FIPS 2014 Congress
Part B – Detailed Activity Report

This Part B is the detailed activity report on the 19th FIPS Congress held at Big White, Canada April 2014. Where available, there are references in this report to the file name of actual presentations, some of which can be found on the FIPS web site at www.fips-skipatrol.org.

This Part B report should be read in conjunction with Part A, the FIPS Summary Report. Part B includes the following sections:

Part B1 - Indoor presentations, panel discussions and workshops:

- An introduction to the ski industry in Western Canada;
- Details of the preparations for the Sochi Olympics;
- Smart phone apps for accident and casualty information;
- Design and safety of terrain parks;
- The Canadian 'Racer Down' protocol;
- Operation of Whistler/Blackcomb;
- Silver Star resort GPS tracking on the ski hill;
- Swiss Patrol education system;
- CSP avalanche training;
- Off-piste skiing and avalanche risk research completed for the International Snow Science Workshop;
- Legal update for ski patrollers;
- The avalanche risk and mitigation measures at Big White;
- The Canadian Avalanche Association and public safety strategies;
- The Canadian Avalanche Association and professional training programs;
- The Avatech snow-profile device for snow pack measurement in avalanche areas;
- Panel discussion on avalanche;
- CSP pain management research pilot program at Silver Star;
- Non-pharmacological pain management;
- Australian Ski Patrol Models of Casualty Care, Medication Administration and our Medical Milieu;
- Management of fractures and dislocations in the field;
- A short practical workshop on femoral fracture traction devices used in Canada;
- French Ski Patrol and the CARDIAN telemedicine project;
- Australian Ski Patrol education and training;
- Korean medical and surgical management of hand injuries in winter sports;
- An update to congress participants from the FIPS medical, avalanche and technology special interest groups;
- A forum lead by Canada, USA and Australia on challenges today and tomorrow for patrols; and
- A forum to provide feedback on the current Congress and ideas for future congresses.

Part B2 - Outdoor activities

- Global first aid comparison with mixed country groups working through scenarios;
- Cascade equipment demonstration;
- Inspection of the Big White avalanche areas and associated mitigation actions
- Avalanche search and rescue demonstration using avalanche transceivers, Recco and an avalanche dog;
- Avalanche probing and digging exercises;
- Avatech field demonstration;
- International teams using toboggans to achieve a safe decent through a defined course. After a series of controlled descents Italy was declared the lead team
- Italian demonstration of on-snow techniques;
- Chairlift evacuation techniques; and
- Big White medical clinic and patrol base.

Part B3 - Other Items of Interest

- 'Green Season' activities which have been developed in Canada and the USA
- Improvised use of a backboard as a tension femur splint
- Removal helmet when applying a cervical collar
- Best position for hands when packing a patient in a sled
- Trade Show exhibitors
- FIPS Member Country Reports

Part B4 - FIPS Contacts, and Special Interest Group reports

- FIPS officials and contacts
- FIPS Board meeting minutes
- FIPS Medical, Avalanche and Technology Special Interest Groups

Marie Nordgren, winner of the Mark Labow Award, with Bruce Lochhead and Jean-Louis Tuaillon

1 PART B1 – PRESENTATIONS, PANEL DISCUSSIONS & INDOOR WORKSHOPS

1.1 An introduction to the ski industry in Western Canada

Presentation by: David Lynn, President and CEO, Canada West Ski Areas Association

Key relevant points:

- 36% of Western Canadian ski resorts are not profitable;
- Lots of 'destination skiers' coming from overseas;
- Large capacity for growth and good infrastructure;
- Ski helmet use strongly supported but not mandatory;
- Strong use of signage (provided to members free of charge);
- Accident rate 2.3 per 1,000 skier visits (ranges from bruises to fractures);
- Statistics collected in CWSAA Accident Analyser Database;
- Statistically speaking skiing is safe;
- Law suits – strong reliance on 'waivers' which form part of conditions of lift tickets, etc. (but resorts will normally settle cases involving clear negligence on their part);
- Many accidents due to careless and risky behavior;
- Majority of fatalities have been wearing helmets;
- Challenges include:
    - High Canadian $;
    - Air access costs and air travel taxation;
    - Operating costs – wages, etc.,
    - Restrictions on employment of foreign workers;
    - Trying to get children/young people/immigrants from warmer climes interested in skiing; and
    - Warming climate, etc …

Special notes:

- 'Respect' ski safety video;
- Web page: www.cwsaa.org;
- 'Job board' on web page; and
- 'LinkedIn' group.

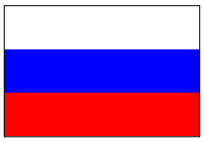
Getting children/young people/immigrants interested in skiing:

- Letting children ski for low or no cost;
- Access to good-quality second-hand equipment;
- Appropriate level of risk management/judgment;
- Encouraging school ski programs and forming partnerships;
- Scotland – pilot program to provide all children with a free dry slope lesson and an on-slope lesson; and
- NZ – program to take old boots, poles and skis to schools so that children can get used to putting them on and walking around in them.

Presentation Reference: FIPS2014BigWhite CWSAA Presentation D Lynn.pdf
Web Reference: www.cwsaa.org

1.2 Preparations for the Sochi Olympics

Presentation by: Jean Louis Tuaillon (France and Russia)
Key relevant points:



- An overview of the preparation for the Sochi Winter Olympics;
- Previous winter collected snow storage of 500,000 cubic metres (30% lost over summer);
- Used lake/river for snow-making; and
- Snow guns every 50m.

Presentation Reference: FIPS2014BigWhite Sochi JL Tuaillon.pdf

1.3 Smart phone apps for accident and casualty information

Presentation by: – Australia – Duncan Isaksen-Loxton

Key relevant points:

- Smartphones present significant opportunity to change;
- However their use in ski resorts presents issues like weather, battery life, glare and cell phone signal;
- Resorts face challenges around atracting and keeping customers;
- Customeres are generally poorly educated about risks involved, and their responsibility on slopes;
- An injured person can find it hard to get help quickly, delaying care;
- Patrollers need to work to find a patient, as they dont always know exactly where they are;
- Patrollers spend lots of time on paperwork, but are better served on hill
- Resorts in constant battle with risk management, insurance, legals and potential negative publicity;
- Surf Lifesaving Australia have had lots of success using mobile data collection and analysis;
- Reduced drownings over 7 years from 0.19 to 0.10 per 100,000 population
- Smart phones are the most prolific technology on the planet and are in most peoples hands;
- Mountian High started the process of using an iPad in 2011;
- For a theoretical resort that has 20 career delaying or ending injuries hypothetically can cost the industry $50,000 over a lifetime;
- Plus and additional ~$200,000 if the rest of the family stops participating in snow sports and converting to lifetime customer;
- Reduction in incidents & casualties = reduction in insurance, happier customers;
- An injured person can use a GPS to report their exact position, Dispatch confirms and routes to patroller, who is on scene faster;
- Patroller uses their device to log infomation on the casualty, sent over the air to doctor, dispatch managers etc;
- Patroller doesn't double handle data, spends less time on paperwork, can take photos and video on scene;
- Resort gets instant visibility, can tweak risk management, can prove to insurers about their management of risk, reduces assumptions;
- Future can include bluetooth devices like pulse oximeters to better monitor the casualty's condition; and
- Introduced www.Medic52.com and book about topic 'The Smartphone Medic' available on Amazon.

Presentation Reference: FIPS2014BigWhite Smartphone Reporting D Isaksen-Loxton.pdf
Web Reference: www.medic52.com

1.4 Design and safety of terrain parks

Presentation by: – Flynn Seddon, Big White resort
Key relevant points:

- Only paid patrollers used in terrain parks (longer training);
- Very focused on risk management;
- Slope choice important (best = wide, gentle, undulating);
- Science behind terrain parks has changed significantly over the last few years ;
- Much more planning and design involved now ;
- This comes with education as the art of building a jump is developed ;
- Big White developed the marking system of jumps to difficulty;
- Used to use colours in line with runs for signage in the past but have now developed a standard system, a bit like clothing, using S, M, L, XL, for jump sizing
- Discovered this gave better awareness to riders ;
- Classification aids risk management and the customer responsibly managing their own risk;
- Education – use social media e.g., FAQs on Facebook;
- Possible strategies for improved risk management:
  - To access terrain parks: first attend information session (with parents if under 18) and watch an informative video 'SmartStyle';
  - Have video playing in key locations e.g., rentals, ski school;
  - 'Park Pass' program – become accredited at one resort and then gain park access at all affiliated resorts.

1.5 The Canadian Racer Down Program

Presentation by: – Fred Haight, Canadian Ski Patrol (Canada)
Key relevant points:

- FIS downhill races – have to think about safety of athlete, patrollers/workers and coaches;
- Need good communication from top to bottom (race/patrol/medical);
- Need ability to stop race or flag athlete to stop part-way during race (with a later restart);
- There must be control of all movement on the course – of competitors, maintenance staff and responders ;
- Must be planning and coordination of all those on the course;
- Not clear to respond until know course is clear;
- May need additional resources - utilise help of bystanders with first aid training;
- Don't restart until all clear and everyone back in position; and
- Use helicopter rescue for quick and gentle evacuation, use of cargo hook.

1.6 Operations at Whistler/Blackcomb

Presentation by: Doug McFarlane, General Manager, Whistler Blackcomb and Dave McPhee, Education Director, Whistler Blackcomb

Key relevant points:

- Most efficient patron carriage by lift anywhere in the world;
- Extensive snowmaking (unlimited water supply and own hydroelectricity project providing a self-sufficient electricity supply);
- 13-25,000 skiers per day (25-30 clinic transports per day);
- On-mountain clinic including CT scanner and part-time orthopaedic surgeons;
- May need to run lifts all night to avoid freezing/riming;
- Take down lift mazes and safety banners daily;
- Daily adjustment of all lift ramps;
- Start work at 0500 to open at 0800;
- Worksafe BC Campaign – Job Hazard Analysis (observe job duties and interview employee, identify hazards, note existing control measures and make recommendations);
- Tracking cycle for employees' recommended training, training documented and recorded and deficiency report (for further training);
- This approach allows a good understanding of what people's capabilities are for certain tasks;
- Patrol: 100 paid (95% return), 140 volunteers (85% return);
    - Additional resources which can be deployed include 72 doctors, 7 ALS paramedics, 80 Royal Canadian Mounted Police and 12 avalanche dogs;
    - Two mountains – separate patrol dispatch and resources for each mountain;
    - Morning meeting with everyone;
    - Paid patrol qualifications: 80 hour first aid course (OFAIII or OEC), CAA Level 1, outdoor leadership skills, advanced skiing ability and ideally volunteer SP experience (start on lower terrain and work way higher);
    - Five levels of patroller from first year to senior (12+ years);
    - Volunteers: same FA qualifications, advanced skiing ability and experience with rescue, back-country travel, first aid (commit 22 days per season);
    - Also minimum requirements and annual training for doctors and ALS paramedics (commit 12 days per season);
    - Extensive pre-season preparation and training (compulsory);
- First aid response protocols (respond to scene within 5 minutes, stay no more than 15 minutes) – good mobile coverage within resort and have an app for visitors as well;
- First aid rates: 2.15 to 2.2 per 1,000, with 43 helivacs in 2013-14;
- Patrol will usually start SAR until extra resources arrive (15 instances in 2011-12);
- Signage an important part of risk management;
- Avalanche awareness centre on mountain for public;
- Avalanche awareness training courses for employees and guests;
- Structured approach to accident investigation (gather witness statements, document scene and debrief team);
- Specialised training to deal with extreme weather conditions, including heavy snow, riming and avalanche control (paid patrollers only);

- Summer operations: around 500,000 visitors – biking, adventure park, glacier skiing, sliding centre and hiking (10 lifts running); and
- Also specialized training for summer operations.

Presentation Reference: Nil
Web Reference: www.whistlerblackcomb.com

1.7 GPS Tracking on Ski Hills

Presentation by: – Colin Steward, CSP Silver Star resort (Canada)
Key relevant points:

- Project initiated as had to start tracking remote workers (patrollers) because of British Columbia law.

SilverStar:

- 1900 acres
- 17 patrollers on duty 7 days (vol and paid)
- 800 code 2&3 (not life threatening) a season
- Dispatch in medical centre
- Dedicated patrol radio network
- Limited cell coverage back side
- Jeremy Griffiths patrol director

Objectives

- Enhance response
- Enhance patient care
- Safety of patroller
- Increased rapid dispatch
- Gain more accurate location of incident
- Missing persons - upload to patient cell phone

- On-mountain clinic runs over 100 hours per week;
- Dispatch in same building – list of skills set for every patroller on duty;
- GPS tracking app – can locate lost person and can send information to the person's 'phone;
- Can track daily movements (whilst managing privacy protocols) and ensure SAR effective in real time;
- Can deploy resources more efficiently based on proximity to incident;
- System uses a suite of Blackberry devices using the Safety Link app;
- Web side is software called Webtrac.
- Device is used for nothing else, and is signed out in the morning. Partnership with Telus enabled low cost of install (~$5000 per season);
- Device checks in every 15 seconds to upload of position, and update on the web;
- In the future will be used to track assets like snowmobiles, etc;
- Documented a privacy statement to give patrollers peace of mind;
- Process each day is that dispatch logs on to the device and does the set up, the patroller is matched by a sign in/out sheet, and then puts it in their jacket. They do not touch it again and return it each evening for recharging;
- Discovered that Google maps are not the best as they don't provide enough definition, so are working to move to a more custom based mapping solution;
- Also looked at systems like Gemini Positioning Systems - pure satellite based.

Significant wins:

- Can tell when the patroller is on scene;
- Get exact time and location of scene;
- Can tell if patroller is moving, and thus ok;

Presentation Reference: Nil

1.8 Legal update for ski patrollers

Presentation by: FIPS Legal Adviser – Ed Gassman (USA)
Key relevant points:

- Liability – negligence or product defect?
- Negligence: collisions – people and moveable equipment;
- Product defect: chair lifts and rental equipment;
- Risk management:
- Reduce risk – signage, obstacle identification, proper maintenance of equipment, employee training;
- Eliminate risk – remove equipment, mark hazards (very difficult);
- Transfer risk – insurance, waivers;
- Statutes/laws: transfers risk to skiers – assumption of risk;
- Courts:
- Skier-skier accidents – same as car (civil/criminal);
- Lifts, rocks, trees, lift towers – man-made and natural hazards – assumed risk;
- Avalanches and natural hazards – did ski area have a duty to control?
- Miscellaneous:
- Was skier using the correct DIN setting for age/weight?
- Snowboarding – single largest source of outdoor injuries; and
- Brain and spinal injuries increasing, especially with children and teenagers;
- Despite waivers casualties may still be able to sue a resort for gross negligence; and
- Most resorts now not padding towers as it is an inherent risk (lifts help you ski) and if there is padding present and someone hits this there may be issues around whether the padding was thick enough or high enough.

Note: This presentation reflects the legal position in North America and the situation may be different in other countries. Local advice should be sought rather than relying on the information given here.

Presentation Reference: FIPS2014BigWhite Ski Area Liability and Risk Management Gassman USA.pdf

1.9 Swiss Patrol Education System

Presentation by: Mark Zeigler (Switzerland)
Key relevant points:

- Swiss Cable Association – same training for all patrollers, regardless of the size of the resort;
- The only thing that is more expensive than education is no education!
- 2,620 ski patrollers in a 3-tier system (no volunteers);
- Entry requirements – advanced FA (CPR/AED), good skier in all conditions, can ski-tour one hour off-piste and complete a basic test with a sled;
- 17 day course – theory and practical (first aid, snow knowledge, etc.);
- Avalanche – 6 day course (theory and practical/exam);

- Avalanche explosives course – 6 day course (theory and practical) + one day exam;
- Federal Diploma in Specialist Ski Slope and Emergency Services (2 week course repeated every 3 years);
- Have started a certification for summer services;
- Extended medical services – Tramadol and Valaron for analgesia;
- Rega app – 24 hour rescue service (small annual membership fee);
- New technologies – cameras/helmet cam, GPS (but privacy issues);
- Have started a national accident database; and
- Organise children's camps on behalf of schools (very reasonable cost).

Comment from Russia – their non-medical workers are prohibited from using any drugs (including injections) when providing first aid.

Presentation Reference: FIPS2014BigWhite Swiss Cableways M Ziegler.pdf

1.10 How volunteers can assist with in the event of in-bound avalanches - CSP avalanche safety and training

Presentation by: – Ken Lukaway – CSP Avalanche Director, Canada
Key relevant points:

- Multi levelled and flexible training to cater to varied resorts and terrain;
- Pretty small number of resorts actually need avalanche skills, mostly in the West, and those with larger terrain;
- Try to ensure that volunteers are well integrated with the paid staff, and augment the existing skills as much as possible;
- Avalanche Safety and Rescue chapter in the CSP Patroller's Manual;
- Avalanche program objectives for SP with avalanche terrain:
    - Provide knowledge and skills;
    - Educate the public;
    - Support ski area avalanche programs; and
    - To be an effective member of the rescue team;
- Three levels of training and five components:
    - Introduction to avalanche safety (for all patrollers);
    - Avalanche Skills Training (Levels 1 and 2)*;
    - Companion Rescue Skills*; and
    - On-snow training.
      (*Canadian Avalanche Centre programs.)
- The primary role of the CSP is to educate the public on requirements for backcountry and in bounds travel, and avalanche safety;
- The secondary role is to support their ski area's avalanche program, with traffic control, and running the hill while resort patrollers are on avalanche control duties.

Note: Ken later mentioned that there is apparently a free online basic avalanche awareness course available through the Canadian Avalanche Centre.

Presentation Reference: FIPS2014BigWhite CSP Avalanche Program K Lukway.pdf
Web Reference: www.avalanche.ca
www.csp-pcs.com/website/home/programs/safety/avalanche-safety

1.11 Education of the Canadian public in avalanche

Presentation by: – Gilles Valade – Executive Director of the Canadian Avalanche Centre

Key relevant points:

- The CAC deals with public safety;
- The Canadian forecast area is huge;
- A lot of the land is 'Crown land' with varied usage – skiers, boarders, climbers, snowmobilers;
- Outside of the National Parks there is no organized SAR – basically volunteer-based;
- There is a lot of effort around prevention and education;
- 95% of the world's heli-skiing occurs in British Columbia;
- INFOEX created in 1991 – communal sourcing of information from 130 operations and over 24,000 daily observations in winter;
- Collaborations between universities and industry e.g., propagation saw test;
- After several avalanche tragedies the CAC was established in 2003 to focus on public avalanche forecasts and training whilst retaining close ties with the CAA (avalanche professionals);
- CAC offers AST (Avalanche Safety Training) Levels 1 and 2 and Companion Rescue Skills training;
- Time is of the essence so companion rescue important - at 10 minutes 20% survival and at 15 minutes down to zero %;
- Train lots of school children every year and separate course for snowmobilers;
- Avaluator – avalanche accident prevention card; and
- From AST 1 and 2 can then go on to professional avalanche training courses.

Web Reference: www.avalanche.ca

1.12 The philosophy and strategies of the Canadian Avalanche Association

Presentation by: Emily Grady – Industrial Training Director of the Canadian Avalanche Association

Key relevant points:

- Industry training program for those responsible for avalanche safety in the work setting to develop skills in safe and independent decision-making;
- Annually courses in three centres across the country and over 800 students from Canada and abroad;
- AST 1 and 2 are pre-requisites;
- Level 1, 2 and 3 courses – build sequentially and need a certain amount of experience at each level before progressing to the next;
- A number of other associated courses;
- All qualifications require regular review and updating; and
- Courses can be adapted to the international context and have been held overseas.

Web Reference: www.avalanche.ca

1.13 The avalanche risk and mitigation measures at Big White

Presentation by: – Kris Hawryluik – Patrol Operations Manager Big White

Key relevant points:

- A lot of rescue at Big White is done on foot or by snowmobiles – not much helicopter availability;
- Structured model of risk management for avalanche – problems and planning;
- Daily forecasting and field observations;
- Risk reduction methods (active/passive) depending on assessment of avalanche scale (1-5);
- You cannot reduce avalanche risk to 0, only reduce it to tolerable level;
- Risk education (CAC AST program, Patrollers talking to people near resort boundaries, referral to CAC public bulletins, outreach weekend for snowmobilers);
- Hazard + vulnerability & exposure = avalanche risk;
- Provide data to Canadian CAC/INFOEX system for public bulletins;
- Avalanche SAR – based around ICS approach;
- Level 1 ski patroller must have AST 1, 80 hour first aid course (run in evenings to suit volunteers) and winter travel skills;
  Avalanche dogs work independently – ignore them and avoid contaminating scene with clothing and secretions; and balancing risk with commercial considerations – philosophy of 'get it open and keep it open';
- Big White has unique challenges that other areas don't: Avalanches can cause a lift to be removed (in the bowl), also can contaminate the water source for the area, the water intake for the purification plant is at the bottom of the same bowl. This makes avalanche mitigation crucial for not just snow users, but the village too;
- BW Patrol ensure work is done early and throughout the season in high risk areas to reduce weak layers. For example the bowl is heavily boot packed in the early season to keep deep layer weakness from forming;
- Each day two avalanche forecasters do an early morning set of measurements and report back to the mountain management. This forms the plan for the opening of runs that day.

Presentation Reference: FIPS2014BigWhite Resort Avalanche Program K Hawryluik.pdf

1.14 The Avatech approach to snow pack measurement in avalanche areas

Presentation by: – Jim Christian and Sam Whittmore – Avatech USA

Key relevant points:

- Avatech is a company founded by three Boston MIT students with a passion for back country skiing;
- They recognised the need to find a way to use technology to cut down the time to understand the snowpack, share real-time snowpack information, and thus better inform decision making in avalanche terrain.
- Have developed a device called the Avatech SP Pro to be announced later this year
- The SP Pro is similar to an avalanche probe with a small readout on top which performs a similar function to digging a snow pit but can carry out multiple measurements quickly and with high precision; and

- It is an innovative, proactive, non-rescue based approach to avalanche safety technology

Web Reference: www.avatechsafety.com

1.15 Panel discussion on avalanche

Key relevant points:

- Education targets are not just back-country skiers and boarders but also snowshoers;
- Protocols are useful as pre-determined decisions as people are not good at making decisions on the move due to sensory overload;
- Some resorts staff wear transceivers in-resort;
- Thermal imaging drone in development;
- Black Diamond probe with a mini-transceiver on the end;
- False sense of security from beacons and airbags;
- Essential equipment: transceiver, probe, shovel and brain (switched on);
- Deaths do occur from traumatic injuries;
- Transceivers can be damaged/broken;
- RECCO system – stick-on locator chips (free – only obligation = advertising);
- Only for organized rescue groups;
- Will search for both RECCO and normal avalanche transceivers;
- Can get interference from mobile phones, radios, metal; and
- ISSW conferences are very worthwhile – presentations, research, case studies.

Note: Scotland provided a recently-developed information leaflet for walkers regarding avalanche awareness.

Mark Ziegler provided a Swiss reference document on probing that may be of interest.
Reference: FIPS2014BigWhite Probing M Ziegler.pdf

1.16 CSP pain management research pilot program at Silver Star

Presentation by: Dr Michael Swangard and Tom Tull – CSP (Canada)

Key relevant points:

- Pilot program since 2007 re ‘extended protocols’ for paid patrollers in British Columbia;
- Depending on location can take up to 1.25 hours to get to clinic for ambulance transfer;
- Decided to add extended skills onto existing high-level first aid training program (90 hour CSP FA course) in order to provide the best possible care to casualties;
- Researched and wrote a separate “Extended Protocols Manual”;
- Pilot program launched at Silverstar in Fall 2008;
- Extended skills include:
    - Use of drug therapies: Entonox (pre-packaged 50/50 nitrogen/oxygen), oxygen, salbutamol, GTN, aspirin, epinephrine (adrenaline) and anti-histamines;
    - Use of Sager splint for femoral fractures;
    - Management of medical conditions: chest pain, angina and heart attack, shortness of breath, anaphylaxis and hypo/hyperglycaemia;

    - Special skills: chest auscultation, blood pressure measurement, pulse oximetry, glucometer, paediatric GCS and EP report form;
- Fall 2008 to Spring 2013 – 324 injured skiers of which 297 received Entonox for pain (only stopped in two cases);
- Entonox has been used both on-scene and in clinic (efficacy around 80%);
- Tanks stored in heated area, neoprene sleeve, canvas bag, hot pack used if external temperature colder than minus 10C;
- Not carried all the time – caches around the mountain;
- To avoid abuse every tank and levels logged;
- *Tip*: SaO2 will go down if don't give supplemental oxygen after stop using Entonox;
- Contraindications to consider: recent scuba-diving (may have excess N2 in system; inhalation injury (propensity for N2 to gather in small spaces); maxilo-facial injuries (have to be able to put lips around regulator); have to be able to hold it/follow instructions; abdominal injuries; and pneumothorax;
- Epi-Pen not carried as falls under 'assist' protocol for prescribed medications but looking at whether feasible to carry a spare if a second dose required;
- Some CSP – if casualty requests Tylenol (paracetamol) can provide it if criteria met; and
- Issue re Sager splint – originally used in military context with boot on but manufacturer's instructions now say to remove the boot but there is a risk of hypothermia with this, so now moving towards use of the Kendrick traction splint instead.

General discussion notes:

- Question re use of Entonox at altitude – mentioned that although pre-packaged in Canada, doctors in Colorado, USA have in the past experimented with a higher percentage of oxygen in the mixture as people were getting off chair lifts with an SaO2 in the 80s (*Entonox is also pre-packaged in Australia as a 50/50 mixture*);
- It was claimed in discussion that paramedics in the USA and Canada can give their normal drugs whilst working in the ski patrol context (*this does not apply in Australia as dispensing rights are tied to employment by an ambulance service*);
- In the US doctors on scene will use lignocaine nerve blocks for shoulder reductions and boot-top fractures (*currently against FIPS and ASPA protocols to reduce shoulder dislocations without first obtaining an x-ray*);
- In Russia ski patrollers cannot give drugs (need licence) and bring the first aid team to the person (bring analgesic drugs and drugs to manage reactions/side-effects);
- USA, Italy, France, Japan, Korea and Sweden – ski patrollers can only give oxygen (no analgesic drugs) unless there is a doctor present; but
- In Switzerland strong analgesia can be provided by trained patrollers.

Presentation Reference: FIPS2014BigWhite Pain Management report Swangard Tull.pdf

1.17 Non-pharmacological Pain Management

Presentation by: Marie Nordgren, SLAO (Sweden)
Key relevant points:

- Research on the importance of non-pharmacological pain relief (linked in with IKAR and the Commission for Mountain Emergency Medicine);

- Pain in the pre-hospital setting is poorly managed for a number of reasons;
- Medications have side-effects (e.g., opiates, Entonox, Penthrane, IV administration, nasal injector e.g., Ketamine);
- Why is a non-pharmacological approach important?
    - Need an authority to use drugs;
    - Pain is complex, demanding a multi-model approach;
    - Acute pain alters physiological variables e.g., increased heart rate and blood pressure and oxygen usage;
    - There is a link between trauma and acute pain with psychological distress and the development of acute stress disorders and PTSD e.g., avalanche victims;
- Pain is many things – hurt, fear, lack of comfort/control, anxiety, unpleasant experience;
- Using a pain score is important (different scales available) – acknowledgement, mental effort is a distraction, sequential after splinting;
- Fracture treatment – alignment, traction, splinting;
- Active warming (two studies show that this helps) e.g., heat packs, blankets;
- Rescuer's attitude and knowledge;
- Application of oxygen (and consider sucrose tablets for children); and
- Distraction therapy (proxies – teddy bears, animals), focusing on breathing, doing small tasks to help.

Special notes:
- IKAR – avalanche management algorithm;
- New England Journal of Medicine – Brown et al "Accidental hypothermia" (algorithm);
- Also see CSP web page for links;
- IKAR – web page with medical recommendations; and
- Tenth World Congress on High Altitude Medicine and Physiology and Mountain Emergency Medicine on 25-31 May 2014 (EURAC/ISSM).

Presentation Reference: FIPS2014BigWhite Non Pharmacolical Pain mgt M Nordgren.pdf
Web Reference: www.ikar-cisa.org

1.18 Australian Ski Patrol Models of Casualty Care, Medication Administration and our Medical Milieu

Presentation by: Dr Rowena Christiansen, Chair, ASPA Medical Advisory Committee (Australia)
Key relevant points:
- Australian ski resort 'models of care' for casualties:
- Three large resorts in Victoria and two in New South Wales;
    - Larger resorts have dedicated medical/nursing/radiology and ambulance presence;
    - "Scoop and run" approach to deliver casualties to medical centre for definitive care;
- Blended model at Mt Baw Baw (Victoria) – small resort with paid/volunteer patrollers, some volunteer doctors on weekends and pilot program for weekend ambulance presence;
- Smaller resorts: four in Victoria, two in New South Wales and two in Tasmania;

    - No regular ambulance or medical presence, long waits for ambulance attendance and patrollers must care for casualties for extended periods (driver for extended medication skill set);
- Australian ski patrollers come from a variety of backgrounds, including health professionals;
    - When working as a ski patroller doctors can administer emergency drugs (if they need to step outside their normal role as a patroller) but nurses and paramedics do not have any special drug administration rights as this is normally tied to their professional employment in a health service;
- Ski patrol medication administration:
    - Ski patrollers are authorised to provide oxygen, methoxyflurane (Penthrane) and Entonox to casualties;
    - Oxygen and methoxyflurane are routinely taken 'on scene' but Entonox is generally used as a second-line agent 'in clinic';
    - Competence needs to be recertified annually;
    - Patrollers may assist a casualty with administration of asthma inhalers, adrenaline autoinjectors, glucose-containing substances and the casualty's own medications e.g., GTN;
    - With prior authorization, aspirin may be administered for a suspected heart attack;
    - 'Generic' salbutamol inhalers and Epi-Pens may be purchased and stocked in first aid kits;
    - Both methoxyflurane and Entonox are 'Schedule 4' drugs with restrictions on purchase, carriage, access and administration;
    - Specific legislation in each of the three States to authorize ski patrollers to possess and administer these substances;
- The ASPA Medical Advisory Committee:
    - Six volunteer doctors with oversight of first aid manual and curriculum, keeping practices current and addressing contentious issues;
    - Variety of backgrounds but common strong interest in pre-hospital and wilderness medicine;
    - Four active patrollers and five honorary medical officers for resorts/ski patrols;
- Links with the Australian Resuscitation Council:
    - The ARC Guidelines are the 'gold standard' for ASPA first aid practices, which are updated when changes are made;
    - Representation on the ARC Victorian Branch provides a liaison point and aids awareness of developments;
- Snowsports research in Australia:
    - Australia lags behind many other nations in terms of snowsports research;
    - No standardised data collection sheet, 'data set' or national database for snowsports injuries;
    - Anecdotal reluctance of resorts to release data to avoid public perception of being 'dangerous';
    - Difficulty obtaining funding – 'elitist' pursuit and emergency services 'minnow';
    - Some information is in the public domain e.g., Victorian Ski Resort Demographics;
    - Some resorts will provide data if asked by 'insiders';
    - Failed ASPA 'National Injury Survey' (2009);
    - Some snowsports research carried out by ANU (e.g., 2008 publication) and Monash (1987/91);

- Limited conclusions can be drawn e.g., common types of snow sports injuries;
- Various interested parties have been 'working in silos' with regard to data collection but this reveals great potential for future collaboration.

Presentation Reference: FIPS2014BigWhite ASPA Model R Christiansen.pdf

1.19 Management of fractures and dislocations in the field

Presentation by: Dr Mark Heard, CSP Medical Advisory Committee (Canada)
Key relevant points:

- Orthopaedic surgeon on the CSP MAC for the past 10 years and extensive in-resort clinic experience;
- Rationale for reduction of fractures and dislocations in the field: deformity and dislocation can potentially lead to:
  - Skin damage (tenting, stretching, ischaemia, breakdown);
  - Neurovascular bundle damage (prolonged traction, axonal death and nerve palsy (long recovery time));
  - Arterial and venous obstruction (swelling, ischaemia, muscle necrosis, compartment syndrome, acidosis …);
  - Soft-tissue envelope damage (necrosis – muscle, tendons, adipose tissue; lymph obstruction and swelling);
  - Bone – risk of avascular necrosis (hip and talus);
  - Joints – damage to articular cartilage from subluxation, dislocation and exposure;
  - Pain – poorly managed can lead to regional pain syndrome (chronic pain); and
  - Haemorrhage – shortening with facture leaves more volume to bleed into (realignment and traction will slow active haemorrhage);
- *Myths of reduction* – doing more harm, needing specialized training, risking legal action;
- *Truths of reduction* – unlikely to do more harm (most occurs at time of injury), reduces pain, legal action unlikely and in-line traction techniques straightforward;
- Management principles: assess fracture/dislocation, neurovascular and skin status and document; pre-and-post pain score; explain and get consent; encourage casualty to relax and pull with sufficient force to reduce deformity; reassess neurovascular and skin status and address open wounds;
- Not all fracture/dislocations will be reducible in the field – use common sense and if it doesn't look or feel right then don't do it;
- Open fracture – reduce under skin if possible;
- Splint to joints above and below;
- Slightly elevate for transport;
- Provide pain relief;
- Cover exposed areas to protect from ice and snow;
- Do not feed patient if short transit time to surgery expected; and
- Implementation will be subject to local protocols and legalities but in the ski patrol setting this could be undertaken in a staged manner (working together with paramedics and doctors) with the most common injuries first.

Note: In many countries it is currently against their protocols for patrollers to reduce dislocations, and specifically reduction of shoulder dislocations without first obtaining an x-ray. However, attempting (with pain relief) to restore fractured limbs to an

approximation of normal anatomical alignment prior to splinting/traction is generally accepted practice.

Presentation Reference: FIPS2014BigWhite Fracture and Dislocation Mgt in the field.pdf

1.20 A short practical workshop on femoral fracture traction devices used in Canada

- Use of the Sager and Kendrick splinting devices was demonstrated to those unfamiliar with them as well as an improvised method using triangular bandages.

1.21 French Ski Patrol and the CARDIAN telemedicine project

Presentation by: Sandrine Gioani (France)

Key relevant points:

- A ski pass in France is the cheapest in the world;
- All ski patrollers are paid (and the same amount) – 2,500 alpine, 250 cross-country and 120 avalanche dog handlers;
- Education and training – three degrees (first, second and third) in ski patrol diploma;
- Courses offered: ski patrol, advanced first aid, first aid for the public; re-certifications;
- At present the first aid guidelines are the same for all the emergency services but a reform process is underway to allow the addition of special practices for specific environments and conditions;
- Will be subject to validation and people working across organisations will need to know all guidelines; and
- Project to develop open-distance learning and extend this to ski patrol courses.

- Telemedicine project: CARDIAN:
    - Evolution of using modern technology in ski patrol first aid – ‘a breadcrumb trail for rescuers’;
    - Some European countries (Sweden, Norway, Denmark, Romania, Germany and the UK have ambulance facilities to transmit data to hospitals;
    - This is underdeveloped in France as it doesn’t have a paramedic system;
    - No European country consistently uses telemedicine in the EMS;
    - Three projects currently underway:
        - AmbuCom;
        - SAMU31+CCMM; and
        - ECG (CARDIAN) – Drs Paul Rubel and Lucien Cadoz – tested by Montgenevre SP and others;
    - Telemedicine has some negatives – cost, need for network coverage and need inter-agency cooperation to set it up;
    - There are also positives – links between rescuers and EMS dispatch provide information directly to the EMS, allowing doctors to make more efficient, relevant and targeted decisions re medical care and providing decision-making support for rescuers in complex situations;
    - The CARDIAN components consist of a small box/screen, a mobile telephone and four electrodes (both clavicles and hips);
    - This is simple to use for the rescuers; and

- The ECG tracing is transmitted to the EMS if a network is available. If the tracing is OK there is no 'call back', but if there are problems they will contact the rescuers with instructions.

In her final segment Sandrine outlined the distribution of ski patrollers and injury rates in three areas – Le Brianconnais, Serre Chevalier Vallee and La Grave – La Meije.

Presentation Reference: FIPS2014BigWhite Telemedecine France S Gioani.pdf

1.22 Australian Ski Patrol Education and Training

Presentation by: Dr Rowena Christiansen, Chair, ASPA Medical Advisory Committee (Australia)
Key relevant points:

- Australian Ski Patrol Association Education and Training:
  - ASPA is an umbrella body for Australian ski patrols;
  - It has an Education Committee and Medical Advisory Committee which collaborate to produce the Advanced Emergency Care Manual and training courses;
  - The ASPA AEC course contains units from the national Australian Health Training Package;
  - Courses are held annually in a variety of locations and two formats – four days for new candidates and two days for recertifying patrollers;
  - Patrollers must recertify every three years and complete certain core competencies annually;
  - The trainer/assessor pool is drawn from experienced patrollers;
  - From 2015 all trainer/assessors (by Government decree) must hold a 'Certificate IV in Training and Assessment' which is expensive and time-consuming to complete;
  - This represents a challenge for both ASPA and volunteer patrollers;
  - Instructors must also renew their competency annually, attending an update day and completing the same tasks as candidates;
  - Course content broadly covers the role of the responder, the approach to the casualty, basic life support, anatomy, physiology and first aid with a body systems-based approach, management of a variety of other first aid presentations, management of fractures and application of slings, splints and other equipment;
  - The course has online and face-to-face components and utilises multiple choice and practical assessments;
  - Successful completion of the course is a pre-requisite for working as a patroller;
- In-resort training and assessment: Mt Baw Baw Alpine Resort:
  - Some resorts conduct their own additional 'in-house' training and assessment;
  - Mt Baw Baw ran a three-year pilot program including an annual training weekend, additional practical competencies and resort-specific scenario-based assessments;
  - Constructive feedback was given and areas for improvement identified;
- Training opportunities in Polar Medicine:
  - Commercial courses are offered annually in Australia (GPTT), New Zealand and Norway (Expedition Medicine Ltd);

- Five-day course in high arctic Norway included lectures, practical sessions and outdoor activities, including a short expedition up into the mountains and sleeping overnight in a snow cave.

Presentation Reference: FIPS2014BigWhite ASPA Education and Training R Christiansen

1.23 Hand Injury in Winter Sports (Fingers, Thumb, Palms)

Presentation by: Dr Duke Whan Chung (Korea)

Key relevant points:

- *Skier's Thumb* (acute injury) accounts for under 10% of skiing injuries – ulna collateral ligament of MCP joint (simple 64.4%, fracture/dislocation 12%);

- *Gamekeeper's Thumb* is the chronic version of the same injury (frequency 7 to 9.5%);
- Can be diagnosed clinically via stress test and on MRI;
- May have associated avulsion factures;
- Management is either conservative or operative (surgical reattachment for complete rupture and chronic cases);

- *Frostbite* – current treatment of choice is rapid rewarming;
- Principles of treatment of localized frostbite include activation of capillary supply to the damaged area (hyperbaric oxygen can be useful);
- Evaluation of localised frostbite is exceptionally difficult, particularly in the early stages;
- Best to wait 3-6 months before deciding on amputation but consider earlier if there is sepsis or deeper frostbite;
- Retain small blisters intact but may need to puncture larger ones;
- Order of damage in frostbite: erythema, oedema … necrosis of soft tissue and bone necrosis;
- Case studies of reconstructive surgery after partial amputation for frostbite – fashioning of new fingers using flaps and retention of finger bones as far as feasible (gives a better more functional result than conventional amputation level at MCP joints;

Research on skier injuries 2008-13:

- Ski resort near metropolitan area (1 hour's drive) – 484,743 skiers;
- Overall snowsports injury rate 0.98%;
- Type of injuries have changed from pre-1980 to post 1980: Falls 32.5%, collisions 65.3%, aged 21-30 years 47.4% and under 1 year of skiing 45.9%;
- Fracture locations: wrist 45%, tibia 20% and clavicle 25%;

Case studies – series of x-rays:

- Surgical repair allows people to return to work and sports more quickly; and
- Over 80% of young people choose surgery over conservative management.

Presentation Reference: FIPS2014BigWhite Hand Injuries Dr. Chung.pdf

1.24 Challenges Today and Tomorrow for Patrols - A Forum

Panel Discussion: John McMahon (CEO, NSP), Colin Saravanamuttoo (Exec Dir, CSP) and Rik Head (ASPA/FIPS)

Key relevant points:

- Identify what needs to be fixed then form a hypothesis and do your research, based on both history and current knowledge;
- Three target audiences: membership, stakeholders (e.g., resorts – do they see ski patrol as a necessity or a necessary evil?) and consumers;
- Branding is important – modern, professional and relevant (ski area, partners, public, members);
- Image 'on the hill' is important and is reflected in how people have confidence in ski patrol;
- Leveraging the 'cool' factor in SP – T-shirts, etc.;
- Concept of 'having your house in order':
    - Is the organisation working at its personal best?
    - vision and strategic plan
    - Concepts of trust, openness and transparency;
    - Documentation – goals, action plans, timelines;
- Nurturing the next generation to take over:
    - Organisational life cycle – many SPs have average age of 40-45 years, with CSP the average age is 43;
    - Need young people to step up and make the organisation theirs (don't celebrate history at the cost of progress);
- Volunteerism – discretionary time is becoming shorter and shorter but 'skilled volunteerism' is on the rise: 'making a difference' and obtaining a transferable skill set; good will, helping people rings true with a good organization.
- Paid and volunteer patrollers need to work together and organizational goals etc. need to be relevant to paid patrollers as well; CSP = 95% volunteer
- Important to look after patrollers – having accommodation available, etc.;
- Competition for customers between resorts and 'green season' competitiveness;
- Technology – efficient communication systems; apps for resorts – skier safety and contacting the patrol if needed;
- Financial sustainability:
    - Revenue from membership (limited);
    - Other revenue streams: fund-raising, donations/estates, like-minded companies e.g., Patagonia, Vockl skis <u>but</u> have to be able to deliver sales of product e.g., direct sales to patrollers;
    - Need to steer away from traditional fund raising schemes;
- Need smart goals and actionable objectives and have a plan for achieving this;
- Have to take advantage of the window of opportunity before the ski industry disappears;
- Organisational change – have to get people to understand why change is necessary and why they have to 'up their game' – have to understand what the threat is; and
- Many (but not all) ski areas: paid = volunteer patrollers (all are 'professional' patrollers).
- Collaboration with other like minded organizations eg: NSP – CSP, etc

Open Discussion:

- USA and Canada have big volunteer organizations. A number of other countries do not have volunteers;
- Discussion on recruitment and bring younger people into leadership. Each country seems to have the same issues;

- Government regulation – Different issues in different countries. Government supported organization struggle with funding. Need to recognize that government regulation will continue to increase. Need to work with government rather than fight with government;
- Governing Documents – Both NSP and CSP have bylaws and codes of ethics. NSP also has policies and procedures;
- Accreditation – With ski patrols who does accreditation? Appears to be different based on country; and
- NSP - has a committee of Industrial Relations – being relevant to ski industry organizations, Ski Instructors of America;

1.25 Final Feedback Session re FIPS & the Congress

This was an opportunity for participants to provide feedback to the FIPS Board on the Congress and the future direction of FIPS.

Younger Patrollers

- Much of the discussion concerned how best to attract 'young patrollers' to the next FIPS Congress. As an example Scottish patrollers toured from Calgary and met many young patrollers, and they had not heard of FIPS or the conference
- Suggestions included greater publicity, having a slot for young patrollers to present at the next Congress
- Forming a young patrollers' FIPS special interest group
- Other countries following the lead of Canadian Ski Patrol, which plans to hold a 'Young patrollers forum'
- Countries sending a report/young patroller to the next FIPS Congress.
- Can each country development a sponsorship program to help young patrollers?

- Including some material on teaching first aid for people with disabilities; and
- Providing translators (for at least some of the sessions) due to the high number of delegates coming from a non-English speaking background to enable better dialogue and exchange of ideas.

FIPS Publicity and Branding

- Raising awareness of the 'brand' by putting the FIPS logo on ski patrol jackets;
- FIPS recognises that many people did not know about the conference.
- FIPS will be putting together a congress report which will be sent to participants and to each country for distribution to their members
- It was suggested that FIPS get a public relations person on board to work toward getting FIPS conference details into the ski magazines etc. Possibly use an existing PR person from CSP/NSP

Best Practices

- Should FIPS publish recommended best practices?

Congresses & Themes

- Have a major theme around training and education
- Suggested first aid for people with disabilities as a theme
- The host country could demonstrate some of their search/rescue activities
- Holding one or two 'certification' programs at the next FIPS e.g., avalanche and risk management;
- Workshops

    - Develop a series of workshops within FIPS (medical, management, etc);
    - Different countries different standards;
    - Presentations and demonstrations from host countries first then other countries;
    - Set agenda then publish it prior to congress and poll countries for input;
- Provide translators (for at least some of the sessions) due to the high number of delegates coming from a non-English speaking background to enable better dialogue and exchange of ideas.

Recommendation to the FIPS Board

1) Develop some workshops & specific sessions for next FIPS; and
2) Work to get young adult representatives attending from each country.

2 PART B2 - ON-SNOW ACTIVITIES

There were a number of outdoor activities as part of the Congress:

- Global first aid comparison with mixed country groups working through scenarios;
- Cascade equipment demonstration;
- Inspection of the Big White avalanche areas and associated mitigation actions
- Avalanche search and rescue demonstration using avalanche transceivers, Recco and an avalanche dog;
- Avalanche probing and digging exercises;
- Avatech field demonstration;
- International teams using toboggans to achieve a safe decent through a defined course. After a series of controlled descents Italy was declared the lead team
- Italian demonstration of on-snow techniques;
- Chairlift evacuation techniques; and
- Big White medical clinic and patrol base.

2.1 First aid scenarios in the snow

Description

Patrollers were divided into four groups and from within each group a number of multi country teams were formed to work together and deal with each scenario. The scenarios were:

- Head injury with lack of feeling below the waist;
- Older man with femoral and scapular fractures;
- Dislocated right shoulder and right knee injury; and
- Knee and minor head injuries down in a tree well.

Patrollers found the scenarios worthwhile, both from the perspective of working together with, in some instances, a multi-language team and also variations in techniques being used in different countries.

Multi-country team extricating a casualty from a tree well

2.2 Cascade toboggan equipment demonstration

Description

The Cascade Rescue Company was the outdoor part of the trade display. They brought toboggans, chair lift evacuation equipment and an assortment of their other products, including a snow motorbike, rescue equipment, packs, their moulded version of the Akja, rescue litters, etc. This allowed hands-on by congress participants. In addition, they made their toboggans available for patrollers to take out and trial on to the slopes.

The snow bike

2.3 Big White avalanche control

Description

An avalanche search and rescue demonstration using avalanche transceivers, the Recco system and an avalanche dog.

Big White kindly set up an avalanche slide path in the bowl for the attendees to see a demonstration on how they deal with a search.

First steps are the patrol is informed, teams assembled at the top, and a coordinator sends in an initial search party.

- This normally consists of a patroller using the Recco system and one using a normal avalanche transceiver to quickly sweep the area to see if any signals are detected;
- Other qualified patrollers who are available assemble at the scene and, if required, will start additional initial avalanche transceiver search sweeps.
- All reports of findings are provided to the scene coordinator
- The coordinator will gather all available information on the scene, from witnesses, times and coordinate other resources to aid in the rescue effort.
- If required, a second more detailed beacons sweep is completed
- On arrival of the avalanche dog the area is cleared to enable the dog space to work
- Any loose items that are found by the dog are marked, discarded, and the dog told to keep searching. The handler keeps the dog in area, and assists the dog in probing / digging when it finds a scent.
- In the demonstration the dog found the burial victim and a couple of loose items of clothing
- The dog also found a scent around where a digging demonstration occurred, but nothing was found. The dog continued to search and found a body about 10 metres away. This shows that the snow can be contaminated with scents that are not victims, and hamper the speed of recovery.

2.4 Avalanche probing and digging exercises

Description

The group spent time practicing a probe line. Each line member probes to the left, centre, right and then takes one step forward in unison. This way the distance between each member is covered with their sideways probing. The line is controlled by a coordinator who calls the directions and keeps the line straight.

Upon finding a body, the line will continue, leaving a probe in place. The diggers will follow in behind the line and proceed to investigate the find.

The Big White team demonstrated the escalator digging practice. This consists of one person digging at the spot of the probe, and another behind them who simply moves the snow further away. This stops the primary digger running out of space, and provides a working platform.

2.5 Use of the Avatech probe in the field

Description

The Avatech probe assists in the speedy detection of snow pack weakness down to a depth of about 1.5 metres. The thin probe is pushed into the snow pack and then displays a profile on the device's screen to show the depth and strength of each layer.

In the demonstration, the developers successfully compared the adjacent snow pit with the Avatech probe results. The device is still under development with a commercial release expected late in 2014.

2.6 International team safe toboggan decent challenge

Description

International teams used toboggans to achieve a safe decent through a defined course. Each team was made up of four personnel. Two patrollers on the toboggan, one patient and one support person carrying skis and additional equipment.

The course consisted of three sections:

1. A series of slalom gates to a changeover gate. At this point the front and back toboggan patrollers switched positions and the patient and support person switched positions
2. A series of wider gates to the steeper pitch
3. Slalom on pitch where the patrollers must side-slip through three gates

Two parallel descents were set with the winner of each heat being the first team to have all of the team and their equipment cross the finish line. Two course marshals monitored the course, the changeover, the slide-slip and control of each team.

After a series of heats Italy was declared the lead team.

2.7 Italian demonstration of on-snow techniques

Description

Two techniques were demonstrated:

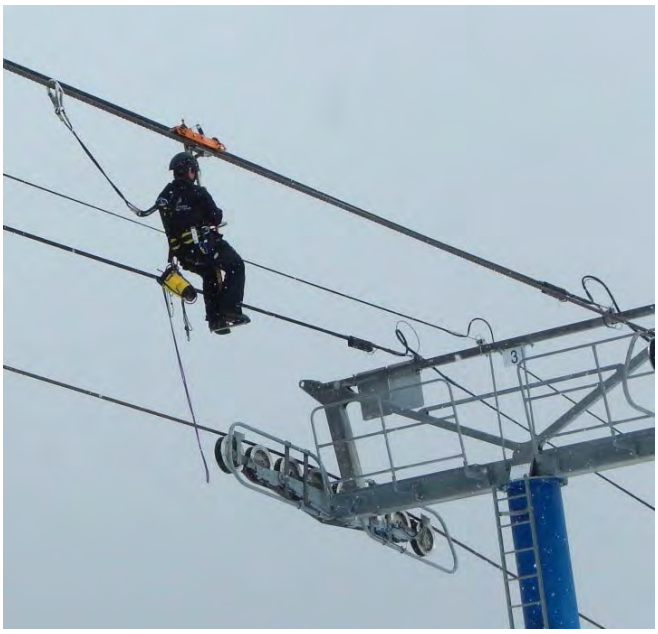
1. The Italian approach to lifting a casualty onto a backboard while stabilising the head and neck

2. Anchoring a casualty on a steep or icy slope
   This required the use of skis and ropes to make an improvised snow anchor that is then attached to the casualty.

2.8 Chairlift evacuation techniques

Description

A demonstration by Big White patrollers of moving between chairs as part of a chairlift evacuation.



2.9 Big White Medical Clinic and Patrol Base

Description

The Patrol Base and Medical Clinic is a very impressive facility, with a small clinic area downstairs in the front of the patrol base which can be used for acute management of casualties, ample space for lockers and gear storage, a training room and good accommodation, kitchen and recreation facilities.

3 PART B3 - OTHER ITEMS OF INTEREST

There are a number of items of general interest that could be relevant to specific patrols or patrollers.

3.1 'Green Season' activities which have been developed in Canada and the USA

- Mountain biking;
- Running events;
- Music festivals;
- Car shows;
- Car races;
- Wave pools (heated);
- Water slides;
- Climbing walls;
- Zip lines;
- Elevated walkways;
- Tubing down a water course (similar to Movieworld on the Gold Coast with a circular route with ups and downs, corners, etc.);
- Sliding centre (luge etc.);
- Adventure parks/playgrounds;
- Special weekend adventure packages for families; and
- Ski swap events (with a fee on sales going to ski patrol).

3.2 Improvised use of a backboard as a tension femur splint

One of the First Aid in the On-snow Scenarios included a fractured femur. Given the limited amount of equipment provided as part of the scenario the backboard was demonstrated to provide improvised immobilisation and some traction, as shown in the photo below.

3.3 Removal helmet when applying a cervical collar

Some patrols in the BC area of Canada are considering leaving helmet in place when applying a C-collar. This is obviously injury dependent and worthy of further investigation.

3.4 Best position for hands when packing a patient in a sled

Some BASP patrollers have reported that conscious casualties packaged in a sled feel more in control when their hands are located close to their face when compared with their hands being by their side. Obviously, this is injury dependant.

3.5 Trade Show Exhibiters

There was a small trade show organised early in the congress. They provided useful information, especially for the overseas attendees who were unaware of some of their products. FIPS appreciated the support of these exhibitors supporting the congress.

Action Rescue Gear
Suppliers of patroller uniforms and specialist rescue and first aid equipment

Web site: *www.actionrescuegear.com*

Avalanche Ski Wear
Suppliers of uniforms and ski wear to the Canadian Ski Patrol for over ten years.

Web site: *www.avalancheskiwear.com*

Cascade Toboggans
Suppliers of rescue toboggans, chair lift evacuation gear, and other specialized rescue and first aid equipment.

Web site: *www.**cascade**-rescue.com*

Medical Data Carrier
A plastic pocket with small waterproof medical data sheet inside that is designed to be stuck onto helmets for easy identification and retrieval of medical information. They have partnered with the CSP. The plastic pockets can be printed with patrol personalized information.

Web site: *www.medicaldatacarrier.com*

Local Vineyards
A couple of local vineyards also participated, with samples of their wines appreciated by all who tasted them.

3.6 FIPS Member Country Reports

Two countries provided written reports about their counties patrol activities and ski industry, together with the Italian proposal for the 2016 FIPS Congress. These have been included in the web site reference files for the 2014 Congress

France - FIPS2014BigWhite ANPSP Report S Gioani.pdf
- FIPS2014BigWhte Ski Industry France S Gioani.pdf
Italy - FIPS2014BigWhite FISPS Report 2014-16.pdf
- FIPS2014BigWhite FISPS BID 2016.pdf

4 PART B4 - FIPS CONTACTS, AND SPECIAL INTEREST GROUP REPORTS

4.1 FIPS officials and contacts

FIPS email for general contact: info@fips-skipatrol.org

The FIPS Board consists of the delegates from each participating country. The key FIPS personnel are:

President:	Jean-Louis Tuaillon (France)	president@fips-skipatrol.org
Co-residing President:	Bruce Lochhead (Canada)	bruce@lochhead.ca
Secretary:	Rik Head (Australia)	secretary@fips-skipatrol.org
Treasurer & Canadian Govt Liaison:	Hugh Thomassin (Canada)	treasurer@fips-skipatrol.org
Website Coordinator:	Luca Sardelli (Italy)	luca.sardelli@gmail.com
Medical SIG Facilitator:	Dr John Holmes (BASP)	mayfield.holmes@btinternet.com
Avalanche SIG Facilitator:	Ed Carlson (USA)	ecarlson48@comcast.net
Technology: SIG Facilitator:	Duncan Isaksen-Loxton (Australia)	duncan@sixfive.com.au
Congress Program Coordinator:	Marie Nordgren (Sweden)	marie.nordgren@slao.se

4.2 FIPS Board meeting minutes

Minutes of the FIPS board meetings are provided to the FIPS delegate from each country. Board Minutes will NOT be available on the FIPS website.

4.3 FIPS Medical, Avalanche and Technology Special Interest Groups

Details of the meeting notes of the Medical, Avalanche and Technology SIGs are available to participants from the group facilitator or via their Yahoo Group.

FIPS Medical Group (Facilitator: Dr John Holmes, BASP/Scotland)

The next FIPS Conference will be at Ponte di Legno and Adamello Ski in north east Italy from 2nd to 9th April, 2016. Two medical subjects have been selected for inclusion at this meeting.

1. **Transport of the neurologically compromised patient.**
   This includes the evacuation of casualties who have spinal trauma, head injury or any other cause for unconsciousness.
   We will have a session indoors to introduce the subject with expert discussion. Following this there will practical scenarios on the hill, testing various techniques and equipment. An indoor debrief will conclude the session.
2. **Critical incident stress management in ski patrollers.**
   Ski patrollers can be involved in potentially extremely stressful situations: death on the hill, avalanche, serious injury to themselves etc. It is intended to discuss the impact of these on working practice and also the support ski patrollers get from their patrol organisations and their hill management companies.
   This subject was introduced to look at our own working environment rather than just concentrating on the “clients”.

3. The Medical sub-group also hope to have a combined session with the Avalanche group to discuss the management of hypothermia especially in avalanche victims.

All members involved are invited to look into these subjects and produce information for the next meeting. Progress can be assessed at the "mini meeting" in Montgenevre in January 2015. Any other thoughts and ideas from our own ski areas will be welcomed.

FIPS Avalanche Group (Facilitator: Ed Carlson, USA)

- Primary objective: to facilitate information sharing associated with avalanche;
- Current Objectives:
    - Develop a reliable communication processes for all members, including access to a database of useful resources;
    - Develop a questionnaire to identify specific concerns;
- Future Objectives:
    - Continue to identify specific concerns;
    - Address all concerns in a timely manner;
    - Develop recommendations as to 'best practice';
    - Actively recruit new members;
    - Keep the group actively engaged; and
    - Develop relationships with the greater avalanche community.

FIPS Technology Group (Facilitator: Duncan Isaksen-Loxton, Australia)

FIPS digital strategy – starting the next phase:

- *Goals*: public internet presence, keeping members informed about other countries, providing SIGs with a communications platform which is accessible and secure;
- Now – have a website, Yahoo groups, personal email addresses and a Facebook page;
- *Problems* – lack of translation, lack of content, technical issues and sourcing, translation and organisation of content;
- *Next* – building scope of requirements, discussion and design, approval by the Executive, and implementation (estimated timeline about six months).

Rik Head
June 2014

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Where the authors have agreed, their presentations will be accessible from the FIPS-skipatrol.org website.

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