Moving Forward
Current Safety Management Strategies at Strathcona-Tweedsmuir School

Session Objectives & Format

- Objectives
  - Briefly describe context of STS tragedy and resulting recommendations
  - Provide examples of safety strategies currently in use at STS
    - Implemented by a wide variety of staff
    - Over an extended period of time
  - To get you thinking intentionally about applications to your program
    - Systematizing
    - Matching needs, gifts & structures

- Format
  - Lecture & Story Telling
    - Brief questions, clarification, comments
  - Short application sessions in small groups
    - Discuss possible application of strategies for your program
  - Conclusion & wrap up
**Session Topics**

- A simple model for change
- Using Purpose to drive Practice
- The Briefing Process
  - Info targeted to various groups (students, faculty, parents)
- Informed Consent
  - What is it?
  - How can it realistically be achieved?
- Trip Planning & Follow-up
  - Paperwork
  - Process
- Emergency Preparedness & Response

**Tragedy Context**

Feb 1, 2003 - Rogers Pass, BC

- Avalanche involving 11 students & 3 staff
  - Staff & students undertook their own rescue in partnership with two guides
  - 7 student deaths resulted
- STS solicited several follow-up reports
  - Recommendations formed basis for program revisions
  - Ongoing process
- Accident had far reaching impacts
  - Personal impact for families & school community
  - New user group created by Parks Canada
    - Previous groups were commercial & common adventure
    - Custodial groups: Legislation change to Parks Canada Act
    - Parks Canada developed management strategies for CDAs
  - Created catalyst for custodial programs to review their practices
    - Promoted increased reflection & interaction
    - Highlighted higher duty of care for minors
  - Increased focus on avalanche education for youth
  - Affirmation of outdoor education benefits but...
Facilitating Change
A Simple Model

- What are the needs of the organisation (staff, clients)?
- What are the gifts & abilities of the staff?
- What structures are needed to match the two & achieve your purpose?
- Do existing structures help achieve the purpose or do they get in the way?

STS Outdoor Programs K-12
Variety of Program Deliveries

Elementary
- Grade 4, 5, 6 Outdoor school
  - Multi-day, facility based
  - Classroom activities
  - Science focus
  - PE activities
  - e.g. xc skiing

Junior High
- PE trips & activities
  - Multi day, camping
  - Backpacking, canoeing
  - Co-curricular trips

Senior High
- PE activities
  - Canoeing, orienteering, Telemarketing
- OE15
  - Year long option course
  - 24 hr FA cert, AST 1 cert
  - Co-curricular trips
Program Purpose

- Process
  - Selection of stakeholders
  - Pre-work
    - Basic format
    - Individual discussions
    - Suggested material (with reference to STS mission)
    - Room set-up (including food)
  - Group meeting
    - Activities to promote involvement
    - Gate keeping
  - Vetting
    - All-faculty review via email
  - Gained Formal Approval
    - Principals
    - Head of School
    - Board of Governors

- Practice
  - Keep us on track
    - Posted in visible locations
    - Included in briefings
    - Reviewed at parent meetings
  - Used to make decisions
    - Developing progressions
    - Promoting staff training
  - Benchmark
    - Evaluating effectiveness
    - Determining areas of need
  - Revisiting & assessing
    - Future direction
    - Dialogue with others
    - Schools / organizations
    - Practitioners
    - Land managers

Purpose

- What
  - To help all STS students pursue wellness and 'personal best' through exploration and learning in the outdoors

- How
  - To encourage 'personal best' faculty will provide safety-oriented, intentional and challenging outdoor activities that guide students in their growth at STS and beyond
Vision

To be a program known for the quality of its people, practices & outcomes:

- Programs that are integrated throughout the school and which follow an intentional progression
- People who are professional, competent, collaborative, creative, caring and dedicated
- Practices that are effective, safety-oriented, sustainable, and demonstrate environmental stewardship
- Student outcomes that actively contribute to achieving the mission of the school:
  - Developing initiative, perseverance, problem-solving and compassion by immersion in challenging endeavours (character)
  - Achieving curriculum outcomes through experiential means (scholarship)
  - Providing opportunities for practical and intentional leadership
  - Building relationships through a small group context
  - Fostering life-long physical activity in the outdoors

Values

- We intend to make a constructive contribution to society by impacting the lives of students, staff and parents
- We recognize the primary importance of safety and the shared responsibility of faculty, students and parents
- We value ongoing professional development in promoting safety and educational effectiveness
- We represent an educational partnership committed to creating positive, life-changing experiences
- We desire to be a place where people make significant progress toward achieving their potential
- We are committed to using wisely our environment and our finite resources
- We recognize that the most powerful way to teach is to model
- We believe that service is the highest form of leadership
Small Group Exercise

- With several of the people around you:
  - Summarize the purpose of your program in 25 words or less
  - Discuss how a clear purpose could have practical implications for practice

Targeting specific needs
Student Briefing

Student Prep & Planning

- Packing
  - Equipment details coming up

- Equipment considerations:
  - Bring all items on equipment list!
  - Break in your boots
  - Moleskin on heels for uphill
  - No electronic devices (even headlamps or cell phones)
  - Bring ski poles if you have them and use them to hike
  - If you’re not sure, ASK!

It could be hot or it could snow!
Student Briefing Example

**Gunnery Mountain**

- Summit elevation
  - 2050 meters
- Elevation gain
  - Approx 550 meters
- Travel time
  - About 3-5 hours
- Starting point
  - Hwy 541 just west of Highwood Wildwood Fire Base

**Descent:**
Trail

**Ascent:**
Rocky, vegetated, broken ground

---

Student Briefing Example
Satellite View

**Junction Hill**

- Ascent Trail:
  - Rocky, vegetated, broken ground
- Descent Trail:
Ascending the moderately angled, vegetated ground on the lower ridge
Targeting specific needs
Instructor Briefing

Making things work in a busy school schedule
- Meet @ 7.30am before school
- Continental breakfast provided
- Work thorough PowerPoint & discuss topics such as:
  - Trip purpose
  - Roles & responsibilities
  - Medical info
  - Potential / past trouble spots
  - Standard Operating Guidelines
  - Logistical details
  - Emergency response

Instructors must be ready for anything... including changing poop barrels at the hut.

Targeting specific needs
Instructor Briefing

XC Skiing SOGs

General Procedures:
- Prior to cross-country skiing, the instructor must ensure all equipment is in good repair and the appropriate size for each student.
- Appropriate cold-weather clothing must be worn.
- All safety equipment must be reviewed and practiced.
- Leaders must ensure themselves are familiar with the group's location before or near the event. The leader, in the middle, will take on the role of the group.
- Leaders will use two-way radios or FRS Radios for intra-group communication while on the trail.
- Pacing and movement of the group is the responsibility of the primary trip leader.
- Leaders will stop and called the entire group at all trail junctions.
- Leaders must identify opportunities for regular food and water breaks to prevent dehydration, hypothermia, and hypoglycemia.
- All garbage and food waste must be packed out.
- Supervision and ratio:
  - 1:10 (ility)
  - 1:2 (East Coast)

Terrain Guidelines/Restrictions:
- Group will not cross-country ski above 2,500 feet.
- Group will avoid ski areas that have experienced significant avalanche danger.
- Group will not cross-country ski in terrain classified as more difficult (Class 2 or Class 3 terrain as defined by the National Parks Avalanche Terrain Evaluation Scheme).
Targeting specific needs
Instructor Briefing

Safety
Past/Potential Trouble Spots
- Lake O'Hara Ski-in
  - Avalanche run-out zone @ km 3.5
  - Last hit 1987, Lake renewal
  - Rated class 1, history reaction trends
  - Usually little snow in start zone
  - Weak layers, sun-baking
  - Avoid if conditions unfavorable
- Lake O'Hara Ski-out
  - Steep sections around km 8
  - Move in pods (2)
  - Avoid skiers below due first
  - 1 faculty + student leader (each 2-3 groups)
  - FAC usually will assist (if available)
  - Must retrace your path
  - Kevlar for reticulated gags
- Day Skiing
  - area needing special management

Targeting specific needs
Parent Briefing

Risk Assessment & Safety Management

<table>
<thead>
<tr>
<th>Hazard</th>
<th>Likelihood</th>
<th>Severity</th>
<th>Safety Management Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lahontan Windstorm</td>
<td>Low</td>
<td>Low</td>
<td>Check forecast, appropriate clothing, use equipment, going in mountain weather</td>
</tr>
<tr>
<td>Avalanche</td>
<td>High</td>
<td>High</td>
<td>Check forecast, appropriate clothing, use equipment, going in mountain weather</td>
</tr>
<tr>
<td>High, Falls, Collisions</td>
<td>High</td>
<td>High</td>
<td>Check forecast, appropriate clothing, use equipment, going in mountain weather</td>
</tr>
<tr>
<td>Flooding</td>
<td>Moderate</td>
<td>Moderate</td>
<td>Students remain in groups of 2-3, keep path from other clips, drop off etc...</td>
</tr>
<tr>
<td>Individual</td>
<td>High</td>
<td>High</td>
<td>Keep track in good shape, check for conditions if they are not good, keep track in good shape</td>
</tr>
<tr>
<td>Total Count</td>
<td>Low</td>
<td>Low</td>
<td>Check clip in the end when clipping, clip together in large group</td>
</tr>
<tr>
<td>Avalanche</td>
<td>Gated</td>
<td>Gated</td>
<td>Use quality equipment, properly buckle equipment, check with students before going</td>
</tr>
</tbody>
</table>

Strathcona Tweedsmuir School
Calgary, Alberta
Targeting specific needs

Parent Briefing

Back Country Skiing
Trip Location Options
may vary depending on conditions

- Class 2 terrain
  - All skiing accompanied by ACMG guide
    - Requirement for cadet groups in Class 2 terrain
  - Change short if hazard level is unacceptable
- Ice Fields Parkway region
  - Bow Summit
  - Observation Peak
  - Cirque Peak
  - Crawford Glades
- General Reference
  - Ski Trails in the Canadian Rockies: Row Mountain: Bow
  - www.mjbbooks.com
  - Banff Park website

Small Group Exercise

- With several of the people around you:
  - How could you more effectively inform participants / parents?
  - Come up with one idea you have not seen so far that could help you more effectively convey info about trips / programs
Informed Consent

- What is it?
  - Giving people a realistic & understandable picture of what is involved in a program experience
  - Dates, locations, costs etc.
  - Acknowledge risks & realistic strategies for minimizing them
  - Roles & responsibilities (provider & participant)
  - Options to decline participation

- What it is NOT!
  - Exclusion of liability (e.g., lift ticket)
  - Waiver of right to sue

Purpose of Informed Consent

- Help individuals make ‘informed choices’
  - Requires more than words on a page
  - Extensive use of images, descriptions & comparisons
    - Photos of students doing the activity, in the environment
    - Underwater, top & side views, simulations
    - Maps (topographic and planometric)
    - Satellite photos of areas
    - Charts & diagrams (e.g., ATES, river gradients, hazard assessment)

- Ensure that a judge/juror would find the statement, “I had no idea of what my child was getting into” implausible

Informed Consent Process

- Clear, consistent process across programs
- Briefing (including submission requirements & time frames)
  - Face-to-face meeting
  - PowerPoint Presentation
  - Including Web links to further info
  - On-line briefing option
  - Opportunities for dialogue & questions
- Web-based materials (including submission requirements & time frames)
  - Parent Package
    - Information letter
    - Consent & Acknowledgement of Risk Form
  - Student behaviour contract
  - PowerPoint Briefing
  - Electronic signature & submission options for future
Parent Briefing

Informed Consent

Parent Essentials
(if these are not completed students cannot attend the trip)

1. View on-line Parent Briefing
   - Available on parent portal: Instructions in Information letter
2. Parent Package (read, complete, return)
   - Information letter
     - Overview of trip details
     - Location, transport, costs, preparation, cost etc.
     - Parent Consent & Acknowledgement of Risk form
     - Read, sign & return. Remember to tick the box on #10
   - Fax to 780-438-6337 (D)
   - Hand-deliver to Reception desk
3. Update student medical info if necessary
   - Email to Laurie Stachi (stachi@ess.ab.ca)

Informed Consent Follow-up
Track, Follow-up & Archive Consent Forms

- Returned to STS Reception desk
  - Held in folders by trip & group
  - Checked by faculty member
- Those missing forms are called or emailed
- Forms used for billing
  - Confirms student took part in trip
- Consent forms + student list
  - archived in trip folder
  - Kept till 3 years past age of majority
STS Safety Management via Trip Planning

- **Trip Schedule**
  - Lists trips, briefings, debriefs, staffing etc.
  - Posted online
  - Coordinates events within STS calendar

- **Pre-trip Checklist**
  - All the basic to-do items
  - Provides record

- **Trip Briefings**
  - As per earlier examples

- **Route Card**
  - Trip & group specific
  - Allows location of individuals in emergency
  - Record of route & campsites

- **Student Sheet**
  - Tracks consent, med checks & transport
  - Provides record

---

**Trip Follow Up**

- **Post-trip Debrief**
  - **E-form**
  - Completed as a group
  - Sent to all staff & divisional principals

- **Trip Folder**
  - Track & archive all related trip materials
  - Kept 'til 3 years past age of majority
Strathcona-Tweedsmuir School

Emergency Preparedness

- Trip planning process
- Field materials
  - Field book
  - Instructor Field Manual
  - Contact numbers / frequencies
  - ER response protocol
  - Student Med forms
  - Accident-Incident report forms
- Safety officer
- Staff training
  - Scenarios
  - Training with Parks
- Emergency response protocol

Locate & Reach; Scene & Patient Overview

ABCDE - Administer 1st Aid Treatment

Primary Concerns

If Safety Officer cannot be contacted (Or if the circumstance requires a direct link to Emergency Services)

Contact Safety Officer ASAP by Radio / Satellite Phone etc.

Secondary Survey – Treat secondary concerns

• Monitor for shock – Environmental protection
• Document – Accident / Incident and Patient Monitoring charts found in 1st aid kit / field docs.

Ensure Safety of Staff & Participants

Leader to delegate responsibilities to ensure this

Develop a Plan

• Involve Safety Officer in decision making if possible
• Consider evacuation options / patient condition / environmental conditions / emergency exit points
• Evacuate / keep patient in field - possibilities
• Review evacuation section of field manual
• Consider impacts on / well being of remaining participants?
• Evacuation logistics - gear / 1st aid resupply
• If external assistance not contactable / no access
  - Consider impact of remaining in field
  - Food / water provisions / set up camp

If Safety Officer cannot be contacted (Or if the circumstance requires a direct link to Emergency Services)

Contact Emergency Services by phone / other means (see contacts list)

Continue to / attempt to contact Safety Officer Base by radio / phone ASAP

If external assistance cannot be contacted:

• Consider sending runner party to nearest point of help
• Develop a plan

Documentation

Incident / Accident forms
• Evacuation planning
• Obtain written account from all witnesses

Protect the Scene

Photograph / documentation relating to the patient must accompany them when evacuated from the field

Field response in outdoor areas without ‘Urban’ EMS response

STS Outdoor Program Emergency Action Plan

Ensure Safety of Staff & Participants

Leader to delegate responsibilities to ensure this

Locate & Reach; Scene & Patient Overview

ABCDE - Administer 1st Aid Treatment

Primary Concerns

If Safety Officer cannot be contacted (Or if the circumstance requires a direct link to Emergency Services)

Contact Safety Officer ASAP by Radio / Satellite Phone etc.

Secondary Survey – Treat secondary concerns

• Monitor for shock – Environmental protection
• Document – Accident / Incident and Patient Monitoring charts found in 1st aid kit / field docs.

Ensure Safety of Staff & Participants

Leader to delegate responsibilities to ensure this

Develop a Plan

• Involve Safety Officer in decision making if possible
• Consider evacuation options / patient condition / environmental conditions / emergency exit points
• Evacuate / keep patient in field - possibilities
• Review evacuation section of field manual
• Consider impacts on / well being of remaining participants?
• Evacuation logistics - gear / 1st aid resupply
• If external assistance not contactable / no access
  - Consider impact of remaining in field
  - Food / water provisions / set up camp

If Safety Officer cannot be contacted (Or if the circumstance requires a direct link to Emergency Services)

Contact Emergency Services by phone / other means (see contacts list)

Continue to / attempt to contact Safety Officer Base by radio / phone ASAP

If external assistance cannot be contacted:

• Consider sending runner party to nearest point of help
• Develop a plan

Documentation

Incident / Accident forms
• Evacuation planning
• Obtain written account from all witnesses

Protect the Scene

Photograph / documentation relating to the patient must accompany them when evacuated from the field
STS Outdoor Program Emergency Action Plan
Response for Safety Officer

Safety Officer takes incoming call
Don't hang up, don't transfer unless you know a live person is there; keep field staff on the line.

Document
Gather all available information using Incoming Call Info Gathering Form

Contact Key People as appropriate
(Refer to contact list in Field Manual)

Determine Response Required
Liaise with Field staff / Director of OE / Others

STS Contacts
• Safety Officer
• Director of OE
• Divisional Principals
• Head of School
• Available OE staff

School / Family Communication Sequence

Minor Incident
Utilise Parent Notification Protocol

Major Incident

Dir. of OE or delegate

Head of School

Critical Incident Management Team

STS Vehicle Pick Up required? 2WD / 4WD

STS Evacuation
• Self managed
• Staff hike in / Ski in
• Staff canoe in / Other

STS Emergency Field Response

Internal Response
Safety Vehicle / Equipment on standby
Doctor/Med support on call

External Response
Initiate contact with (see contact list in Field Manual)

STS Contacts
• Safety Officer
• Director of OE
• Divisional Principals
• Head of School
• Available OE staff

Emergency Services
• Police
• Ambulance
• Fire service
• SES

Other External Services
• National Parks
• Doctors / Medical Centres
• Local resources

Liaise with and assist External Service Providers to help group in field prepare for outside contact

School / Family Communication - refer above

STS Outdoor Program Emergency Action Plan
Response for Reception Desk Staff or other on-campus contacts

Take call from field staff
Don't hang up, don't transfer unless you know a live person is there; keep field staff on the line

Contact Desired Person / People
(Using phone, intercom, runner; see contact list)

Document
Gather information until you reach someone who can take over. Use Reception Desk Info Gathering Form

Determine Response Required
Liaise with Field staff / Outdoor Dir / Others

STS Contacts
• Safety Officer
• Director of OE
• Divisional Principals
• Head of School
• Available outdoor staff

School / Family Communication Sequence

Minor Incident
Utilise Parent Notification Protocol

Major Incident

Dir. of OE or delegate

Head of School

Critical Incident Management Team

STS Vehicle Pick Up required? 2WD / 4WD

STS Evacuation
• Self managed
• Staff hike in / Ski in
• Staff canoe in / Other

STS Emergency Field Response

Internal Response
Safety Vehicle / Equipment on standby
Doctor/Med support on call

External Response
Initiate contact with (see contact list on safety board)

STS Contacts
• Safety Officer
• Director of OE
• Divisional Principals
• Head of School
• Available OE staff

Emergency Services
• Police
• Ambulance
• Fire service
• SES

Other External Services
• National Parks
• Doctors / Medical Centres
• Local resources

Liaise with and assist External Service Providers to help group in field prepare for outside contact

School / Family Communication - refer above
**STS Outdoor Program: Evacuation**

(Almost) Any evacuation from the field requires notification of the safety officer.

**Evacuation Considerations**

- **Patient condition**
  - Are they in need of immediate medical attention?
  - Is their condition rapidly deteriorating?
  - Would a ground evacuation aggravate delicate injuries such as spinal column damage?

- **Number and experience of potential rescuers**
  - Are there enough people available to carry a litter?
  - What are the physical abilities of the carriers?

- **Terrain and Weather**
  - How far from the nearest road are you?
  - What is the condition of the trail (if any) / access roads / terrain?
  - Helicopter access into the area?
  - Suitable landing zone? Consider terrain
  - Note: most helicopters will not fly in a remote area in poor weather or darkness

- **Resources**
  - Would an improvised litter suffice?
  - What is the availability of a backboard or backpacks for making a stretcher?
  - Other materials available with which to improvise?
  - Helicopter availability
  - Logistical impacts on group – extra packs etc
  - Other resources available at base?

**Evacuation Options**

- Patient walks out with group or is carried out in a litter by the whole group
- Patient walks out escorted by a self-sufficient team of two people (minimum one instructor)
- Patient is picked up by a STS or Emergency Services vehicle
- Patient is extracted from the field by a STS Field Response / External rescue team
- Patient is carried to helicopter landing site and evacuated from there

**Small Group Exercise**

- With several of the people around you:
  - Do people get any indicators, other than written words, of what they will be involved in when ‘signing up’ for one of your programs?
  - What else could be done to more clearly communicate the program’s risks, nature of activity, requirements, benefits etc?
  - If something legal happened five years after a course ended would you have the records to detail & defend your actions?

---

Strathcona-Tweedsmuir School
Review & Wrap Up

Did we achieve our purpose?

- Briefly describe context of STS tragedy and resulting recommendations
- A simple model for change
- Provide examples of safety strategies currently in use at STS
  - Using Purpose to drive Practice
  - The Briefing Process
  - Informed Consent
    - What is it?
    - How can it realistically be achieved?
  - Trip Planning & Follow-up
    - Paperwork
    - Process
  - Emergency Response
- To get you thinking intentionally about applications to your program
  - Systematising
  - Matching needs, gifts & structures

Strathcona-Tweedsmuir School