



The Checklist Manifesto for Outdoor Programs

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Workshop Goals

- Introduce Gawande's Checklist Manifesto book
 - Review the Checklist approach
 - Provide evidence of success in other fields
- Apply the Checklist approach to safety management in outdoor programs
 - Provide some examples already implemented
 - Create and/or analyze some examples with you during the workshop

Presenter's Disclaimers

- Checklist approach is not totally new to our industry
- The Checklist approach
 - Still part of my learning curve
 - Have implemented some examples in our outdoor SOP and believe there is significant potential in this approach

Safety Management

- Risk Management is a systemic approach geared to protecting the total organization's best interests.
 - Organizational Survival & Protection
- Safety Management is a systematic approach focused on the health and safety of the program participant's interests
 - People's Survival & Protection

Classic Approaches to Safety Management

- # 1. Good Judgement of field instructors



**Good judgment comes from experience!
Good experience comes from poor
judgment.**

Classic Approaches to Safety Management

- # 1. Good Judgement of field instructors
 - Good Judgement is learned from direct personal experience and technical skills sets
 - Good Judgement is critical thinking skills
 - Good Judgement is a knowledge base beyond your personal experience (other's stories and learning)
 - Good Judgement is a knowledge & experience base of 'reading people' and how attitudes & vitality affect safety
 - "Thinking about safety"- Jim Udall – Camping Magazine, 1983

Classic Approaches to Safety Management

- Good Judgement approach to Safety
- **The Protocols approach to Safety**
 - SOP – Standard Operating Procedures or AKA Safety Protocols
 - Policy and Procedures for Specific Activities
 - PFD use/ Climb Site Management/ Etc.
 - Policy and Procedures for All Activities
 - Trip planning/ Weather/ Etc.
 - Policy and Procedures for general anticipated conditions
 - Medical Emergencies
 - Lost Students

Classic Approaches to Safety Management

- # 1. Good Judgement approach to Safety
- # 2. The Protocols approach to Safety
- # 3. **The Check List approach to Safety**
 - More than just protocols
 - Integration of select protocols into the specific conduct of an activity
 - A checklist can be replicated across multiple staff resulting in less mistakes & a higher record of safety.
 - A checklist is a systemic response to solve a complex problem

What's a Checklist: Atul Gawande



<https://www.youtube.com/watch?v=L3QkaS249Bc>

Guidelines for Building Checklists

- Gwande Summary (Video) – Need to Think in Systems
 - Identify Problems /Recognize Success & Failure (data)
 - Accidents? Near Misses?
 - Build a Checklist
 - Pause Points
 - Critical Items (Keep it Simple)
 - Confront a new set of values
 - Humility/ Teamwork/ Self-reflection

What are our “operating rooms”?

- What are the routine but complex outdoor settings where ‘safety checks’ are/should happen and that could benefit from a Checklist?
- Activity management with risks?

Types of Checklists

- **Do – Confirm Checklists**
 - Do the steps from memory and then pause to check
 - Often a repeated behavior that becomes familiar
 - E.g. A Pre-flight Checklist
- **Read - Do Checklists**
 - Critical steps
 - Often less experience with the situation
 - Especially suited for emergency responses
 - E.g. A ‘Engine on Fire’ on take off
 - Often done as a ‘team’ – a “reader”; a “doer/checker”

Aviation's use of emergency checklists? (Engine fire on take-off)



<https://www.youtube.com/watch?v=H2KoNE6A5UY>

What did you hear and see?

What are our 'emergencies in flight'?

- What situations are “not routine” but require a complex response when they do occur?

An experience with SFF

- A little story . . .
- The Flight Safety Foundation sponsored this international industry initiative to improve checklist procedures for airline pilots confronting smoke, fire, or fumes.
- It also published the Smoke/Fire/Fumes Philosophy and Definitions, which was used to construct the SFF checklist template. Here are the key components of this philosophy.

General Principles for SFF

- The entire crew must be part of the solution.
- For any smoke event, time is critical.
- The SFF checklist template does not replace alerted checklists (e.g., cargo smoke) or address multiple events.
- Includes considerations to support decisions for immediate landing (e.g., overweight landing, tailwind landing, ditching).
- Systematically identifies and eliminates an unknown SFF source.
- At the beginning of an SFF event, the crew should consider all of the following:
 - Protecting themselves (e.g., oxygen masks, smoke goggles).
 - Communication (e.g., crew, air traffic control).
 - Diversion.
 - Assessing the SFF situation and available resources.

Other topics to consider for SFF

- Source Elimination
- Timing for diversion/landing
- Smoke or fumes removal
- Additional steps for source elimination
- Source:
http://www.boeing.com/commercial/aeromagazine/articles/qtr_01_09/article_03_2.html
- Take aways
 - A checklist creation *begins* with big topic discussion of guidelines and issues
 - A checklist product *ends* with specific action steps

Smoke/Fire/Fumes Checklist Template

Step	Action
1	Diversion may be required.
2	Oxygen masks (if required) On, 100%
3	Smoke goggles (if required) On
4	Crew and cabin communications Establish
5	Manufacturer's initial steps ¹ Accomplish
Any time smoke or fumes become the greatest threat, accomplish <i>Smoke or Fumes Removal Checklist</i> .	
6	Source is immediately obvious and can be extinguished quickly: <ul style="list-style-type: none"> • If yes, go to Step 7. • If no, go to Step 9.
7	Extinguish the source. If possible, remove power from affected equipment by switch or circuit breaker on the flight deck or in the cabin.
8	Source is visually confirmed to be extinguished: <ul style="list-style-type: none"> • If yes, consider reversing manufacturer's initial steps. Go to Step 17. • If no, go to Step 9.
9	Remaining minimal essential manufacturer's action steps Accomplish [These are steps that do not meet the "initial steps" criteria but are probable sources.] ²
10	Initiate a diversion to the nearest suitable airport while continuing the checklist.
Warning: If the smoke/fire/fumes situation becomes unmanageable, consider an immediate landing.	
11	Landing is imminent: <ul style="list-style-type: none"> • If yes, go to Step 16. • If no, go to Step 12.
12	XX system actions ³ Accomplish [Further actions to control/extinguish source.] If dissipating, go to Step 16 .
13	YY system actions Accomplish [Further actions to control/extinguish source.] If dissipating, go to Step 16 .
14	ZZ system actions Accomplish [Further actions to control/extinguish source.] If dissipating, go to Step 16 .
15	Smoke/fire/fumes continue after all system-related steps are accomplished: Consider landing immediately. Go to Step 16 .
16	Review Operational Considerations .
17	Accomplish <i>Smoke or Fumes Removal Checklist</i> , if required.
18	Checklist complete.

Outdoor Programs an Example of a Checklist

The SHARK Test

A Checklist Example: Ropes Course

- **S** - Stuff (No loose stuff)
- **H₂** - Helmet & Harness (Proper fit)
- **A** - Attitude (Are you ready?)
- **R₂** - Rope(s) (Check from end to end)
- **K** - Karabiner (Squeeze Test)



Do . . . Confirm



The SHARK Test

A Checklist versus a Protocol

- Checklist is systemic and operational
- Implemented at a 'pause' point(s)
- Assumes implementation of previous training
 - E.g. harness fit/ rope clear/ belay technique but does not describe them
- Assumes action steps are defined as a site specific protocol and consistent with national standards
 - What knots, what gear, what staff –
- Is SHARK a Read/Do or Do/Confirm?
- The strength of 2 person checklists



A few more tips on checklist design

- Location of the list
 - Signs/ Flip Books/ First Aid Kit Cards
- Communication is critical component
 - Important in complex environments
 - Identify communication loops or confirmations
- Test the List
 - Adapt
 - Improve
 - Implement

Outdoor Programs - another example - An emergency based checklist

Critical Incident Response – Medical Emergency Checklist

- 1. **Do critical first aid**
- ABC - Airway/ Breathing/ Circulation
- Rapid Assessment – Necessary Responses
- 2. **EMS Activation** if Critical Category
 - If Urban – Dial 911 with Location Determined and Report of Condition
 - If Wilderness – Assuming No Immediate Phone Access
 - a) **Runners** – 2 or 3 Together: Check
 - b) **Route Review:** Check
 - c) **Gear Check**
 - **Weather /Water/Food:** Check
 - **Maps:** Check
 - **Vehicle Keys:** Check
 - **Phone Access :** Check
 - **Incident Location Coordinates/Route:** Check
 - **Medical Notes:** Check
 - d) Next Communication/ Reconnection
 - e) **Send Runners:** (Reconnection/ Next Communication Set)

Read – Do Checklist

Medical Emergency Checklist: Ropes Course

Critical Medical Emergency Checklist at Ropes

- 1. Dial 911
 - Report brief medical summary
 - Report location – **Corner of Halsted Street and Lindley Avenue, Northridge**
 - Need of paramedic assistance ASAP

- 2. Provide immediate stabilization and ABC
 - Do not move from fall injury
 - Airway/Breathing/Circulation

- 3. Contact Campus Police Services Dispatch at
 - 818-677-2111 to report the 911 call already placed.

Create A Checklist

- Group of 4-8 people: Assign a Checklist Issue
- Part A
 - Identify the guidelines that must be included
 - Identify ‘critical steps or checks’ in danger of being missed.
 - Is there evidence or data to confirm these should be in the list
 - National Standards/ Experiential Knowledge
 - Actionable Steps – “specific response required for each item”
 - **Work On The List (7-10 minutes)**

Critique A Checklist

- Part B -
 - Review the Checklist Provided and Critique/Improve
 - Were your 'lists' the same as those outlined here
 - Ask the 'pause point' question
 - Within the list
 - When do we implement this list
 - Is our list more a **Read-Do** or a **Do-Confirm** Checklist
 - Where does the list reside? (Accessible)
 - Read out loud? (Two Person Check)
 - Will a mnemonic help? (Hands free Do-Confirm Cklist)
 - How will we test and adapt the list

Report your findings

A CHECKLIST FOR CHECKLISTS

Development



Drafting



Validation

- Do you have clear, concise objectives for your checklist?

Is each item:

- A critical safety step and in great danger of being missed?
- Not adequately checked by other mechanisms?
- Actionable, with a specific response required for each item?
- Designed to be read aloud as a verbal check?
- One that can be affected by the use of a checklist?

Have you considered:

- Adding items that will improve communication among team members?
- Involving all members of the team in the checklist creation process?

Does the Checklist:

- Utilize natural breaks in workflow (pause points)?
- Use simple sentence structure and basic language?
- Have a title that reflects its objectives?
- Have a simple, uncluttered, and logical format?
- Fit on one page?
- Minimize the use of color?

Is the font:

- Sans serif?
- Upper and lower case text?
- Large enough to be read easily?
- Dark on a light background?

- Are there fewer than 10 items per pause point?

- Is the date of creation (or revision) clearly marked?

Have you:

- Tried the checklist with front line users (either in a real or simulated situation)?
- Modified the checklist in response to repeated trials?

Does the checklist:

- Fit the flow of work?
- Detect errors at a time when they can still be corrected?

- Can the checklist be completed in a reasonably brief period of time?

- Have you made plans for future review and revision of the checklist?

Please note: A checklist is NOT a teaching tool or an algorithm

Last updated 1/14/10

Critiques of Checklists

- Critique: Restrict freedom and creativity. Checklists are too rigid.
- Response: They liberate our brains to focus on the hard stuff, where problem solving, courage and creativity are needed most.
- Critique: Does not recognize staff's ability, skill, and determination.
- Response: People make mistakes due to distraction or short term memory limitations leaving critical steps out in a complex process.
- Critique: I don't need a checklist because I'm already OCD.
- Response: Create a culture of teamwork (not self-sufficiency) to reinforce a personal culture of discipline.

Final Questions and Resources

- Questions and Applications
- Dr. Atul Gawande , The Checklist Manifesto: How to Get Things Right (Paperback – 2011)