medical Information do we NEED?

With the help of a medical professional:

- What conditions could realistically become an issue on our trips?

- What medications/conditions could be impacted or exacerbated by environmental factors?

- What are other organizations like us asking for for?

- How would we actually utilize this information to mitigate risk of injury or illness in the field?
What is our PROCESS for evaluating and disseminating important medical information?

- What conditions/medications are flagged for follow up?

- Who evaluates the flags, what is their process?

- If a red flag = a participant should be screened, who decides, and how is it communicated?

- For red flag participants who can be accommodated, who evaluates how and what risk factors exist?

- How are red flags communicated to field staff, and how much info is provided specific to the red flag and treatments/considerations?
What are the Legal Considerations/Paperwork our Process Requires?

• Disclaimer regarding limited medical training and realities of providing care in a remote environment

• Consent to treatment, agreement to be responsible for evacuation costs

• ADA Considerations - Essential Eligibility Criteria

• Specific acknowledgement of risk for high-risk participant

• Privacy practices and data protection - written policies, acknowledged by all staff
MEDICAL HISTORY FORM TRENDS

The Pros, Cons, & Potential Consequences

Thanks for Participating

Leah Corrigan — Recreation Law Center

Nadia Kimmel — Desert Mountain Medicine

Paul Nicolazzo — Wilderness Medicine Training Center International